Report No.: Test Time: 2021/9/15 19:49

Luminaire Property

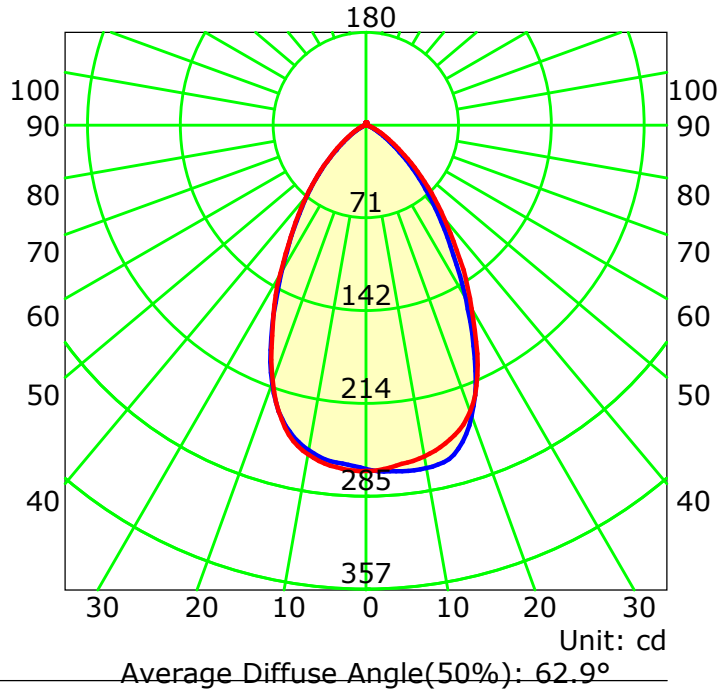
Luminaire Manufacturer:
Luminaire Category:
Luminaire Description: MLS054W12V27KD(60°,黑胶)
Lamp Catalog: L150-2780500600000（K3A2流明）
Lamp Description: MSPI-DDC1T2S-500 （3.52W）
Number of Lamps: Lumens per Lamp:
Luminous Length (mm): Luminous Width (mm):
Luminous Height (mm): Voltage: 12.4 V
Current: 0.364 A Power: 3.52 W
Power Factor: 0.778 Volt Amps: 4.52 VA

Photometric Results

CIE Class: Direct Total Rated Lamp Lumens: 322.8 lm
Measurement Flux: 322.8 lm Efficiency: 100%
Downward Ratio: 99% Upward Ratio: 1%
Horizontal Diffuse Angle(25%,50%,75%,100%): H84,H62,H46.5,H9
Vertical Diffuse Angle(25%,50%,75%,100%): V86.4,V64,V46.9,V1
Luminaire Efficacy Rating (LER): 91.75 C0r0 Intensity: 264.57 cd
Max. Intensity: 274.52 cd Pos of Max. Intensity: H330 V10
S/MH(C0/C180): 0.96 S/MH(C90/C270): 0.96

Picture Of Luminaire

Luminous Intensity Distribution Curve

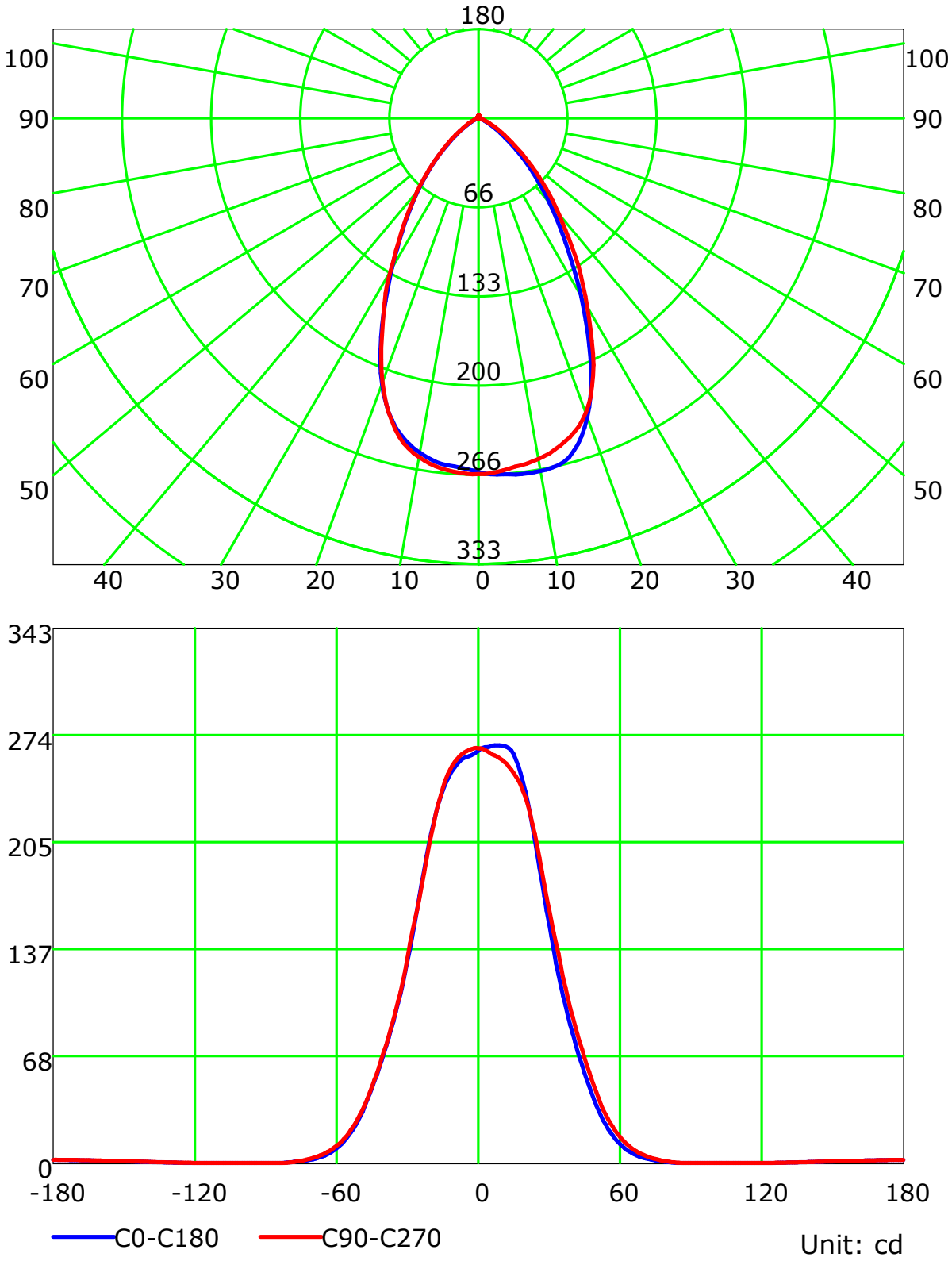


Unit: cd

Average Diffuse Angle(50%): 62.9°

C Plane (°):0.0-360.0: 30.0 Gamma Plane (°):0.0-180.0:1.0
Test Lab: Test Device: GPM-1800B
Test Type: TYPE C Distance: 11.573 m [K=1.0000]
Temperature: Humidity:
Operator: Inspector:

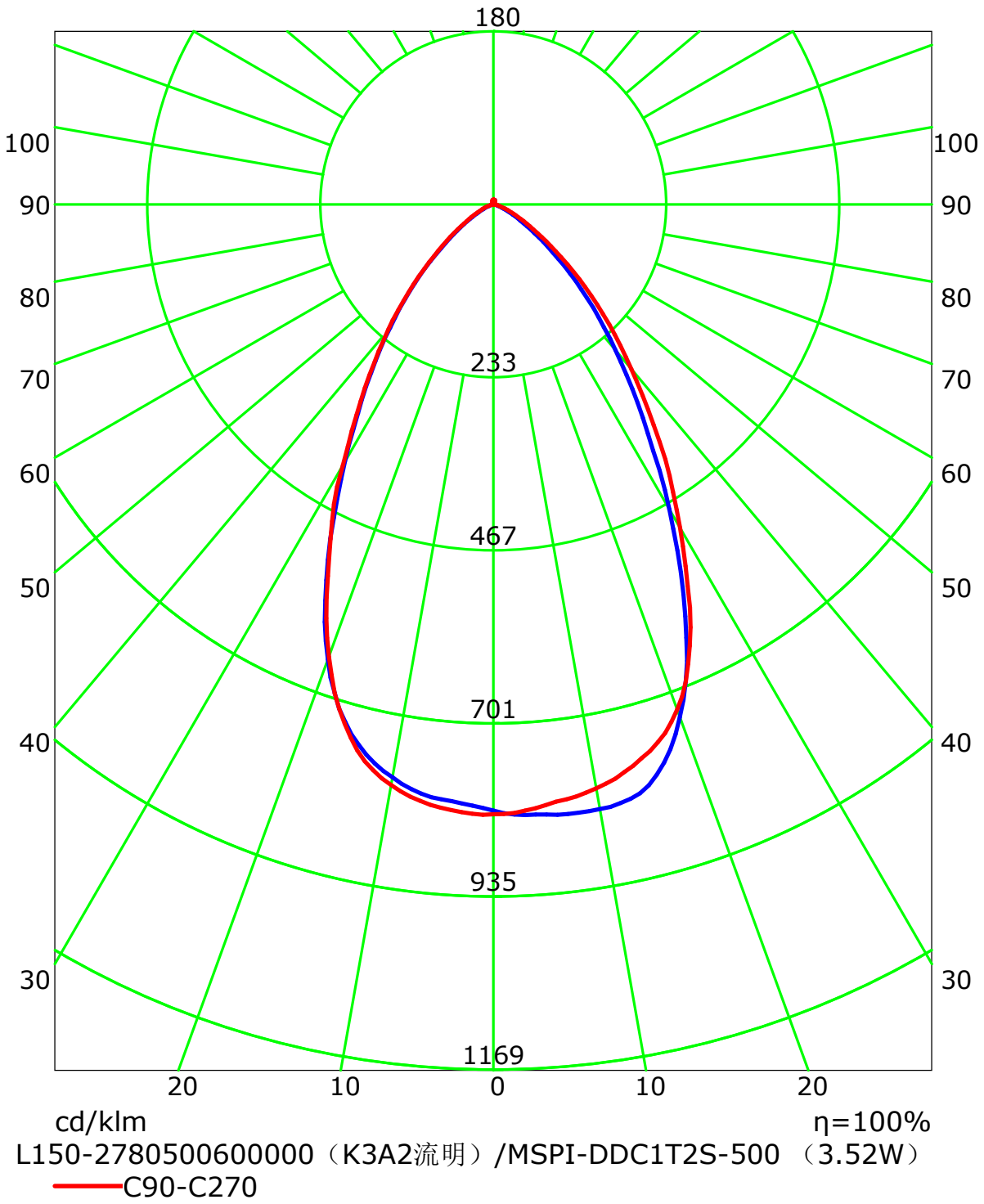
Luminous Intensity Distribution Curve



C Plane (°):0.0-360.0: 30.0
Test Lab:
Test Type: TYPE C
Temperature:
Operator:

Gamma Plane (°):0.0-180.0:1.0
Test Device: GPM-1800B
Distance: 11.573 m [K=1.0000]
Humidity:
Inspector:

Luminous Intensity Distribution Curve(cd/klm)



C Plane (°):0.0-360.0: 30.0
Test Lab:
Test Type: TYPE C
Temperature:
Operator:

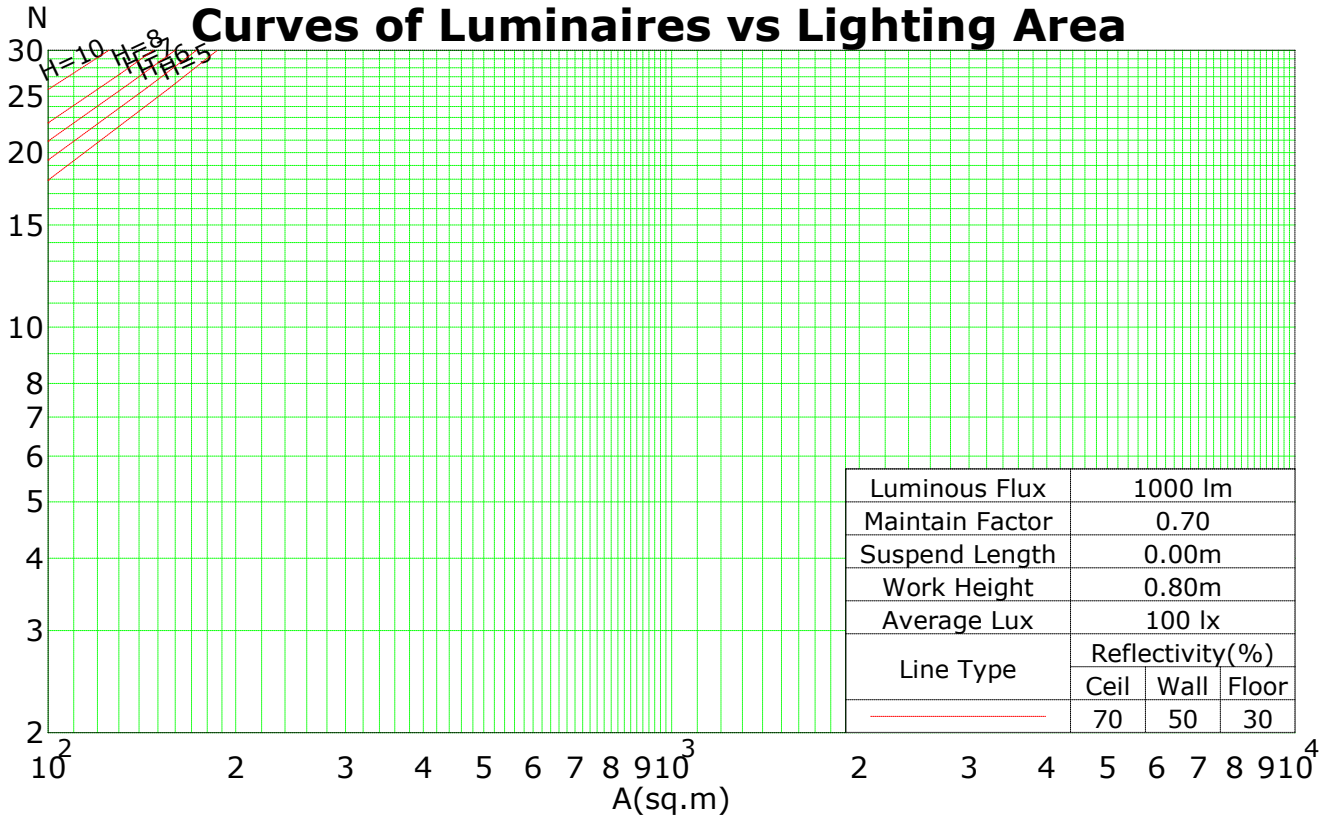
Gamma Plane (°):0.0-180.0:1.0
Test Device: GPM-1800B
Distance: 11.573 m [K=1.0000]
Humidity:
Inspector:

Coefficients Of Utilization - Zonal Cavity Method

RC	0.8	0.8	0.8	0.8	0.7	0.7	0.7	0.7	0.5	0.5	0.5	0.3	0.3	0.3	0.1	0.1	0.1	0
RW	0.7	0.5	0.3	0.1	0.7	0.5	0.3	0.1	0.5	0.3	0.1	0.5	0.3	0.1	0.5	0.3	0.1	0
RCR	RF = 0.2																	
0	1.19	1.19	1.19	1.19	1.16	1.16	1.16	1.16	1.11	1.11	1.11	1.06	1.06	1.06	1.01	1.01	1.01	0.99
1	1.12	1.09	1.06	1.04	1.10	1.07	1.04	1.02	1.03	1.01	0.99	0.99	0.97	0.96	0.95	0.94	0.93	0.91
2	1.06	1.00	0.95	0.91	1.03	0.98	0.94	0.90	0.95	0.91	0.88	0.92	0.89	0.86	0.89	0.86	0.84	0.82
3	0.99	0.92	0.86	0.81	0.97	0.90	0.85	0.81	0.87	0.83	0.79	0.85	0.81	0.78	0.82	0.79	0.77	0.75
4	0.93	0.84	0.78	0.73	0.91	0.83	0.77	0.73	0.81	0.76	0.72	0.79	0.74	0.71	0.77	0.73	0.70	0.68
5	0.88	0.78	0.71	0.66	0.86	0.77	0.71	0.66	0.75	0.70	0.65	0.73	0.68	0.65	0.71	0.67	0.64	0.62
6	0.82	0.72	0.65	0.61	0.81	0.71	0.65	0.60	0.70	0.64	0.60	0.68	0.63	0.59	0.67	0.62	0.59	0.57
7	0.78	0.67	0.60	0.56	0.76	0.66	0.60	0.55	0.65	0.59	0.55	0.64	0.59	0.55	0.62	0.58	0.54	0.53
8	0.73	0.63	0.56	0.51	0.72	0.62	0.56	0.51	0.61	0.55	0.51	0.60	0.54	0.51	0.59	0.54	0.50	0.49
9	0.69	0.59	0.52	0.48	0.68	0.58	0.52	0.47	0.57	0.51	0.47	0.56	0.51	0.47	0.55	0.50	0.47	0.45
10	0.66	0.55	0.49	0.44	0.65	0.55	0.48	0.44	0.54	0.48	0.44	0.53	0.47	0.44	0.52	0.47	0.44	0.42

Spacing Criteria (0-180): 0.96
Spacing Criteria (90-270): 0.96
Spacing Criteria (Diagonal): 0.95

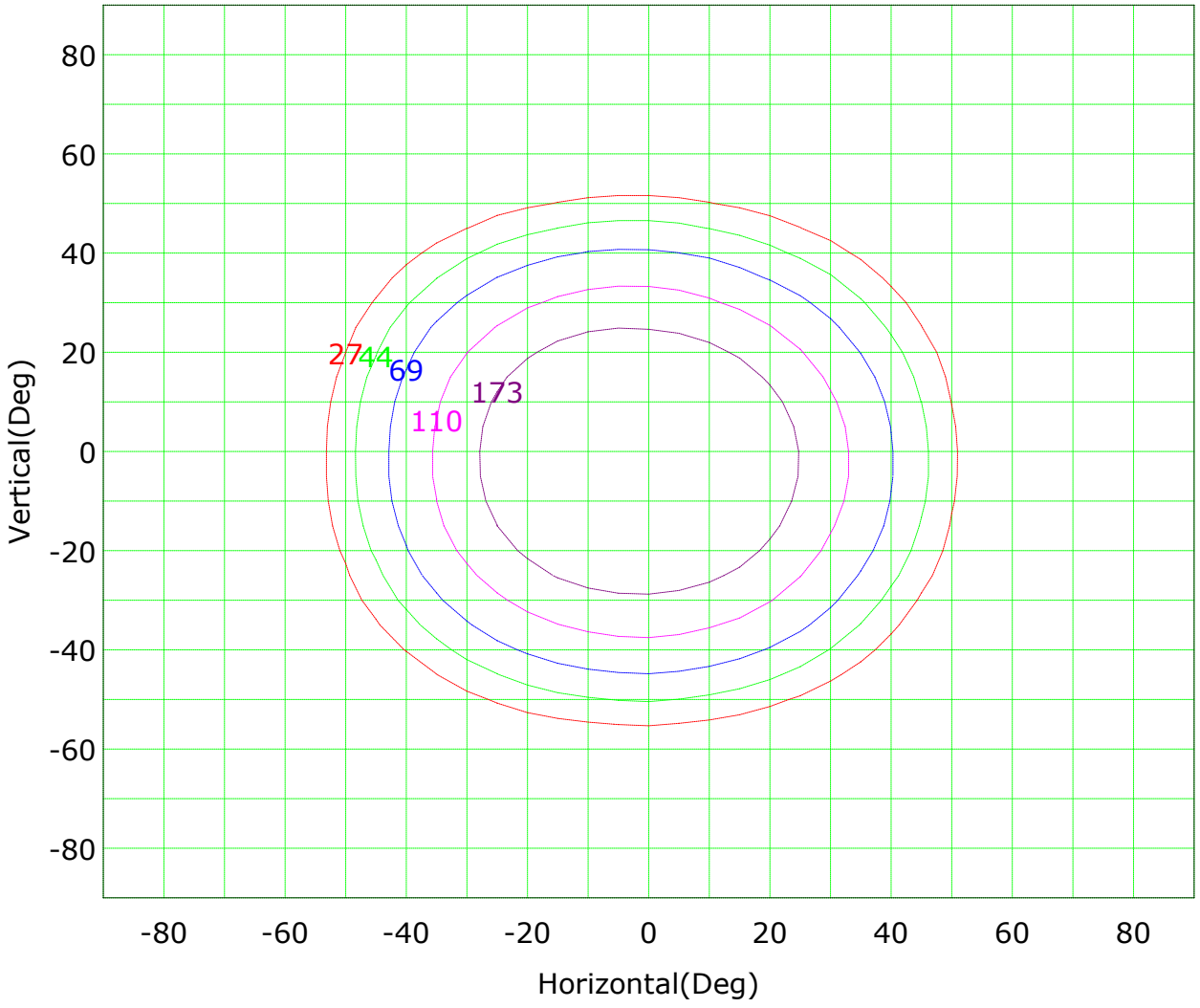
Curves of Luminaires vs Lighting Area



C Plane (°):0.0-360.0: 30.0
Test Lab:
Test Type: TYPE C
Temperature:
Operator:

Gamma Plane (°):0.0-180.0:1.0
Test Device: GPM-1800B
Distance: 11.573 m [K=1.0000]
Humidity:
Inspector:

Isocandela (rectangle)

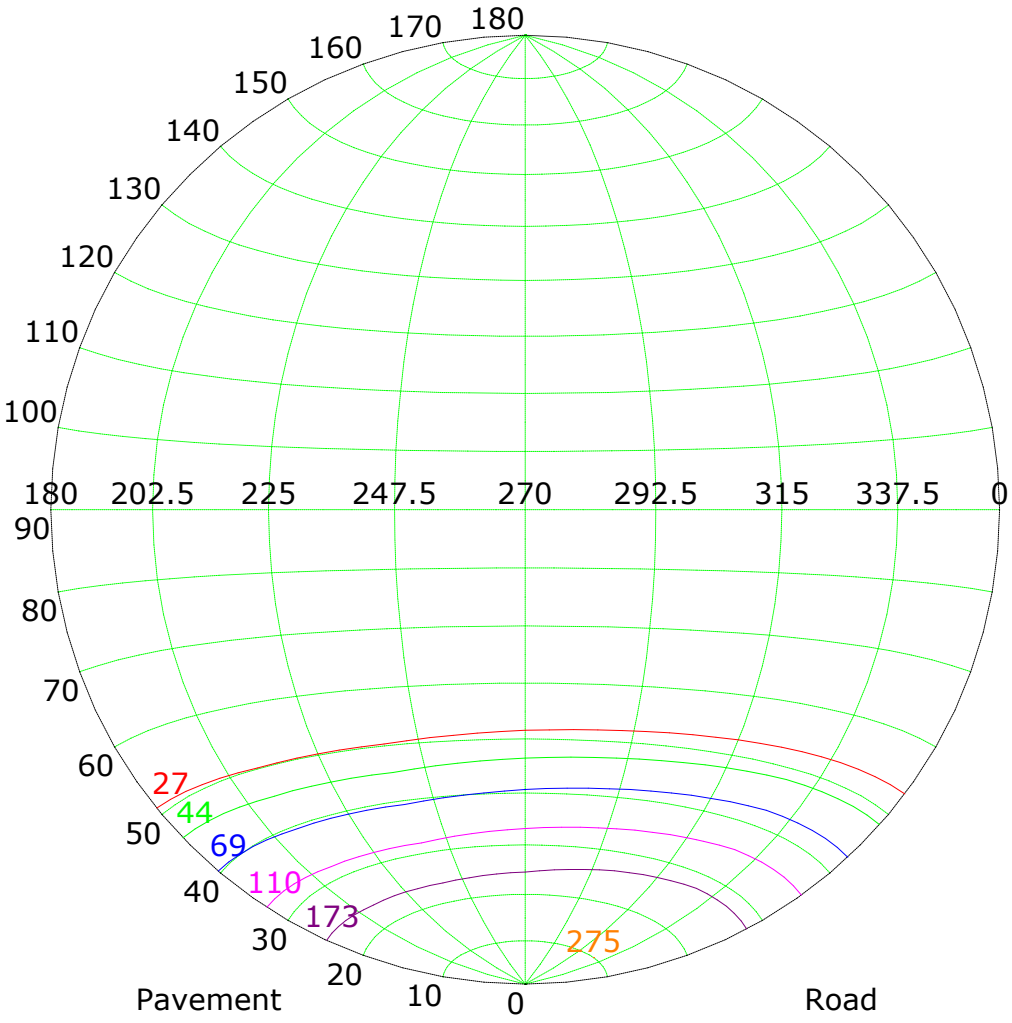


Imax (100%): 275 cd

(10%): 27 cd
(16%): 44 cd
(25%): 69 cd
(40%): 110 cd
(63%): 173 cd
(100%): 275 cd

C Plane (°):0.0-360.0: 30.0
Gamma Plane (°):0.0-180.0:1.0
Test Lab:
Test Device: GPM-1800B
Test Type: TYPE C
Distance: 11.573 m [K=1.0000]
Temperature:
Humidity:
Operator:
Inspector:

Isocandela (sphere)



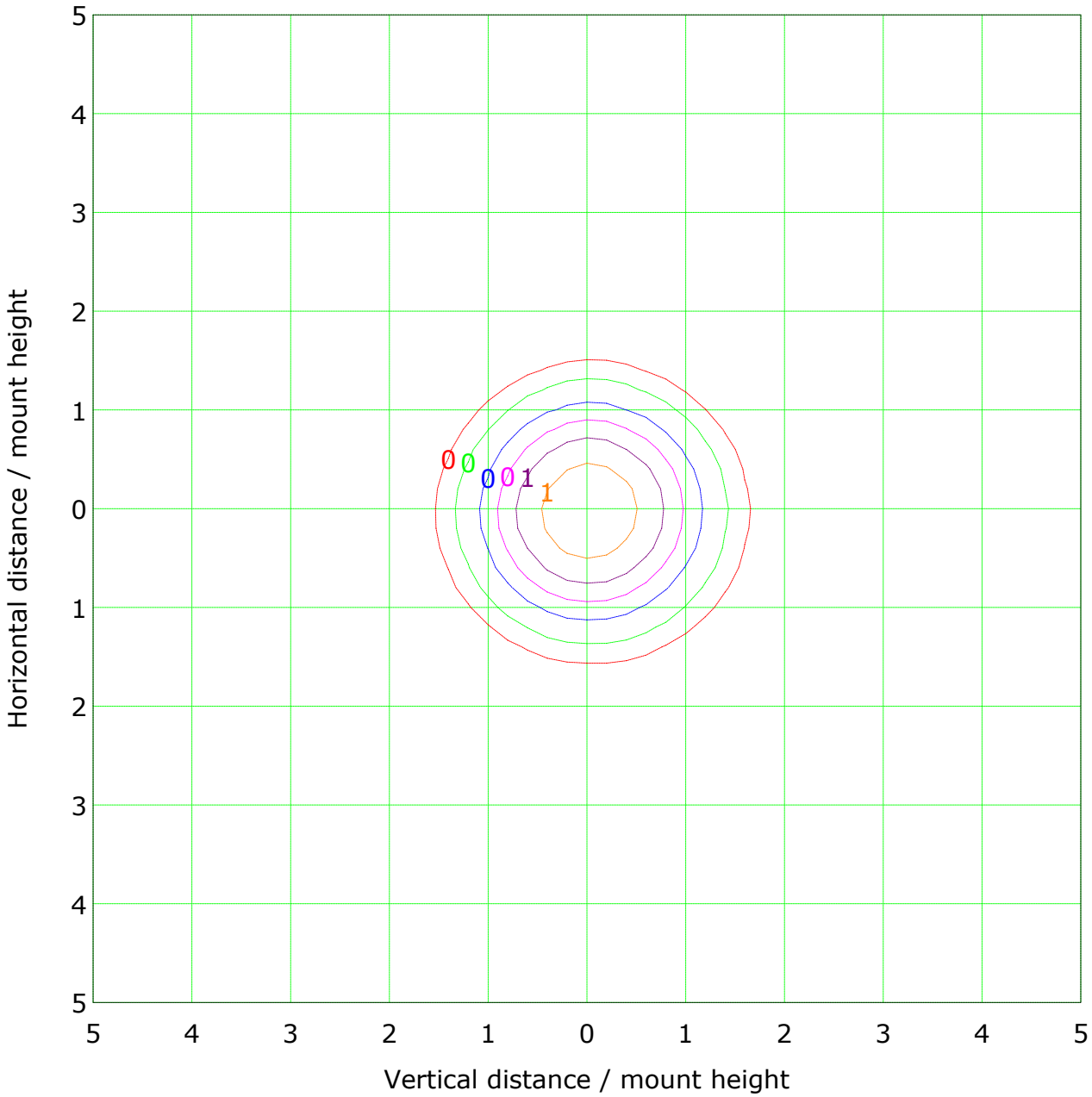
Imax (100%): 275 cd

(10%): 27 cd	(16%): 44 cd
(25%): 69 cd	(40%): 110 cd
(63%): 173 cd	(100%): 275 cd

C Plane (°):0.0-360.0: 30.0
Test Lab:
Test Type: TYPE C
Temperature:
Operator:

Gamma Plane (°):0.0-180.0:1.0
Test Device: GPM-1800B
Distance: 11.573 m [K=1.0000]
Humidity:
Inspector:

IsoLux Plot



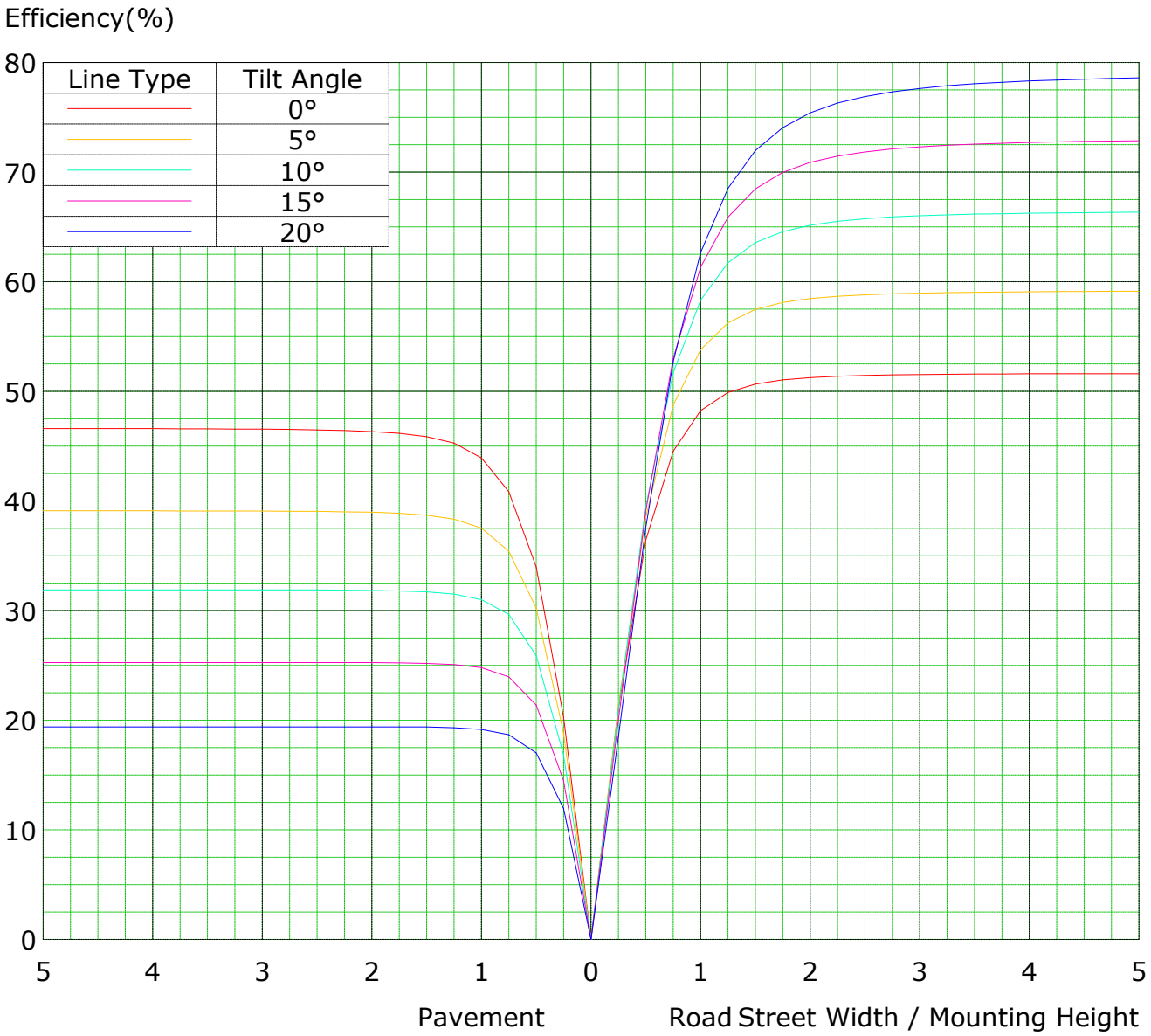
Mounting Height: 10.0m Max Lux(100%): 2.7 lx

(1%): 0.0 lx	(2%): 0.1 lx
(5%): 0.1 lx	(10%): 0.3 lx
(20%): 0.5 lx	(50%): 1.3 lx
(100%): 2.7 lx	

C Plane (°):0.0-360.0: 30.0
Test Lab:
Test Type: TYPE C
Temperature:
Operator:

Gamma Plane (°):0.0-180.0:1.0
Test Device: GPM-1800B
Distance: 11.573 m [K=1.0000]
Humidity:
Inspector:

Roadway CU Curve

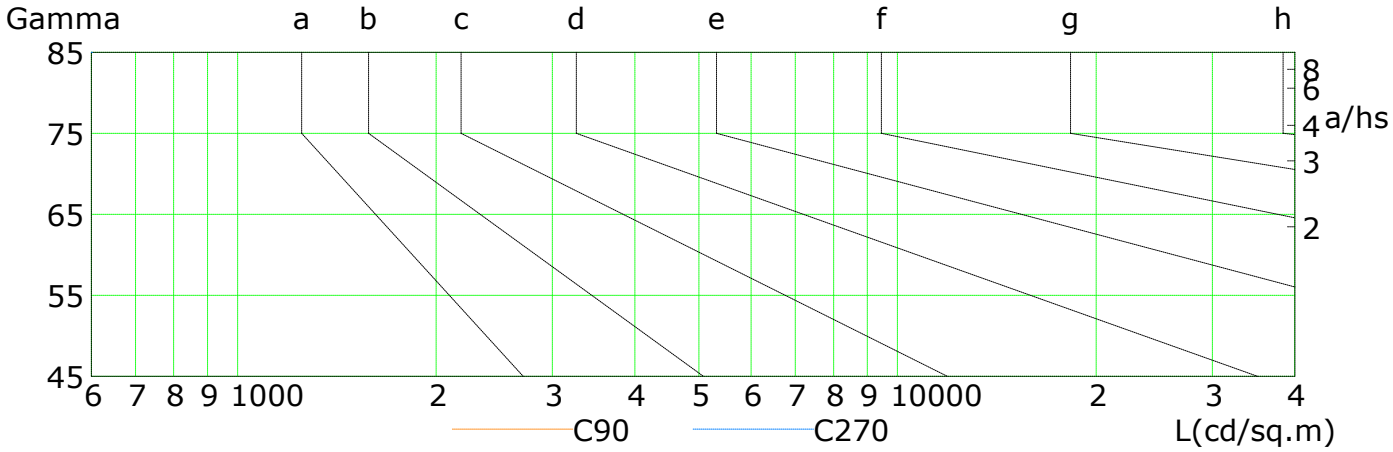


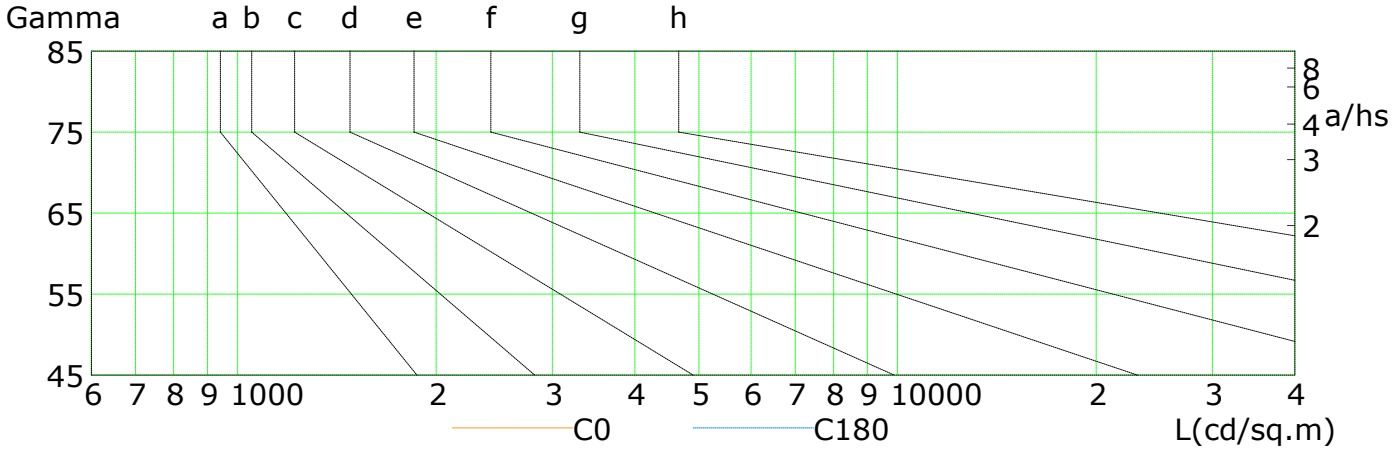
C Plane (°):0.0-360.0: 30.0
Test Lab:
Test Type: TYPE C
Temperature:
Operator:

Gamma Plane (°):0.0-180.0:1.0
Test Device: GPM-1800B
Distance: 11.573 m [K=1.0000]
Humidity:
Inspector:

Lum Limit Curve

Dazzle	Quality	Illuminance (lx)							
1.15	A	2000	1000	500	<=300				
1.50	B		2000	1000	500	<=300			
1.85	C			2000	1000	500	<=300		
2.20	D				2000	1000	500	<=300	
2.55	E					2000	1000	500	<=300
		a	b	c	d	e	f	g	h



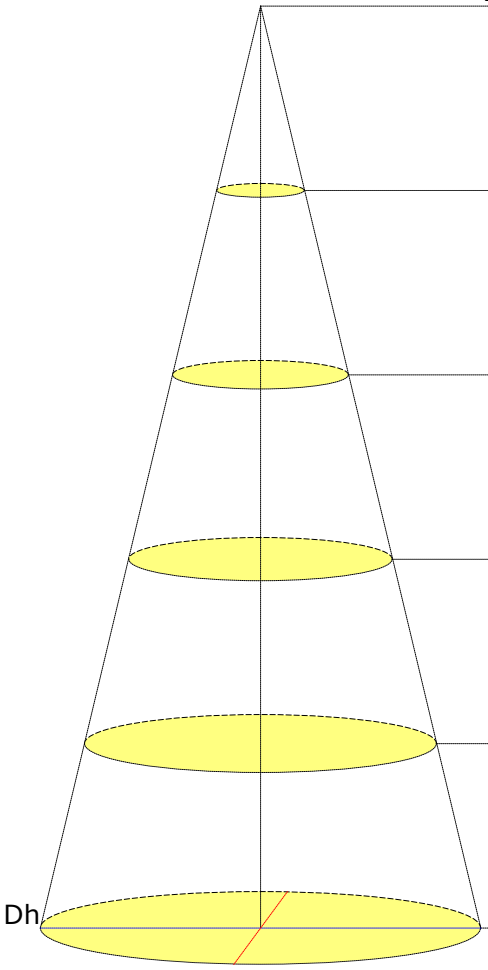


L(cd/sq.m)	G45	G50	G55	G60	G65	G70	G75	G80	G85
C0	58	37	22	12	7	3	2	1	0
C90	68	46	28	17	10	5	3	1	0
C180	48	30	18	10	5	2	1	0	0
C270	49	31	19	11	6	3	1	0	0

C Plane (°):0.0-360.0: 30.0
Test Lab:
Test Type: TYPE C
Temperature:
Operator:

Gamma Plane (°):0.0-180.0:1.0
Test Device: GPM-1800B
Distance: 11.573 m [K=1.0000]
Humidity:
Inspector:

Illuminance at a Distance



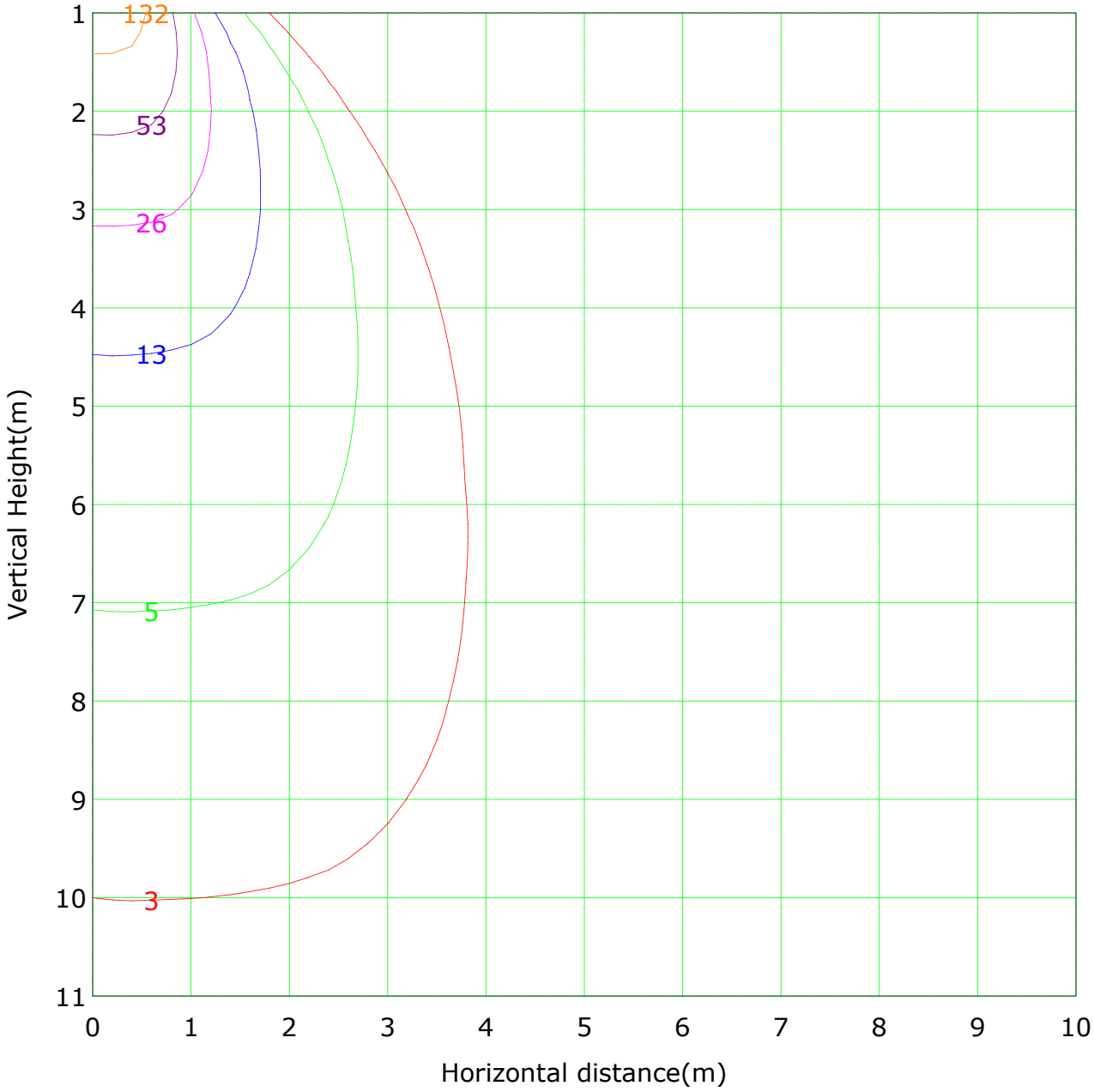
Dist(m)	Enadir(lx)	Dh/Dv_B(m)	S_B(sq.m)	Eav_B(lx)
10.0	2.65	11.96/12.49	118.5	0.94
20.0	0.66	23.92/24.98	474.2	0.24
30.0	0.29	35.88/37.47	1066.9	0.10
40.0	0.17	47.84/49.97	1896.8	0.06
50.0	0.11	59.80/62.46	2963.7	0.04

Beam Angle(B): H61.8 V64.0 Field Angle(F): H104.3 V107.3

C Plane (°):0.0-360.0: 30.0
Test Lab:
Test Type: TYPE C
Temperature:
Operator:

Gamma Plane (°):0.0-180.0:1.0
Test Device: GPM-1800B
Distance: 11.573 m [K=1.0000]
Humidity:
Inspector:

Vertical IsoLux Plot



Lowest(m): 1.0m Highest(m): 11.0m Max Lux: 264.6 lx

(1%): 2.6 lx	(2%): 5.3 lx
(5%): 13.2 lx	(10%): 26.5 lx
(20%): 52.9 lx	(50%): 132.3 lx
(100%): 264.6 lx	

C Plane (°):0.0-360.0: 30.0
Test Lab:
Test Type: TYPE C
Temperature:
Operator:

Gamma Plane (°):0.0-180.0:1.0
Test Device: GPM-1800B
Distance: 11.573 m [K=1.0000]
Humidity:
Inspector:

Area Flux Table

Unit: lm

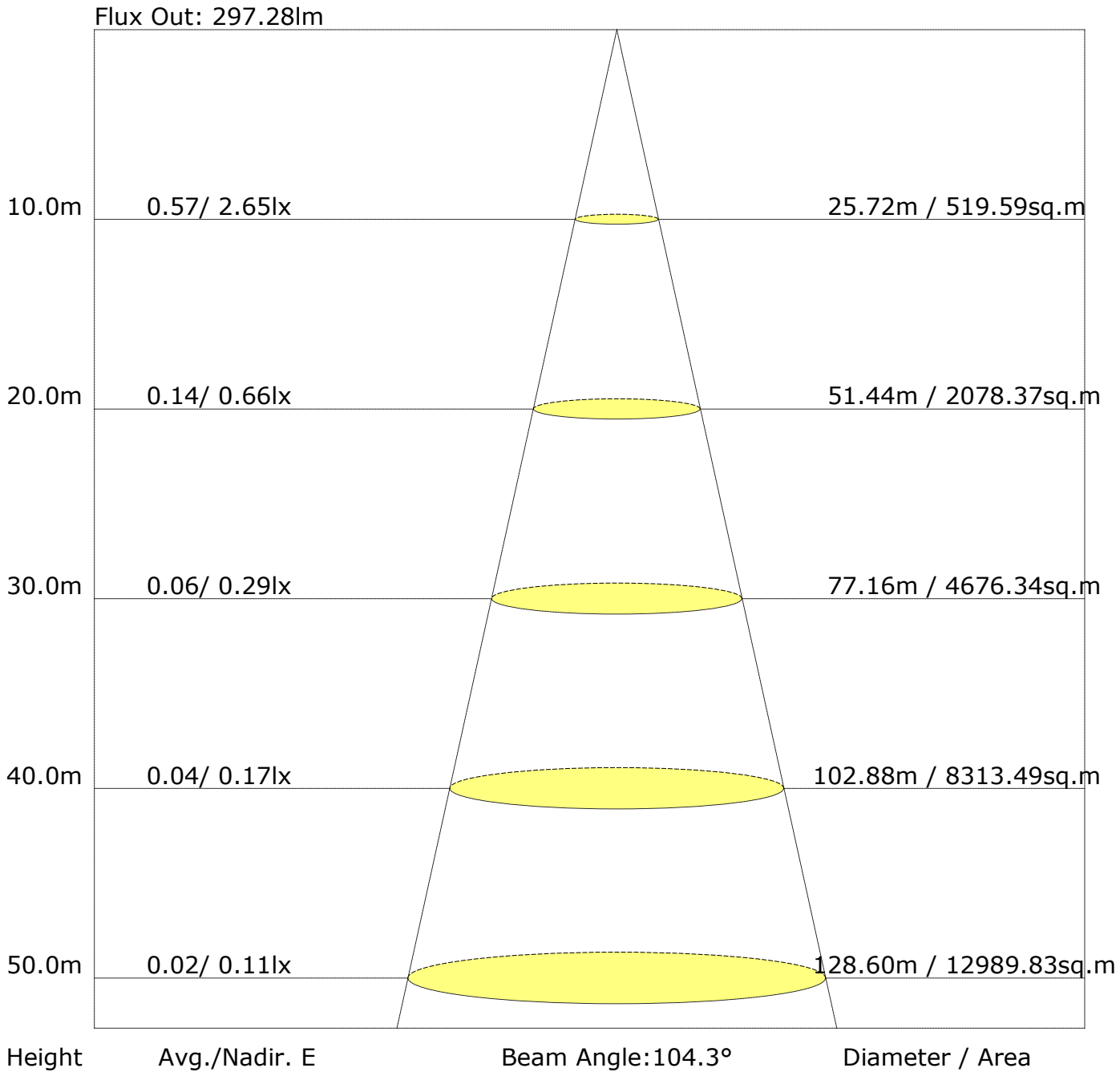
Vertical plane (rows) / Horizontal plane (columns)

	-90	-80	-70	-60	-50	-40	-30	-20	-10	0	10	20	30	40	50	60	70	80	90 Flux(T)	Flux(E)
-90	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
-80	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.0
-70	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.0	0.0	0.0	0.0	1.3	0.0
-60	0.0	0.0	0.0	0.0	0.1	0.2	0.3	0.5	0.6	0.6	0.5	0.4	0.2	0.1	0.1	0.0	0.0	0.0	3.7	0.2
-50	0.0	0.0	0.0	0.1	0.2	0.4	0.8	1.2	1.4	1.5	1.3	0.9	0.6	0.3	0.1	0.0	0.0	0.0	8.9	6.8
-40	0.0	0.0	0.0	0.1	0.4	0.9	1.6	2.3	2.9	3.0	2.6	1.9	1.1	0.5	0.2	0.0	0.0	0.0	17.5	16.2
-30	0.0	0.0	0.0	0.2	0.6	1.4	2.6	3.9	4.9	5.2	4.5	3.1	1.8	0.8	0.3	0.1	0.0	0.0	29.4	28.4
-20	0.0	0.0	0.1	0.3	0.9	2.0	3.7	5.7	7.0	7.3	6.5	4.4	2.4	1.1	0.3	0.1	0.0	0.0	41.7	40.9
-10	0.0	0.0	0.1	0.3	1.0	2.4	4.5	6.8	7.8	8.1	7.6	5.3	2.8	1.2	0.4	0.1	0.0	0.0	48.5	47.8
0	0.0	0.0	0.1	0.3	1.1	2.4	4.7	7.0	7.9	8.0	7.5	5.4	2.9	1.3	0.4	0.1	0.0	0.0	49.0	48.3
10	0.0	0.0	0.1	0.3	0.9	2.2	4.1	6.3	7.5	7.5	6.7	4.7	2.6	1.1	0.4	0.1	0.0	0.0	44.5	43.8
20	0.0	0.0	0.1	0.2	0.7	1.7	3.1	4.8	5.9	6.0	5.1	3.5	2.0	0.9	0.3	0.1	0.0	0.0	34.3	33.4
30	0.0	0.0	0.0	0.2	0.5	1.1	2.0	3.0	3.7	3.8	3.2	2.3	1.3	0.6	0.2	0.1	0.0	0.0	21.8	20.7
40	0.0	0.0	0.0	0.1	0.3	0.6	1.1	1.6	2.0	2.0	1.7	1.2	0.7	0.3	0.1	0.0	0.0	0.0	11.8	10.2
50	0.0	0.0	0.0	0.0	0.1	0.3	0.5	0.7	0.8	0.9	0.7	0.5	0.3	0.2	0.1	0.0	0.0	0.0	5.1	1.7
60	0.0	0.0	0.0	0.0	0.1	0.1	0.2	0.2	0.3	0.3	0.3	0.2	0.1	0.1	0.0	0.0	0.0	0.0	1.9	0.0
70	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.6	0.0
80	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0
90 Flux(T)	0.0	0.1	0.5	2.2	6.9	15.7	29.2	44.1	53.0	54.6	48.5	34.1	18.9	8.5	2.9	0.7	0.1	0.0	320	
Flux(E)	0.0	0.0	0.0	0.1	4.9	14.1	27.7	42.7	51.6	53.1	47.1	32.6	17.4	6.7	0.5	0.0	0.0	0.0		298

C Plane (°):0.0-360.0: 30.0
Test Lab:
Test Type: TYPE C
Temperature:
Operator:

Gamma Plane (°):0.0-180.0:1.0
Test Device: GPM-1800B
Distance: 11.573 m [K=1.0000]
Humidity:
Inspector:

The Average Illuminance Effective Figure



C Plane (°):0.0-360.0: 30.0
Test Lab:
Test Type: TYPE C
Temperature:
Operator:

Gamma Plane (°):0.0-180.0:1.0
Test Device: GPM-1800B
Distance: 11.573 m [K=1.0000]
Humidity:
Inspector:

UGR Table

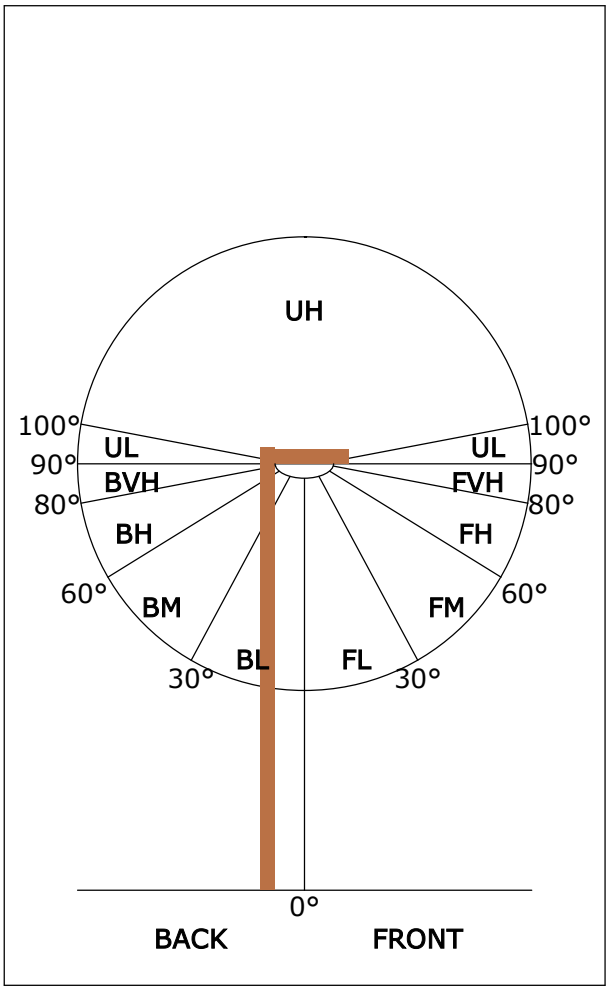
Reflectance:										
Ceiling (cavity)	0.7	0.7	0.5	0.5	0.3	0.7	0.7	0.5	0.5	0.3
Wall	0.5	0.3	0.5	0.3	0.3	0.5	0.3	0.5	0.3	0.3
Reference plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Room dimensions	Viewed crosswise					Viewed endwise				
X=2H Y=2H	1.$	1.$	1.$	1.$	1.$	1.$	1.$	1.$	1.$	1.$
3H	1.$	1.$	1.$	1.$	1.$	1.$	1.$	1.$	1.$	1.$
4H	1.$	1.$	1.$	1.$	1.$	1.$	1.$	1.$	1.$	1.$
6H	1.$	1.$	1.$	1.$	1.$	1.$	1.$	1.$	1.$	1.$
8H	1.$	1.$	1.$	1.$	1.$	1.$	1.$	1.$	1.$	1.$
12H	-1.$	-1.$	-1.$	-1.$	-1.$	1.$	1.$	1.$	1.$	1.$
X=4H Y=2H	1.$	1.$	1.$	1.$	1.$	1.$	1.$	1.$	1.$	1.$
3H	1.$	1.$	1.$	1.$	1.$	1.$	1.$	1.$	1.$	1.$
4H	1.$	1.$	1.$	1.$	1.$	1.$	1.$	1.$	1.$	1.$
6H	1.$	1.$	1.$	1.$	1.$	1.$	1.$	1.$	1.$	1.$
8H	1.$	1.$	1.$	1.$	1.$	1.$	1.$	1.$	1.$	1.$
12H	-1.$	-1.$	-1.$	-1.$	-1.$	1.$	1.$	1.$	1.$	1.$
X=8H Y=4H	1.$	1.$	1.$	1.$	1.$	1.$	1.$	1.$	1.$	1.$
6H	1.$	1.$	1.$	1.$	1.$	1.$	1.$	1.$	1.$	1.$
8H	1.$	1.$	1.$	1.$	1.$	1.$	1.$	1.$	1.$	1.$
12H	-1.$	-1.$	-1.$	-1.$	-1.$	1.$	1.$	1.$	1.$	1.$
X=12H Y=4H	1.$	1.$	1.$	1.$	1.$	1.$	1.$	1.$	1.$	1.$
6H	1.$	1.$	1.$	1.$	1.$	1.$	1.$	1.$	1.$	1.$
8H	1.$	1.$	1.$	1.$	1.$	1.$	1.$	1.$	1.$	1.$

Calculate in accordance with CIE 190:2010 The table is revised with 323lm (8log(F/F0) = -3.9).

C Plane (°):0.0-360.0: 30.0
Test Lab:
Test Type: TYPE C
Temperature:
Operator:

Gamma Plane (°):0.0-180.0:1.0
Test Device: GPM-1800B
Distance: 11.573 m [K=1.0000]
Humidity:
Inspector:

FLUX DISTRIBUTION TABLE BASED ON THE IESNA LUMINAIRE CLASSIFICATION SYSTEM



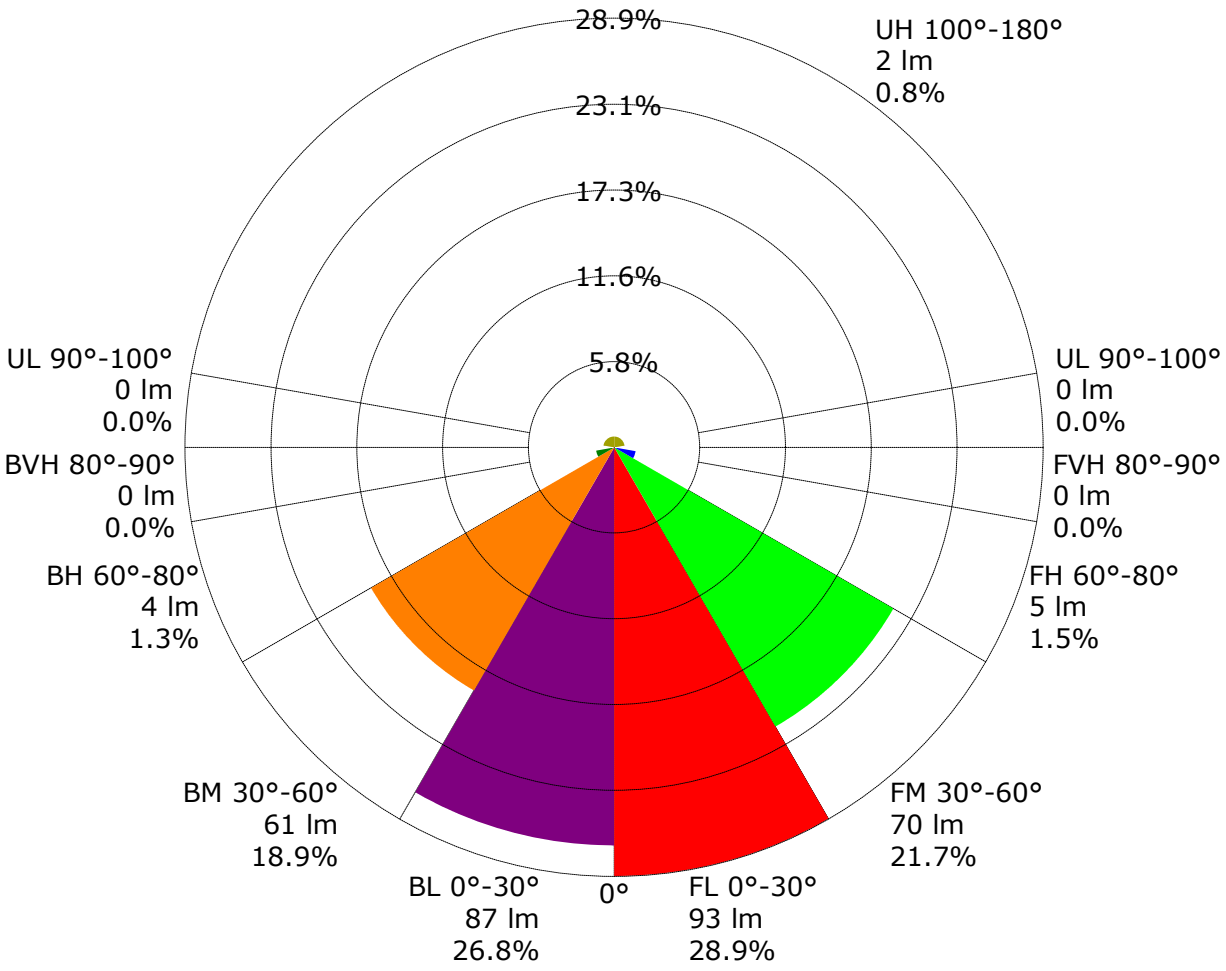
ZONE	LUMENS	% LAMP LUMENS
FORWARD LIGHT	168	52.2
FL (0°-30°)	93	28.9
FM (30°-60°)	70	21.7
FH (60°-80°)	5	1.5
FVH (80°-90°)	0	0.0
BACK LIGHT	152	47.1
BL (0°-30°)	87	26.8
BM (30°-60°)	61	18.9
BH (60°-80°)	4	1.3
BVH (80°-90°)	0	0.0
UP LIGHT	2	0.8
UL (90°-100°)	0	0.0
UH (100°-180°)	2	0.8
TRAPPED LIGHT	NA	NA

BUG(**B**acklight,**U**plight,**G**lare) Rating Base On TM-15-07	
Asymmetrical Luminaire Types (Type I,II,III,IV)	B0 U1 G0
Quadrilateral Symmetrical Luminaire Types (Type V,Area Light)	B0 U1 G0

C Plane (°):0.0-360.0: 30.0
Test Lab:
Test Type: TYPE C
Temperature:
Operator:

Gamma Plane (°):0.0-180.0:1.0
Test Device: GPM-1800B
Distance: 11.573 m [K=1.0000]
Humidity:
Inspector:

LCS Graph



Scale= MAX LCS%

Trapped Light:NA,NA

C Plane (°):0.0-360.0: 30.0
Test Lab:
Test Type: TYPE C
Temperature:
Operator:

Gamma Plane (°):0.0-180.0:1.0
Test Device: GPM-1800B
Distance: 11.573 m [K=1.0000]
Humidity:
Inspector:

Utilisation Factor Table(Floor cavity)

Utilisation Factors UF(F)			SHR NOM = 0.75								
Room Reflectance			Room Index(RI)								
Ceiling	Wall	Floor	0.75	1.00	1.25	1.50	2.00	2.50	3.00	4.00	5.00
0.70	0.50	0.20	0.73	0.82	0.88	0.92	0.98	1.01	1.03	1.07	1.08
	0.30		0.67	0.77	0.83	0.87	0.93	0.97	1.00	1.04	1.06
	0.20		0.63	0.72	0.79	0.83	0.90	0.94	0.97	1.01	1.04
0.50	0.50	0.20	0.72	0.80	0.86	0.90	0.95	0.98	1.00	1.03	1.04
	0.30		0.67	0.75	0.81	0.85	0.91	0.95	0.97	1.00	1.02
	0.20		0.63	0.72	0.78	0.82	0.88	0.92	0.95	0.98	1.01
0.30	0.50	0.20	0.70	0.78	0.84	0.87	0.92	0.95	0.96	0.99	1.00
	0.30		0.66	0.74	0.80	0.84	0.89	0.92	0.94	0.97	0.99
	0.20		0.62	0.71	0.77	0.81	0.86	0.90	0.92	0.96	0.97
0.00	0.00	0.00	0.60	0.69	0.74	0.78	0.83	0.86	0.88	0.91	0.93

Rating:4W Photometrically tested without ceiling board.

Multiply UF values by service correction factors

Calculate in accordance with CIBSE Technical Memorandum NO.5 1980

Utilisation Factor Table(Wall)

Utilisation Factors UF(W)			SHR NOM = 0.75								
Room Reflectance			Room Index(RI)								
Ceiling	Wall	Floor	0.75	1.00	1.25	1.50	2.00	2.50	3.00	4.00	5.00
0.70	0.50	0.20	0.75	0.60	0.50	0.43	0.33	0.27	0.23	0.18	0.14
	0.30		0.62	0.51	0.43	0.38	0.30	0.25	0.21	0.17	0.14
	0.20		0.53	0.45	0.38	0.34	0.27	0.23	0.20	0.16	0.13
0.50	0.50	0.20	0.71	0.57	0.47	0.40	0.31	0.29	0.21	0.16	0.13
	0.30		0.60	0.49	0.42	0.36	0.28	0.24	0.20	0.15	0.13
	0.20		0.52	0.43	0.37	0.33	0.26	0.22	0.19	0.15	0.12
0.30	0.50	0.20	0.69	0.54	0.45	0.38	0.29	0.24	0.20	0.15	0.12
	0.30		0.59	0.48	0.40	0.34	0.27	0.22	0.19	0.15	0.12
	0.20		0.51	0.42	0.36	0.31	0.25	0.21	0.18	0.14	0.11
0.00	0.00	0.00	0.39	0.31	0.26	0.22	0.17	0.14	0.11	0.09	0.07

Rating:4W Photometrically tested without ceiling board.

Multiply UF values by service correction factors

Calculate in accordance with CIBSE Technical Memorandum NO.5 1980

C Plane (°):0.0-360.0: 30.0
Test Lab:
Test Type: TYPE C
Temperature:
Operator:

Gamma Plane (°):0.0-180.0:1.0
Test Device: GPM-1800B
Distance: 11.573 m [K=1.0000]
Humidity:
Inspector:

Utilisation Factor Table(Ceiling cavity)

Utilisation Factors UF(C)			SHR NOM = 0.75								
Room Reflectance			Room Index(RI)								
Ceiling	Wall	Floor	0.75	1.00	1.25	1.50	2.00	2.50	3.00	4.00	5.00
0.70	0.50	0.20	0.15	0.16	0.17	0.18	0.19	0.20	0.20	0.21	0.22
	0.30		0.10	0.12	0.13	0.14	0.16	0.17	0.18	0.19	0.20
	0.20		0.06	0.08	0.10	0.11	0.13	0.15	0.16	0.17	0.18
0.50	0.50	0.20	0.14	0.16	0.17	0.17	0.18	0.19	0.20	0.20	0.21
	0.30		0.10	0.11	0.13	0.14	0.15	0.17	0.17	0.19	0.19
	0.20		0.06	0.08	0.10	0.11	0.13	0.14	0.15	0.17	0.18
0.30	0.50	0.20	0.14	0.15	0.16	0.17	0.18	0.18	0.19	0.20	0.20
	0.30		0.09	0.11	0.12	0.13	0.15	0.16	0.17	0.18	0.19
	0.20		0.06	0.08	0.09	0.11	0.13	0.14	0.15	0.16	0.17
0.00	0.00	0.00	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01

Rating:4W Photometrically tested without ceiling board.

Multiply UF values by service correction factors

Calculate in accordance with CIBSE Technical Memorandum NO.5 1980

Zonal Lumen

Gamma [°]	Imean [cd]	Zonal Flux [lm]	Sum Zonal Flux [lm]	Rel Zonal Flux [%]	Sum Rel Zonal Flux [%]
0.0-1.0	266.3	0.3	0.3	0.08	0.08
1.0-2.0	266.2	0.8	1.0	0.24	0.32
2.0-3.0	266.0	1.3	2.3	0.39	0.71
3.0-4.0	265.7	1.8	4.1	0.55	1.26
4.0-5.0	265.3	2.3	6.4	0.71	1.97
5.0-6.0	264.9	2.8	9.1	0.86	2.83
6.0-7.0	264.4	3.3	12.4	1.02	3.85
7.0-8.0	263.8	3.8	16.2	1.17	5.02
8.0-9.0	263.0	4.3	20.5	1.32	6.34
9.0-10.0	261.9	4.7	25.2	1.47	7.81
10.0-11.0	260.6	5.2	30.4	1.61	9.42
11.0-12.0	258.9	5.7	36.1	1.75	11.17
12.0-13.0	256.9	6.1	42.2	1.89	13.06
13.0-14.0	254.4	6.5	48.7	2.02	15.08
14.0-15.0	251.5	6.9	55.6	2.14	17.22
15.0-16.0	248.0	7.3	62.8	2.25	19.47
16.0-17.0	243.9	7.6	70.4	2.35	21.82
17.0-18.0	239.3	7.9	78.3	2.44	24.27
18.0-19.0	234.0	8.1	86.5	2.52	26.79
19.0-20.0	228.1	8.3	94.8	2.59	29.38
20.0-21.0	221.6	8.5	103.3	2.64	32.01
21.0-22.0	214.6	8.6	112.0	2.67	34.69
22.0-23.0	207.0	8.7	120.7	2.69	37.38
23.0-24.0	199.0	8.7	129.4	2.70	40.07
24.0-25.0	190.8	8.7	138.0	2.69	42.76
25.0-26.0	182.5	8.6	146.7	2.67	45.43
26.0-27.0	174.1	8.5	155.2	2.64	48.07
27.0-28.0	165.8	8.4	163.6	2.60	50.67
28.0-29.0	157.7	8.3	171.8	2.56	53.23
29.0-30.0	149.4	8.1	179.9	2.50	55.73
30.0-31.0	141.3	7.9	187.8	2.44	58.16
31.0-32.0	133.7	7.7	195.4	2.37	60.54
32.0-33.0	126.3	7.4	202.9	2.31	62.84
33.0-34.0	119.1	7.2	210.1	2.23	65.08
34.0-35.0	112.3	7.0	217.0	2.16	67.24
35.0-36.0	105.7	6.7	223.8	2.09	69.32

C Plane (°):0.0-360.0: 30.0
Test Lab:
Test Type: TYPE C
Temperature:
Operator:

Gamma Plane (°):0.0-180.0:1.0
Test Device: GPM-1800B
Distance: 11.573 m [K=1.0000]
Humidity:
Inspector:

Zonal Lumen (Continue 1)

Gamma [°]	Imean [cd]	Zonal Flux [lm]	Sum Zonal Flux [lm]	Rel Zonal Flux [%]	Sum Rel Zonal Flux [%]
36.0-37.0	99.5	6.5	230.3	2.01	71.33
37.0-38.0	93.6	6.2	236.5	1.94	73.27
38.0-39.0	87.9	6.0	242.5	1.86	75.13
39.0-40.0	82.4	5.7	248.3	1.78	76.91
40.0-41.0	77.3	5.5	253.8	1.70	78.61
41.0-42.0	72.3	5.3	259.0	1.63	80.24
42.0-43.0	67.3	5.0	264.0	1.54	81.78
43.0-44.0	62.6	4.7	268.7	1.46	83.25
44.0-45.0	58.0	4.5	273.2	1.38	84.63
45.0-46.0	53.5	4.2	277.4	1.30	85.92
46.0-47.0	49.3	3.9	281.3	1.21	87.14
47.0-48.0	45.1	3.6	284.9	1.13	88.27
48.0-49.0	41.2	3.4	288.3	1.05	89.32
49.0-50.0	37.5	3.1	291.4	0.97	90.28
50.0-51.0	34.0	2.9	294.3	0.89	91.18
51.0-52.0	30.8	2.6	297.0	0.82	91.99
52.0-53.0	27.8	2.4	299.4	0.75	92.74
53.0-54.0	25.1	2.2	301.6	0.69	93.43
54.0-55.0	22.6	2.0	303.6	0.63	94.06
55.0-56.0	20.3	1.8	305.4	0.57	94.62
56.0-57.0	18.2	1.7	307.1	0.52	95.14
57.0-58.0	16.3	1.5	308.6	0.47	95.61
58.0-59.0	14.6	1.4	310.0	0.42	96.03
59.0-60.0	13.1	1.2	311.2	0.38	96.41
60.0-61.0	11.6	1.1	312.3	0.34	96.76
61.0-62.0	10.3	1.0	313.3	0.31	97.07
62.0-63.0	9.2	0.9	314.2	0.28	97.34
63.0-64.0	8.1	0.8	315.0	0.25	97.59
64.0-65.0	7.2	0.7	315.7	0.22	97.81
65.0-66.0	6.3	0.6	316.4	0.20	98.00
66.0-67.0	5.6	0.6	316.9	0.17	98.18
67.0-68.0	4.9	0.5	317.4	0.16	98.33
68.0-69.0	4.3	0.4	317.9	0.14	98.47
69.0-70.0	3.8	0.4	318.3	0.12	98.59
70.0-71.0	3.4	0.3	318.6	0.11	98.70
71.0-72.0	2.9	0.3	318.9	0.09	98.80

C Plane (°):0.0-360.0: 30.0
Test Lab:
Test Type: TYPE C
Temperature:
Operator:

Gamma Plane (°):0.0-180.0:1.0
Test Device: GPM-1800B
Distance: 11.573 m [K=1.0000]
Humidity:
Inspector:

Zonal Lumen (Continue 2)

Gamma [°]	Imean [cd]	Zonal Flux [lm]	Sum Zonal Flux [lm]	Rel Zonal Flux [%]	Sum Rel Zonal Flux [%]
72.0-73.0	2.6	0.3	319.2	0.08	98.88
73.0-74.0	2.2	0.2	319.4	0.07	98.95
74.0-75.0	1.9	0.2	319.6	0.06	99.01
75.0-76.0	1.6	0.2	319.8	0.05	99.06
76.0-77.0	1.3	0.1	319.9	0.04	99.11
77.0-78.0	1.1	0.1	320.0	0.04	99.15
78.0-79.0	0.9	0.1	320.1	0.03	99.18
79.0-80.0	0.7	0.1	320.2	0.02	99.20
80.0-81.0	0.5	0.1	320.3	0.02	99.22
81.0-82.0	0.4	0.0	320.3	0.01	99.23
82.0-83.0	0.2	0.0	320.3	0.01	99.24
83.0-84.0	0.1	0.0	320.4	0.00	99.24
84.0-85.0	0.1	0.0	320.4	0.00	99.25
85.0-86.0	0.0	0.0	320.4	0.00	99.25
86.0-87.0	0.0	0.0	320.4	0.00	99.25
87.0-88.0	0.0	0.0	320.4	0.00	99.25
88.0-89.0	0.0	0.0	320.4	0.00	99.25
89.0-90.0	0.0	0.0	320.4	0.00	99.25
90.0-91.0	0.0	0.0	320.4	0.00	99.25
91.0-92.0	0.0	0.0	320.4	0.00	99.25
92.0-93.0	0.0	0.0	320.4	0.00	99.25
93.0-94.0	0.0	0.0	320.4	0.00	99.25
94.0-95.0	0.0	0.0	320.4	0.00	99.25
95.0-96.0	0.0	0.0	320.4	0.00	99.25
96.0-97.0	0.0	0.0	320.4	0.00	99.25
97.0-98.0	0.0	0.0	320.4	0.00	99.25
98.0-99.0	0.0	0.0	320.4	0.00	99.25
99.0-100.0	0.0	0.0	320.4	0.00	99.25
100.0-101.0	0.0	0.0	320.4	0.00	99.25
101.0-102.0	0.0	0.0	320.4	0.00	99.25
102.0-103.0	0.0	0.0	320.4	0.00	99.25
103.0-104.0	0.0	0.0	320.4	0.00	99.25
104.0-105.0	0.0	0.0	320.4	0.00	99.25
105.0-106.0	0.0	0.0	320.4	0.00	99.25
106.0-107.0	0.0	0.0	320.4	0.00	99.25
107.0-108.0	0.0	0.0	320.4	0.00	99.25

C Plane (°):0.0-360.0: 30.0
Test Lab:
Test Type: TYPE C
Temperature:
Operator:

Gamma Plane (°):0.0-180.0:1.0
Test Device: GPM-1800B
Distance: 11.573 m [K=1.0000]
Humidity:
Inspector:

Zonal Lumen (Continue 3)

Gamma [°]	Imean [cd]	Zonal Flux [lm]	Sum Zonal Flux [lm]	Rel Zonal Flux [%]	Sum Rel Zonal Flux [%]
108.0-109.0	0.0	0.0	320.4	0.00	99.25
109.0-110.0	0.0	0.0	320.4	0.00	99.25
110.0-111.0	0.0	0.0	320.4	0.00	99.25
111.0-112.0	0.0	0.0	320.4	0.00	99.25
112.0-113.0	0.0	0.0	320.4	0.00	99.25
113.0-114.0	0.0	0.0	320.4	0.00	99.25
114.0-115.0	0.0	0.0	320.4	0.00	99.25
115.0-116.0	0.0	0.0	320.4	0.00	99.25
116.0-117.0	0.0	0.0	320.4	0.00	99.25
117.0-118.0	0.0	0.0	320.4	0.00	99.25
118.0-119.0	0.0	0.0	320.4	0.00	99.25
119.0-120.0	0.0	0.0	320.4	0.00	99.25
120.0-121.0	0.0	0.0	320.4	0.00	99.25
121.0-122.0	0.1	0.0	320.4	0.00	99.25
122.0-123.0	0.1	0.0	320.4	0.00	99.25
123.0-124.0	0.1	0.0	320.4	0.00	99.26
124.0-125.0	0.1	0.0	320.4	0.00	99.26
125.0-126.0	0.2	0.0	320.4	0.01	99.26
126.0-127.0	0.2	0.0	320.4	0.01	99.27
127.0-128.0	0.2	0.0	320.5	0.01	99.28
128.0-129.0	0.3	0.0	320.5	0.01	99.28
129.0-130.0	0.3	0.0	320.5	0.01	99.29
130.0-131.0	0.4	0.0	320.5	0.01	99.30
131.0-132.0	0.4	0.0	320.6	0.01	99.31
132.0-133.0	0.4	0.0	320.6	0.01	99.32
133.0-134.0	0.5	0.0	320.6	0.01	99.33
134.0-135.0	0.5	0.0	320.7	0.01	99.35
135.0-136.0	0.5	0.0	320.7	0.01	99.36
136.0-137.0	0.6	0.0	320.8	0.01	99.37
137.0-138.0	0.6	0.0	320.8	0.01	99.39
138.0-139.0	0.7	0.0	320.9	0.01	99.40
139.0-140.0	0.7	0.1	320.9	0.02	99.42
140.0-141.0	0.7	0.1	321.0	0.02	99.43
141.0-142.0	0.8	0.1	321.0	0.02	99.45
142.0-143.0	0.8	0.1	321.1	0.02	99.47
143.0-144.0	0.9	0.1	321.1	0.02	99.48

C Plane (°):0.0-360.0: 30.0
Test Lab:
Test Type: TYPE C
Temperature:
Operator:

Gamma Plane (°):0.0-180.0:1.0
Test Device: GPM-1800B
Distance: 11.573 m [K=1.0000]
Humidity:
Inspector:

Zonal Lumen (Continue 4)

Gamma [°]	Imean [cd]	Zonal Flux [lm]	Sum Zonal Flux [lm]	Rel Zonal Flux [%]	Sum Rel Zonal Flux [%]
144.0-145.0	0.9	0.1	321.2	0.02	99.50
145.0-146.0	1.0	0.1	321.2	0.02	99.52
146.0-147.0	1.0	0.1	321.3	0.02	99.54
147.0-148.0	1.0	0.1	321.4	0.02	99.56
148.0-149.0	1.1	0.1	321.4	0.02	99.58
149.0-150.0	1.1	0.1	321.5	0.02	99.60
150.0-151.0	1.2	0.1	321.6	0.02	99.62
151.0-152.0	1.2	0.1	321.6	0.02	99.64
152.0-153.0	1.3	0.1	321.7	0.02	99.66
153.0-154.0	1.3	0.1	321.7	0.02	99.68
154.0-155.0	1.3	0.1	321.8	0.02	99.70
155.0-156.0	1.4	0.1	321.9	0.02	99.72
156.0-157.0	1.4	0.1	321.9	0.02	99.73
157.0-158.0	1.5	0.1	322.0	0.02	99.75
158.0-159.0	1.5	0.1	322.1	0.02	99.77
159.0-160.0	1.5	0.1	322.1	0.02	99.79
160.0-161.0	1.6	0.1	322.2	0.02	99.81
161.0-162.0	1.6	0.1	322.2	0.02	99.83
162.0-163.0	1.7	0.1	322.3	0.02	99.84
163.0-164.0	1.7	0.1	322.3	0.02	99.86
164.0-165.0	1.7	0.1	322.4	0.02	99.88
165.0-166.0	1.8	0.0	322.4	0.01	99.89
166.0-167.0	1.8	0.0	322.5	0.01	99.90
167.0-168.0	1.8	0.0	322.5	0.01	99.92
168.0-169.0	1.8	0.0	322.6	0.01	99.93
169.0-170.0	1.9	0.0	322.6	0.01	99.94
170.0-171.0	1.9	0.0	322.6	0.01	99.95
171.0-172.0	1.9	0.0	322.7	0.01	99.96
172.0-173.0	2.0	0.0	322.7	0.01	99.97
173.0-174.0	2.0	0.0	322.7	0.01	99.98
174.0-175.0	2.0	0.0	322.7	0.01	99.98
175.0-176.0	2.0	0.0	322.8	0.01	99.99
176.0-177.0	2.0	0.0	322.8	0.00	99.99
177.0-178.0	2.0	0.0	322.8	0.00	100.00
178.0-179.0	2.1	0.0	322.8	0.00	100.00
179.0-180.0	2.1	0.0	322.8	0.00	100.00

C Plane (°):0.0-360.0: 30.0
Test Lab:
Test Type: TYPE C
Temperature:
Operator:

Gamma Plane (°):0.0-180.0:1.0
Test Device: GPM-1800B
Distance: 11.573 m [K=1.0000]
Humidity:
Inspector:

Zonal Lumen (Continue 5)

cone flux(90°): 273.17 lm

%lum = 84.6%
%lamp = 84.6%

cone flux(120°): 311.22 lm

%lum = 96.4%
%lamp = 96.4%

Candlepower Table

Unit: cd

G\C	C0.0	C30.0	C60.0	C90.0	C120.0	C150.0	C180.0	C210.0	C240.0	C270.0
G0.0	264.6	265.2	265.8	266.2	267.3	268.8	264.6	265.2	265.8	266.2
G5.0	267.3	267.1	265.1	263.1	263.9	265.9	260.6	261.5	262.6	264.3
G10.0	268.0	265.4	261.6	258.8	260.3	260.7	253.9	253.4	254.2	257.3
G15.0	262.5	259.4	254.4	250.3	250.8	247.3	239.5	236.7	236.4	240.9
G20.0	238.2	240.7	237.3	234.6	232.2	221.0	211.4	205.8	203.9	210.1
G25.0	198.4	205.4	206.5	203.7	197.6	180.9	171.1	163.8	163.8	169.6
G30.0	153.7	164.6	167.9	162.9	154.1	138.5	129.7	123.7	122.5	131.6
G35.0	113.8	123.1	127.3	126.6	117.9	103.7	96.9	91.2	90.3	97.8
G40.0	83.0	89.9	94.1	93.8	87.1	76.2	70.1	66.1	65.2	71.6
G45.0	58.0	63.1	67.0	67.7	61.8	52.8	48.4	45.0	44.6	49.3
G50.0	37.0	41.3	44.3	45.6	40.1	32.9	29.9	27.7	28.2	31.3
G55.0	22.0	24.9	27.3	28.2	24.0	19.3	17.6	16.4	16.9	19.0
G60.0	12.3	14.2	16.2	16.9	14.1	10.8	9.6	9.1	9.8	11.1
G65.0	6.6	7.8	9.0	9.6	7.8	5.7	4.9	4.9	5.4	6.3
G70.0	3.4	4.1	5.0	5.2	4.2	3.0	2.4	2.7	2.9	3.3
G75.0	1.7	2.0	2.5	2.7	2.1	1.5	1.3	1.2	1.3	1.5
G80.0	0.7	0.8	1.0	1.1	0.8	0.5	0.5	0.3	0.3	0.4
G85.0	0.0	0.0	0.1	0.2	0.1	0.0	0.0	0.0	0.0	0.0
G90.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
G95.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
G100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
G105.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
G110.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
G115.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
G120.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
G125.0	0.1	0.0	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.3
G130.0	0.3	0.2	0.3	0.3	0.3	0.4	0.3	0.4	0.4	0.4
G135.0	0.4	0.4	0.4	0.5	0.5	0.6	0.5	0.6	0.6	0.6
G140.0	0.7	0.6	0.6	0.7	0.7	0.8	0.7	0.8	0.8	0.8
G145.0	0.9	0.8	0.8	0.9	0.9	1.0	0.9	1.0	1.0	1.0
G150.0	1.1	1.0	1.1	1.1	1.2	1.2	1.1	1.2	1.2	1.3
G155.0	1.3	1.3	1.3	1.3	1.4	1.4	1.3	1.4	1.4	1.5
G160.0	1.5	1.5	1.5	1.5	1.6	1.6	1.5	1.6	1.6	1.6
G165.0	1.7	1.6	1.7	1.7	1.8	1.8	1.7	1.8	1.8	1.8
G170.0	1.9	1.8	1.8	1.9	1.9	1.9	1.9	1.9	1.9	2.0
G175.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1
G180.0	2.0	2.0	2.0	2.0	2.0	2.1	2.0	2.0	2.0	2.1

C Plane (°):0.0-360.0: 30.0
Test Lab:
Test Type: TYPE C
Temperature:
Operator:

Gamma Plane (°):0.0-180.0:1.0
Test Device: GPM-1800B
Distance: 11.573 m [K=1.0000]
Humidity:
Inspector:

Candlepower Table (Continue 1)

Unit: cd

G\C	C0.0	C30.0	C60.0	C90.0	C120.0	C150.0	C180.0	C210.0	C240.0	C270.0
G37.0	100.9	108.5	113.5	112.3	105.0	92.4	85.5	80.2	79.5	86.6
G42.0	72.2	78.4	82.7	83.0	76.7	66.6	61.1	57.1	56.4	62.0
G47.0	49.3	53.9	57.5	58.5	52.5	44.1	40.6	37.5	37.1	41.2
G52.0	30.4	33.9	37.1	37.6	32.7	26.6	24.4	22.5	23.0	25.8
G57.0	17.7	19.9	22.2	23.2	19.4	15.5	13.8	13.0	13.7	15.4
G62.0	9.6	11.0	12.9	13.6	11.2	8.5	7.3	7.2	7.9	8.9
G67.0	5.0	6.0	7.2	7.6	6.1	4.4	3.8	3.9	4.2	4.9
G72.0	2.7	3.2	3.8	4.1	3.2	2.3	1.9	2.0	2.2	2.5
G77.0	1.2	1.5	1.8	1.9	1.5	1.0	1.0	0.8	0.8	1.0
G82.0	0.4	0.5	0.6	0.6	0.5	0.2	0.2	0.0	0.0	0.1
G87.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
G92.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
G97.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
G102.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
G107.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
G112.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
G117.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
G122.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.2	0.2
G127.0	0.2	0.2	0.2	0.2	0.2	0.3	0.2	0.3	0.3	0.3
G132.0	0.3	0.3	0.3	0.4	0.4	0.4	0.4	0.4	0.5	0.5
G137.0	0.5	0.5	0.5	0.6	0.6	0.7	0.6	0.6	0.7	0.7
G142.0	0.8	0.7	0.7	0.8	0.8	0.9	0.8	0.9	0.9	0.9
G147.0	1.0	0.9	0.9	1.0	1.0	1.1	1.0	1.1	1.1	1.1
G152.0	1.2	1.1	1.1	1.2	1.3	1.3	1.3	1.3	1.3	1.3
G157.0	1.4	1.4	1.4	1.4	1.5	1.5	1.5	1.5	1.5	1.5
G162.0	1.6	1.5	1.6	1.6	1.7	1.7	1.6	1.7	1.7	1.7
G167.0	1.8	1.7	1.8	1.8	1.8	1.9	1.8	1.8	1.8	1.9
G172.0	1.9	1.9	1.9	1.9	2.0	2.0	1.9	1.9	2.0	2.0
G177.0	2.0	2.0	2.0	2.0	2.1	2.1	2.0	2.0	2.0	2.1
G0.0	266.4	266.1	266.1	266.9	268.1	263.5	264.2	265.1	266.4	267.8
G265.7	266.8	264.4	262.1	263.2	265.2	260.1	260.5	261.5	263.5	268.3
G267.9	264.6	260.6	257.5	259.3	259.0	252.0	250.8	251.3	255.2	265.7
G267.8	257.0	252.2	248.2	247.7	243.4	235.0	231.8	230.5	235.8	249.1
G258.9	235.0	232.2	230.0	226.9	214.0	204.2	198.1	196.4	202.7	216.1
G231.6	197.1	199.1	195.9	188.3	171.3	162.4	155.8	155.4	162.4	176.2
G189.3	157.0	160.4	155.5	146.6	130.5	122.5	116.5	115.3	123.4	132.9
G145.3	115.3	120.2	119.0	111.1	97.9	90.8	86.1	84.9	92.3	99.3

C Plane (°):0.0-360.0: 30.0
Test Lab:
Test Type: TYPE C
Temperature:
Operator:

Gamma Plane (°):0.0-180.0:1.0
Test Device: GPM-1800B
Distance: 11.573 m [K=1.0000]
Humidity:
Inspector:

LED Average Luminance Report

Avg.L	cd/m^2
L 0-180(65) av	1.#J
L 0-180(75) av	1.#J
L 0-180(85) av	-1.#J
L 90-270(65) av	1.#J
L 90-270(75) av	1.#J
L 90-270(85) av	1.#J
L 45(65) av	1.#J
L 45(75) av	1.#J
L 45(85) av	1.#J

Standard: GB/T 29293-2012

C Plane (°):0.0-360.0: 30.0
Test Lab:
Test Type: TYPE C
Temperature:
Operator:

Gamma Plane (°):0.0-180.0:1.0
Test Device: GPM-1800B
Distance: 11.573 m [K=1.0000]
Humidity:
Inspector: