

Report No.:

Test Time: 2014-08-14 17:10

Luminaire Property

Luminaire Manufacturer:

Luminaire Description: MR16-3000K-40D

Current: 0.537 A

Power Factor: 0.665

Voltage: 12.3 V

Power: 4.40 W

Photometric Results

CIE Class: Direct

Measurement Flux: 272.6 lm

Downward Ratio: 100%

Horizontal Diffuse Angle(15%,30%,50%,75%): H67.6,H52.3,H39.6,H25.5

Vertical Diffuse Angle(15%,30%,50%,75%): V67.9,V52.7,V39.6,V25.8

Luminaire Efficacy Rating (LER): 62

Max. Intensity: 457.45 cd

Total Rated Lamp Lumens: 272.6 lm

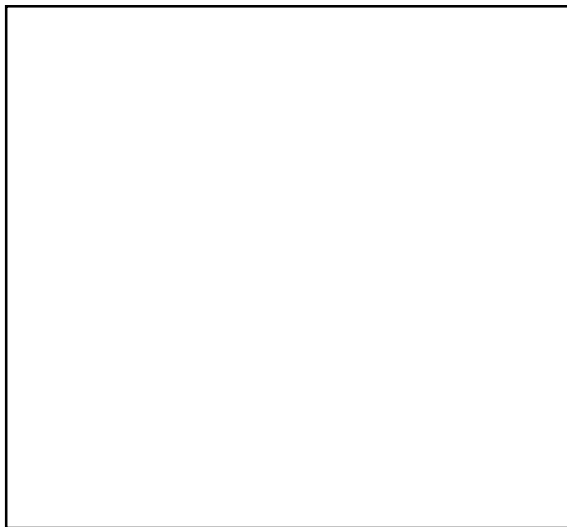
Efficiency: 100%

Upward Ratio: 0%

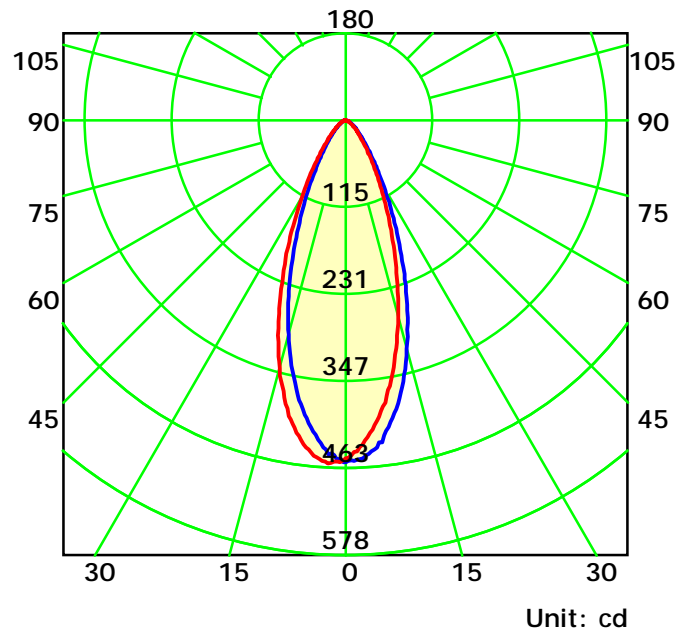
Central Intensity: 455.11 cd

Pos of Max. Intensity: H270 V3

Picture Of Luminaire



Luminous Intensity Distribution Curve



— C0-C180 — C90-C270

C Plane (°):0.0-360.0: 45.0

Test Lab:

Test Type: TYPE C

Temperature:

Operator:

Gamma Plane (°):0.0-90.0:0.5

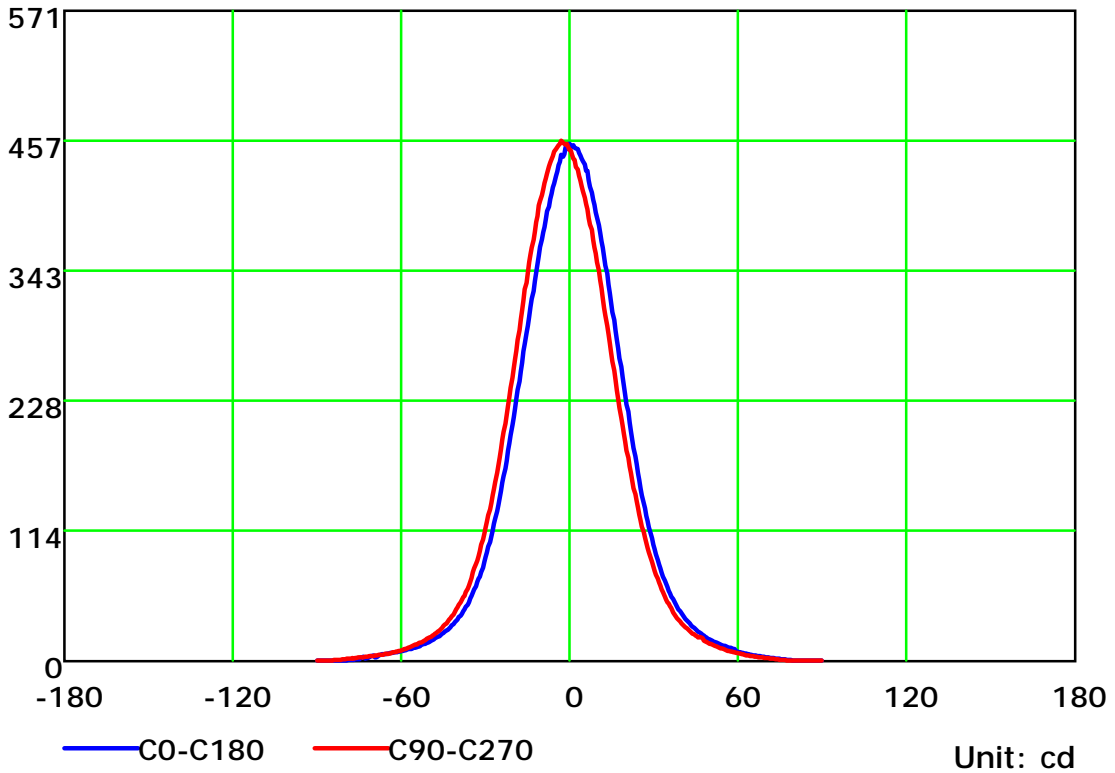
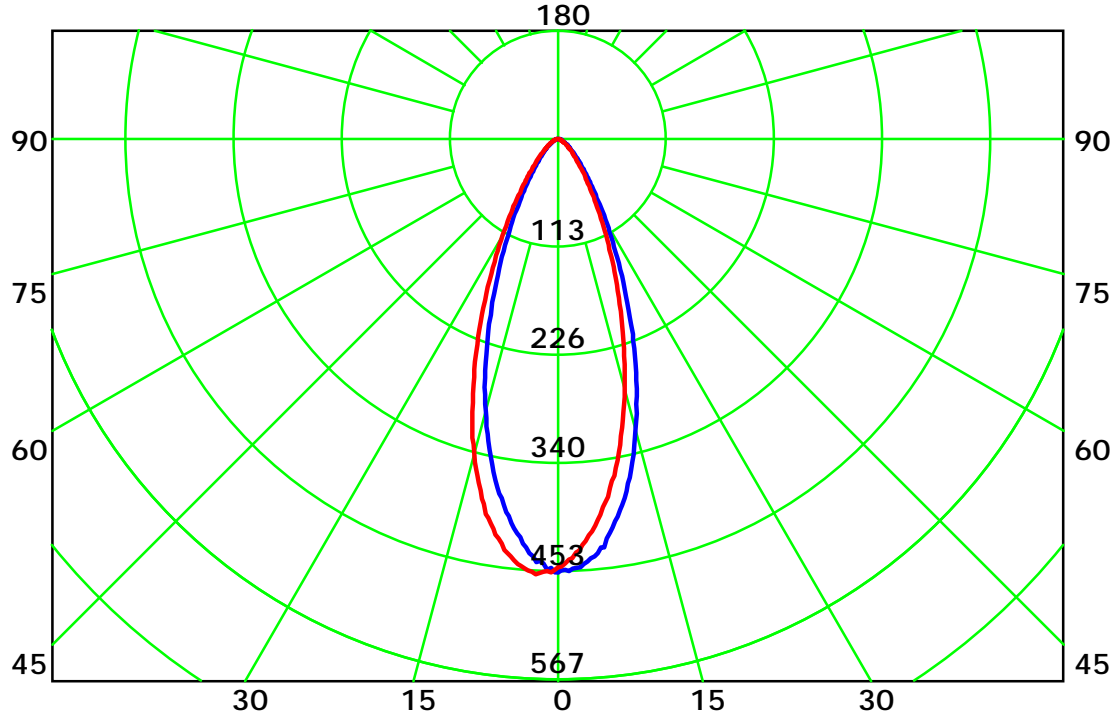
Test Device: GPM-1600

Distance: 8.177 m

Humidity:

Inspector:

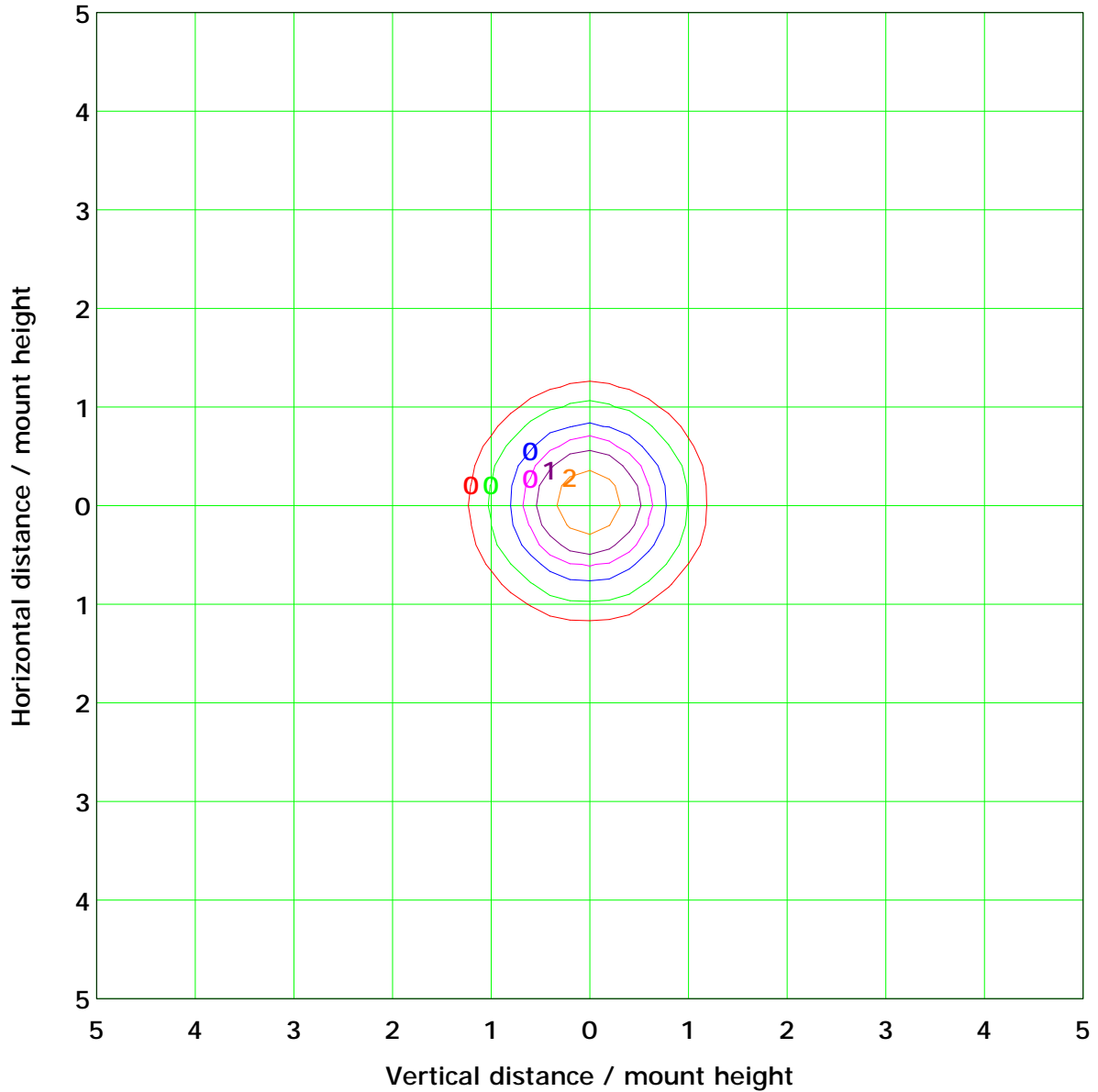
Luminous Intensity Distribution Curve



C Plane (°):0.0-360.0: 45.0
 Test Lab:
 Test Type: TYPE C
 Temperature:
 Operator:

Gamma Plane (°):0.0-90.0:0.5
 Test Device: GPM-1600
 Distance: 8.177 m
 Humidity:
 Inspector:

IsoLux Plot

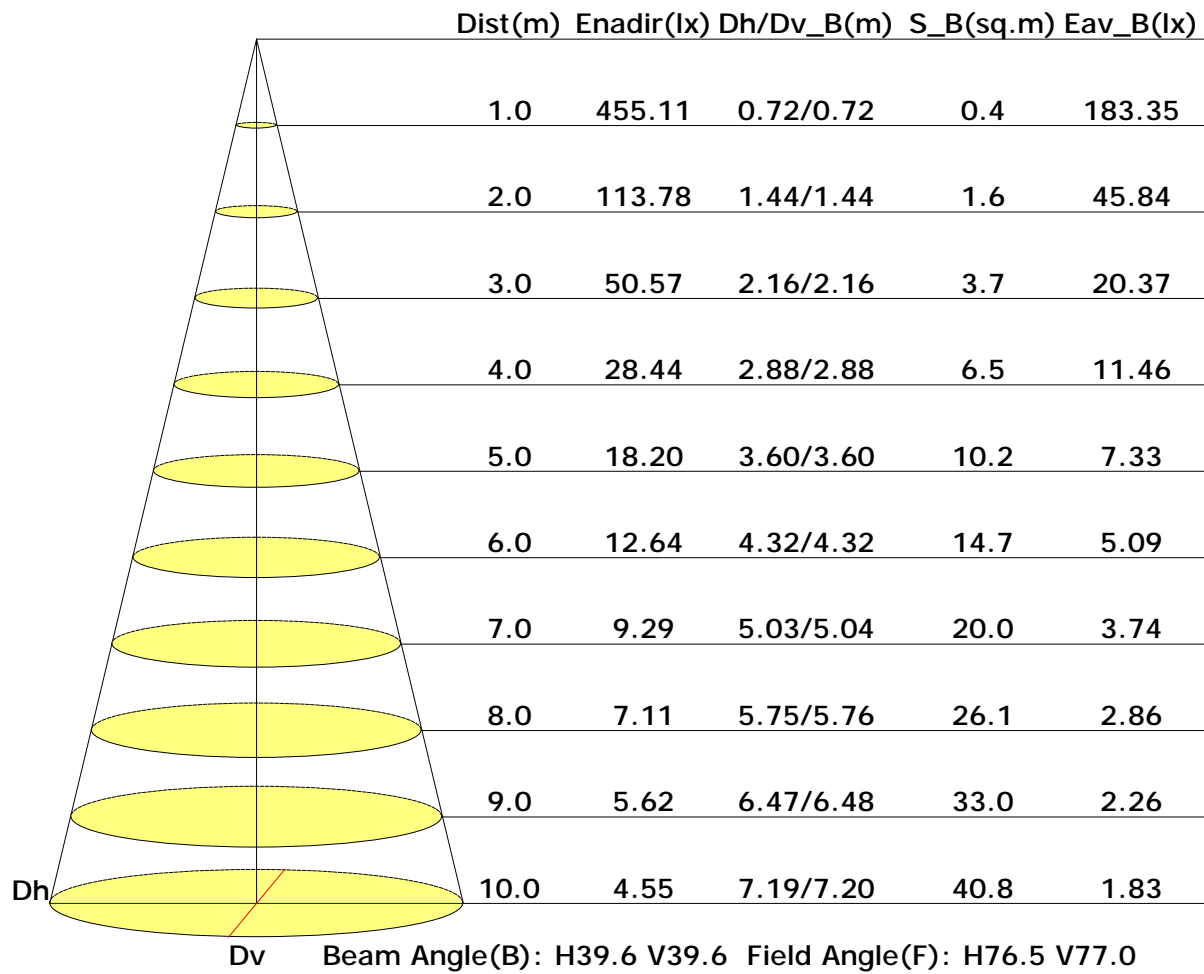


Mounting Height: 10.0m		Max Lux(100%): 4.6 lx	
— (1%):	0.0 lx	— (2%):	0.1 lx
— (5%):	0.2 lx	— (10%):	0.5 lx
— (20%):	0.9 lx	— (50%):	2.3 lx
— (100%):	4.6 lx	— (200%):	9.1 lx
— (300%):	13.7 lx	— (500%):	22.8 lx

C Plane (°):0.0-360.0: 45.0
 Test Lab:
 Test Type: TYPE C
 Temperature:
 Operator:

Gamma Plane (°):0.0-90.0:0.5
 Test Device: GPM-1600
 Distance: 8.177 m
 Humidity:
 Inspector:

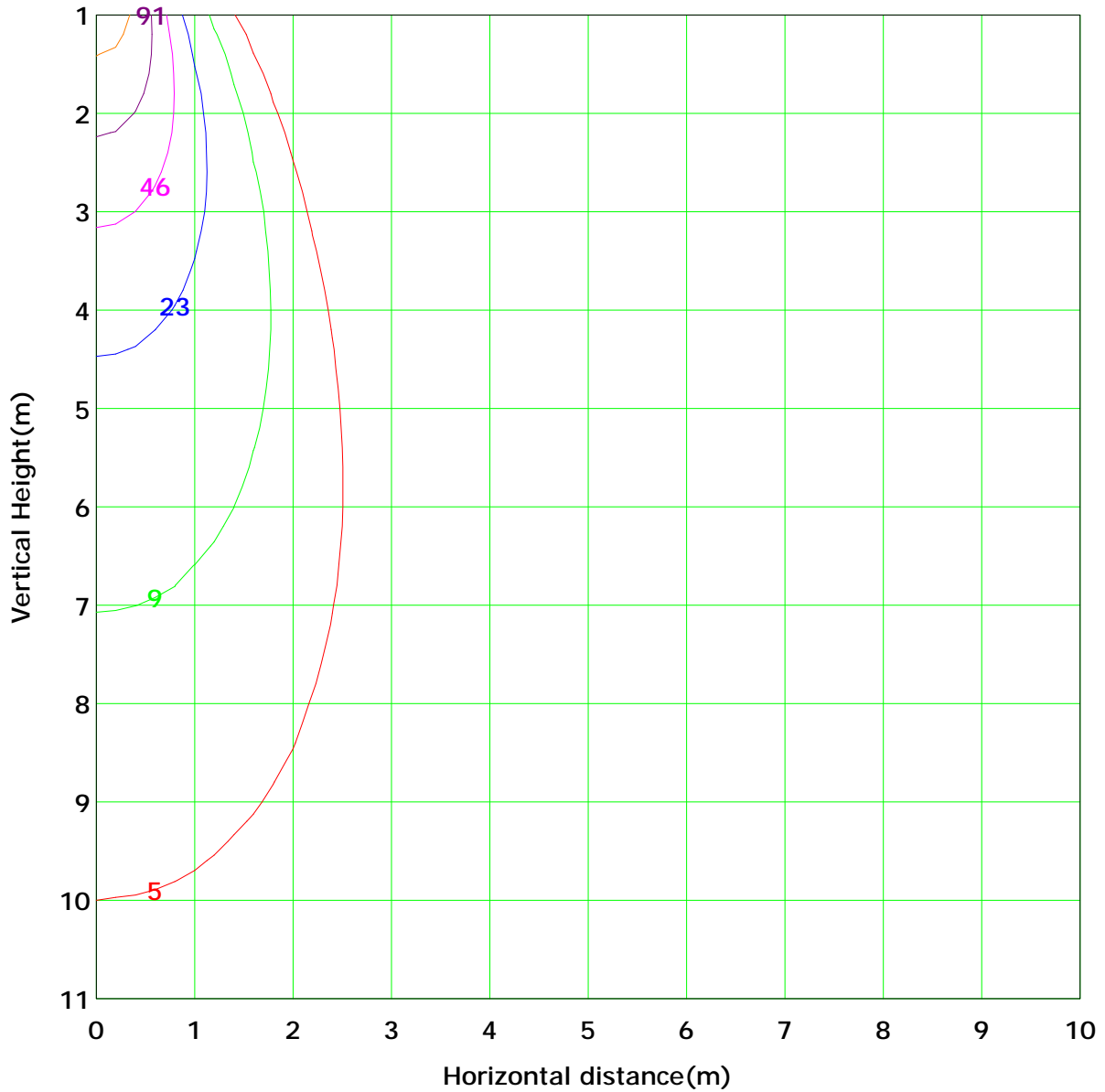
Illuminance at a Distance



C Plane (°):0.0-360.0: 45.0
 Test Lab:
 Test Type: TYPE C
 Temperature:
 Operator:

Gamma Plane (°):0.0-90.0:0.5
 Test Device: GPM-1600
 Distance: 8.177 m
 Humidity:
 Inspector:

Vertical IsoLux Plot



Lowest(m): 1.0m	Highest(m): 11.0m	Max Lux: 455.1 lx
(1%): 4.6 lx	(2%): 9.1 lx	
(5%): 22.8 lx	(10%): 45.5 lx	
(20%): 91.0 lx	(50%): 227.6 lx	
(100%): 455.1 lx	(200%): 910.2 lx	
(300%): 1365.3 lx	(500%): 2275.5 lx	

C Plane (°): 0.0-360.0: 45.0
 Test Lab:
 Test Type: TYPE C
 Temperature:
 Operator:

Gamma Plane (°): 0.0-90.0: 0.5
 Test Device: GPM-1600
 Distance: 8.177 m
 Humidity:
 Inspector:

Area Flux Table

Unit: lx

Vertical plane	-90.0	-80.0	-70.0	-60.0	-50.0	-40.0	-30.0	-20.0	-10.0	0.0	10.0	20.0	30.0	40.0	50.0	60.0	70.0	80.0	90.0	ΦE	
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	0.0	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	0.0	0.0	0.0
70.0	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	0.0	0.0
60.0	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	0.0	0.0
50.0	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	0.0	0.0
40.0	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	0.0	0.0
30.0	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	0.0	0.0
20.0	0.0	0.1	0.2	0.4	0.9	2.2	5.2	9.8	12.9	12.0	8.0	3.9	1.6	0.7	0.3	0.1	0.0	0.0	0.0	0.0	0.0
10.0	0.0	0.1	0.2	0.4	0.9	2.2	5.1	9.5	12.5	11.6	7.7	3.8	1.6	0.7	0.3	0.1	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.1	0.2	0.4	0.9	2.2	5.1	9.5	12.5	11.6	7.7	3.8	1.6	0.7	0.3	0.1	0.0	0.0	0.0	0.0	0.0
-10.0	0.0	0.1	0.2	0.4	0.7	1.6	3.5	6.3	8.4	7.9	5.3	2.7	1.2	0.6	0.3	0.1	0.0	0.0	0.0	0.0	0.0
-20.0	0.0	0.1	0.1	0.3	0.5	1.0	1.8	3.0	3.9	3.8	2.7	1.5	0.8	0.4	0.2	0.1	0.0	0.0	0.0	0.0	0.0
-30.0	0.0	0.1	0.1	0.2	0.3	0.5	0.9	1.2	1.5	1.4	1.1	0.8	0.5	0.3	0.1	0.1	0.0	0.0	0.0	0.0	0.0
-40.0	0.0	0.0	0.1	0.1	0.2	0.3	0.4	0.5	0.5	0.5	0.5	0.3	0.2	0.2	0.1	0.1	0.0	0.0	0.0	0.0	0.0
-50.0	0.0	0.0	0.0	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0
-60.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
-70.0	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	0.0	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	0.0	0.0	0.0
-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	0.0	0.0
ΦE	0.0	0.0	0.0	0.0	0.0	0.0	7.5	21.7	40.8	53.8	50.4	33.8	16.2	3.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ΦT	0.1	0.6	1.4	2.9	5.7	11.8	24.6	43.1	56.0	52.7	36.2	19.4	9.3	4.7	2.4	1.1	0.4	0.1	0.1	0.1	273
ΦE	-90.0	-80.0	-70.0	-60.0	-50.0	-40.0	-30.0	-20.0	-10.0	0.0	10.0	20.0	30.0	40.0	50.0	60.0	70.0	80.0	90.0	ΦE	228

Horizontal plane

C Plane (°):0.0-360.0: 45.0
 Test Lab:
 Test Type: TYPE C
 Temperature:
 Operator:

Gamma Plane (°):0.0-90.0:0.5
 Test Device: GPM-1600
 Distance: 8.177 m
 Humidity:
 Inspector:

Zonal Lumen

Gamma [°]	I _{mean} [cd]	Zonal Flux [lm]	Sum Zonal Flux [lm]	Rel Zonal Flux [%]	Sum Rel Zonal Flux [%]
0.0-0.5	451.9	0.1	0.1	0.04	0.04
0.5-1.0	451.1	0.3	0.4	0.12	0.16
1.0-1.5	450.3	0.5	1.0	0.20	0.36
1.5-2.0	449.1	0.8	1.7	0.28	0.63
2.0-2.5	447.2	1.0	2.7	0.35	0.98
2.5-3.0	445.7	1.2	3.9	0.43	1.42
3.0-3.5	443.3	1.4	5.2	0.51	1.92
3.5-4.0	440.2	1.6	6.8	0.58	2.50
4.0-4.5	437.2	1.8	8.6	0.65	3.15
4.5-5.0	433.6	2.0	10.6	0.72	3.87
5.0-5.5	429.9	2.2	12.7	0.79	4.66
5.5-6.0	425.7	2.3	15.1	0.86	5.52
6.0-6.5	421.6	2.5	17.6	0.92	6.45
6.5-7.0	416.9	2.7	20.3	0.99	7.43
7.0-7.5	411.5	2.8	23.1	1.04	8.48
7.5-8.0	406.4	3.0	26.1	1.10	9.58
8.0-8.5	400.9	3.2	29.3	1.16	10.74
8.5-9.0	395.2	3.3	32.6	1.21	11.94
9.0-9.5	389.3	3.4	36.0	1.26	13.20
9.5-10.0	383.2	3.6	39.6	1.31	14.51
10.0-10.5	377.0	3.7	43.2	1.35	15.86
10.5-11.0	370.2	3.8	47.0	1.39	17.25
11.0-11.5	363.0	3.9	50.9	1.42	18.67
11.5-12.0	355.8	4.0	54.9	1.46	20.13
12.0-12.5	348.5	4.1	58.9	1.49	21.62
12.5-13.0	340.8	4.1	63.0	1.51	23.13
13.0-13.5	333.2	4.2	67.2	1.54	24.66
13.5-14.0	325.7	4.2	71.5	1.56	26.22
14.0-14.5	317.9	4.3	75.8	1.57	27.80
14.5-15.0	309.7	4.3	80.1	1.59	29.38
15.0-15.5	301.9	4.4	84.4	1.60	30.98
15.5-16.0	293.9	4.4	88.8	1.60	32.58
16.0-16.5	285.5	4.4	93.2	1.61	34.19
16.5-17.0	277.1	4.4	97.6	1.61	35.80
17.0-17.5	268.8	4.4	102.0	1.60	37.40
17.5-18.0	260.3	4.4	106.3	1.60	39.00

C Plane (°):0.0-360.0: 45.0
 Test Lab:
 Test Type: TYPE C
 Temperature:
 Operator:

Gamma Plane (°):0.0-90.0:0.5
 Test Device: GPM-1600
 Distance: 8.177 m
 Humidity:
 Inspector:

Zonal Lumen (Continue 1)

Gamma [°]	I _{mean} [cd]	Zonal Flux [lm]	Sum Zonal Flux [lm]	Rel Zonal Flux [%]	Sum Rel Zonal Flux [%]
18.0-18.5	252.0	4.3	110.6	1.59	40.58
18.5-19.0	243.8	4.3	114.9	1.58	42.16
19.0-19.5	235.6	4.3	119.2	1.56	43.72
19.5-20.0	228.0	4.2	123.4	1.55	45.27
20.0-20.5	220.2	4.2	127.6	1.53	46.80
20.5-21.0	212.4	4.1	131.7	1.51	48.32
21.0-21.5	204.7	4.1	135.8	1.49	49.81
21.5-22.0	197.1	4.0	139.8	1.47	51.28
22.0-22.5	189.7	3.9	143.7	1.44	52.72
22.5-23.0	182.6	3.9	147.6	1.42	54.14
23.0-23.5	175.8	3.8	151.4	1.40	55.54
23.5-24.0	168.9	3.7	155.1	1.37	56.91
24.0-24.5	162.1	3.7	158.8	1.34	58.25
24.5-25.0	155.4	3.6	162.4	1.31	59.56
25.0-25.5	149.0	3.5	165.8	1.28	60.83
25.5-26.0	142.8	3.4	169.2	1.25	62.08
26.0-26.5	136.7	3.3	172.6	1.22	63.30
26.5-27.0	130.9	3.2	175.8	1.19	64.48
27.0-27.5	125.4	3.1	178.9	1.15	65.64
27.5-28.0	119.9	3.1	182.0	1.12	66.76
28.0-28.5	114.8	3.0	185.0	1.09	67.85
28.5-29.0	109.8	2.9	187.9	1.06	68.91
29.0-29.5	105.0	2.8	190.7	1.03	69.95
29.5-30.0	100.3	2.7	193.4	1.00	70.95
30.0-30.5	95.8	2.6	196.1	0.97	71.92
30.5-31.0	91.5	2.6	198.6	0.94	72.86
31.0-31.5	87.3	2.5	201.1	0.91	73.77
31.5-32.0	83.1	2.4	203.5	0.88	74.65
32.0-32.5	79.4	2.3	205.8	0.85	75.50
32.5-33.0	76.0	2.3	208.1	0.83	76.33
33.0-33.5	72.5	2.2	210.3	0.80	77.13
33.5-34.0	69.2	2.1	212.4	0.77	77.90
34.0-34.5	66.1	2.0	214.4	0.75	78.65
34.5-35.0	63.0	2.0	216.4	0.72	79.37
35.0-35.5	60.2	1.9	218.3	0.70	80.07
35.5-36.0	57.5	1.8	220.1	0.68	80.75

C Plane (°):0.0-360.0: 45.0
 Test Lab:
 Test Type: TYPE C
 Temperature:
 Operator:

Gamma Plane (°):0.0-90.0:0.5
 Test Device: GPM-1600
 Distance: 8.177 m
 Humidity:
 Inspector:

Zonal Lumen (Continue 2)

Gamma [°]	I _{mean} [cd]	Zonal Flux [lm]	Sum Zonal Flux [lm]	Rel Zonal Flux [%]	Sum Rel Zonal Flux [%]
36.0-36.5	55.0	1.8	221.9	0.65	81.40
36.5-37.0	52.5	1.7	223.6	0.63	82.03
37.0-37.5	50.1	1.7	225.3	0.61	82.64
37.5-38.0	47.9	1.6	226.9	0.59	83.23
38.0-38.5	46.0	1.6	228.5	0.57	83.80
38.5-39.0	44.0	1.5	230.0	0.55	84.36
39.0-39.5	42.2	1.5	231.4	0.54	84.90
39.5-40.0	40.4	1.4	232.8	0.52	85.41
40.0-40.5	38.7	1.4	234.2	0.50	85.92
40.5-41.0	37.1	1.3	235.5	0.49	86.40
41.0-41.5	35.6	1.3	236.8	0.47	86.88
41.5-42.0	34.1	1.2	238.1	0.46	87.33
42.0-42.5	32.7	1.2	239.3	0.44	87.77
42.5-43.0	31.4	1.2	240.4	0.43	88.20
43.0-43.5	30.1	1.1	241.6	0.42	88.62
43.5-44.0	28.9	1.1	242.7	0.40	89.02
44.0-44.5	27.7	1.1	243.7	0.39	89.41
44.5-45.0	26.6	1.0	244.8	0.38	89.79
45.0-45.5	25.6	1.0	245.8	0.37	90.15
45.5-46.0	24.5	1.0	246.7	0.35	90.51
46.0-46.5	23.6	0.9	247.7	0.34	90.85
46.5-47.0	22.8	0.9	248.6	0.33	91.18
47.0-47.5	21.9	0.9	249.4	0.32	91.50
47.5-48.0	21.0	0.9	250.3	0.31	91.82
48.0-48.5	20.1	0.8	251.1	0.30	92.12
48.5-49.0	19.3	0.8	251.9	0.29	92.41
49.0-49.5	18.6	0.8	252.7	0.28	92.69
49.5-50.0	17.9	0.7	253.4	0.27	92.97
50.0-50.5	17.3	0.7	254.2	0.27	93.24
50.5-51.0	16.8	0.7	254.9	0.26	93.50
51.0-51.5	16.2	0.7	255.6	0.25	93.75
51.5-52.0	15.5	0.7	256.2	0.24	94.00
52.0-52.5	14.9	0.6	256.9	0.24	94.23
52.5-53.0	14.3	0.6	257.5	0.23	94.46
53.0-53.5	13.8	0.6	258.1	0.22	94.69
53.5-54.0	13.4	0.6	258.7	0.22	94.90

C Plane (°):0.0-360.0: 45.0
 Test Lab:
 Test Type: TYPE C
 Temperature:
 Operator:

Gamma Plane (°):0.0-90.0:0.5
 Test Device: GPM-1600
 Distance: 8.177 m
 Humidity:
 Inspector:

Zonal Lumen (Continue 3)

Gamma [°]	I _{mean} [cd]	Zonal Flux [lm]	Sum Zonal Flux [lm]	Rel Zonal Flux [%]	Sum Rel Zonal Flux [%]
54.0-54.5	12.9	0.6	259.3	0.21	95.11
54.5-55.0	12.4	0.6	259.8	0.20	95.32
55.0-55.5	12.0	0.5	260.4	0.20	95.52
55.5-56.0	11.5	0.5	260.9	0.19	95.71
56.0-56.5	11.1	0.5	261.4	0.19	95.89
56.5-57.0	10.7	0.5	261.9	0.18	96.07
57.0-57.5	10.3	0.5	262.4	0.17	96.25
57.5-58.0	9.9	0.5	262.8	0.17	96.42
58.0-58.5	9.6	0.4	263.3	0.16	96.58
58.5-59.0	9.2	0.4	263.7	0.16	96.74
59.0-59.5	8.8	0.4	264.1	0.15	96.89
59.5-60.0	8.4	0.4	264.5	0.15	97.04
60.0-60.5	8.0	0.4	264.9	0.14	97.18
60.5-61.0	7.7	0.4	265.3	0.14	97.32
61.0-61.5	7.4	0.4	265.6	0.13	97.45
61.5-62.0	7.1	0.3	266.0	0.13	97.57
62.0-62.5	6.9	0.3	266.3	0.12	97.70
62.5-63.0	6.6	0.3	266.7	0.12	97.81
63.0-63.5	6.4	0.3	267.0	0.11	97.93
63.5-64.0	6.1	0.3	267.3	0.11	98.04
64.0-64.5	5.9	0.3	267.6	0.11	98.15
64.5-65.0	5.7	0.3	267.8	0.10	98.25
65.0-65.5	5.5	0.3	268.1	0.10	98.35
65.5-66.0	5.3	0.3	268.4	0.10	98.45
66.0-66.5	5.1	0.3	268.6	0.09	98.54
66.5-67.0	4.9	0.2	268.9	0.09	98.63
67.0-67.5	4.7	0.2	269.1	0.09	98.72
67.5-68.0	4.5	0.2	269.3	0.08	98.80
68.0-68.5	4.2	0.2	269.5	0.08	98.88
68.5-69.0	3.9	0.2	269.7	0.07	98.95
69.0-69.5	3.8	0.2	269.9	0.07	99.02
69.5-70.0	3.7	0.2	270.1	0.07	99.09
70.0-70.5	3.6	0.2	270.3	0.07	99.16
70.5-71.0	3.4	0.2	270.5	0.07	99.22
71.0-71.5	3.2	0.2	270.7	0.06	99.29
71.5-72.0	3.0	0.2	270.8	0.06	99.34

C Plane (°):0.0-360.0: 45.0
 Test Lab:
 Test Type: TYPE C
 Temperature:
 Operator:

Gamma Plane (°):0.0-90.0:0.5
 Test Device: GPM-1600
 Distance: 8.177 m
 Humidity:
 Inspector:

Zonal Lumen (Continue 4)

Gamma [°]	I _{mean} [cd]	Zonal Flux [lm]	Sum Zonal Flux [lm]	Rel Zonal Flux [%]	Sum Rel Zonal Flux [%]
72.0-72.5	2.8	0.1	271.0	0.05	99.40
72.5-73.0	2.6	0.1	271.1	0.05	99.45
73.0-73.5	2.6	0.1	271.2	0.05	99.50
73.5-74.0	2.6	0.1	271.4	0.05	99.55
74.0-74.5	2.4	0.1	271.5	0.05	99.59
74.5-75.0	2.2	0.1	271.6	0.04	99.64
75.0-75.5	2.0	0.1	271.7	0.04	99.68
75.5-76.0	1.8	0.1	271.8	0.04	99.71
76.0-76.5	1.7	0.1	271.9	0.03	99.74
76.5-77.0	1.5	0.1	272.0	0.03	99.77
77.0-77.5	1.4	0.1	272.1	0.03	99.80
77.5-78.0	1.2	0.1	272.1	0.02	99.83
78.0-78.5	1.1	0.1	272.2	0.02	99.85
78.5-79.0	1.0	0.1	272.2	0.02	99.87
79.0-79.5	0.9	0.0	272.3	0.02	99.88
79.5-80.0	0.8	0.0	272.3	0.02	99.90
80.0-80.5	0.7	0.0	272.4	0.01	99.91
80.5-81.0	0.6	0.0	272.4	0.01	99.93
81.0-81.5	0.5	0.0	272.4	0.01	99.94
81.5-82.0	0.4	0.0	272.5	0.01	99.94
82.0-82.5	0.4	0.0	272.5	0.01	99.95
82.5-83.0	0.4	0.0	272.5	0.01	99.96
83.0-83.5	0.3	0.0	272.5	0.01	99.97
83.5-84.0	0.3	0.0	272.5	0.01	99.97
84.0-84.5	0.2	0.0	272.5	0.00	99.98
84.5-85.0	0.1	0.0	272.6	0.00	99.98
85.0-85.5	0.1	0.0	272.6	0.00	99.98
85.5-86.0	0.1	0.0	272.6	0.00	99.98
86.0-86.5	0.1	0.0	272.6	0.00	99.99
86.5-87.0	0.1	0.0	272.6	0.00	99.99
87.0-87.5	0.1	0.0	272.6	0.00	99.99
87.5-88.0	0.1	0.0	272.6	0.00	99.99
88.0-88.5	0.1	0.0	272.6	0.00	99.99
88.5-89.0	0.1	0.0	272.6	0.00	100.00
89.0-89.5	0.1	0.0	272.6	0.00	100.00
89.5-90.0	0.1	0.0	272.6	0.00	100.00

C Plane (°):0.0-360.0: 45.0
 Test Lab:
 Test Type: TYPE C
 Temperature:
 Operator:

Gamma Plane (°):0.0-90.0:0.5
 Test Device: GPM-1600
 Distance: 8.177 m
 Humidity:
 Inspector: