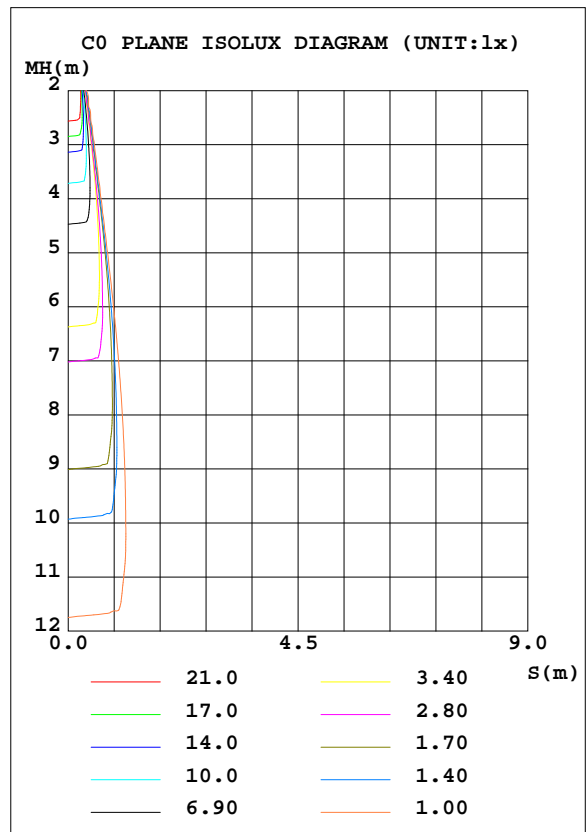
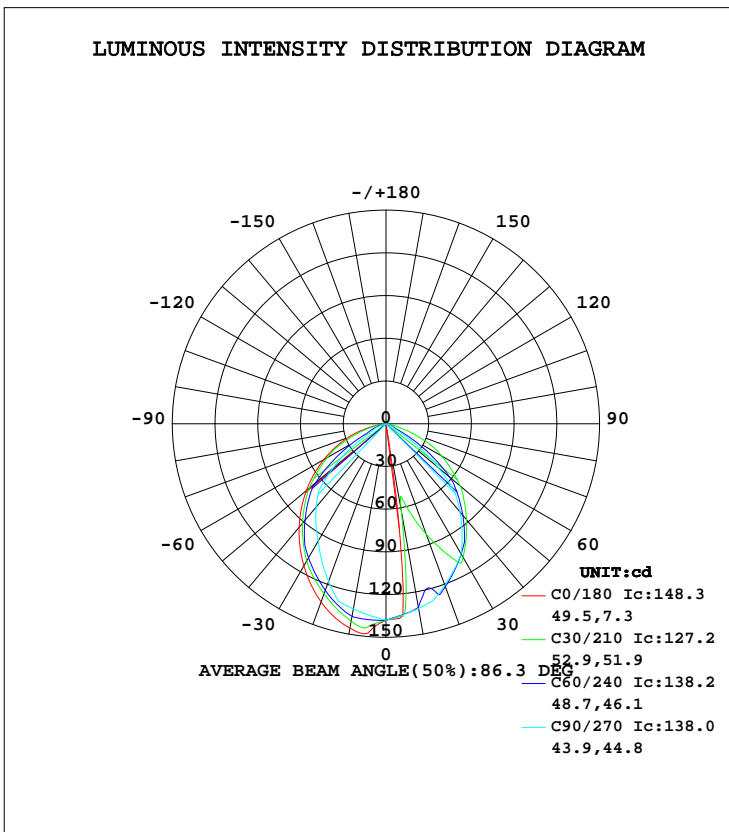


LUMINAIRE PHOTOMETRIC TEST REPORT

Test:U:11.95V I:0.3975A P:2.998W PF:0.6313 Lamp Flux:235x1 lm		
NAME: 489871-2700K ELATION 22''	TYPE:489871-2700K ELATION 22	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:	PROTECTION ANGLE:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 70.70 lm/W			
MODEL	489871-2700K ELATION 22''	Imax(cd)	148.3	S/MH(C0/180)	1.24
NOMINAL POWER(W)	3	LOR(%)	90.2	S/MH(C90/270)	1.06
RATED VOLTAGE(V)	12	TOTAL FLUX(lm)	270.60	η UP, DN(C0-180)	0.0,43.5
NOMINAL FLUX(lm)	300	CIE CLASS	DIRECT	η UP, DN(C180-360)	0.0,46.7
LAMPS INSIDE	1	η up(%)	0.0	CIBSE SHR NOM	0.50
TEST VOLTAGE(V)	12	η down(%)	90.2	CIBSE SHR MAX	0.65



C Range: 0 - 360DEG
 C Interval: 5.0DEG
 Test Speed: HIGH
 Temperature:20DEG
 Operators:Y
 Test Date:2024-05-08

γ Range: 0 - 90DEG
 γ Interval: 0.5DEG
 Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.291
 Humidity:65.0%
 Test Distance:8.750m [K=1.0000]
 Remarks:

ZONAL FLUX DIAGRAM

ZONAL FLUX DIAGRAM:

γ	C0	C45	C90	C135	C180	C225	C270	C315	γ	Φ zone	Φ total	lum, lamp
5	135.5	135.0	134.8	139.9	147.8	140.3	135.0	132.0	0- 5	3.284	3.284	1.21,1.09
10	5.032	103.3	131.7	138.2	145.7	139.2	132.1	104.3	5- 10	8.921	12.20	4.51,4.07
15	0.9229	90.63	128.5	131.1	140.4	132.7	129.1	92.20	10- 15	12.91	25.11	9.28,8.37
20	0	118.0	120.9	123.9	133.2	125.9	117.8	120.0	15- 20	17.88	42.99	15.9,14.3
25	0	115.0	113.2	115.5	124.7	117.9	106.6	117.5	20- 25	22.45	65.44	24.2,21.8
30	0	106.2	105.6	106.6	115.3	109.2	95.28	109.0	25- 30	25.99	91.43	33.8,30.5
35	0	97.20	93.23	97.46	105.3	100.2	85.80	100.3	30- 35	28.32	119.7	44.3,39.9
40	0	87.67	80.91	87.74	94.87	90.64	76.32	91.32	35- 40	29.10	148.8	55,49.6
45	0	75.47	68.58	75.81	84.06	79.07	66.84	79.79	40- 45	28.43	177.3	65.5,59.1
50	0	63.61	48.01	64.32	72.96	67.78	48.94	68.61	45- 50	26.24	203.5	75.2,67.8
55	0	51.86	27.44	52.88	61.71	56.52	31.03	57.52	50- 55	22.23	225.7	83.4,75.2
60	0	34.47	6.866	36.00	50.46	39.98	13.13	41.73	55- 60	17.07	242.8	89.7,80.9
65	0	17.85	4.897	20.07	39.34	24.53	9.218	27.08	60- 65	11.84	254.7	94.1,84.9
70	0	7.477	2.928	9.722	28.36	13.57	5.305	16.01	65- 70	8.162	262.8	97.1,87.6
75	0	3.934	0.9591	5.113	17.02	6.958	1.393	8.058	70- 75	5.050	267.9	99,89.3
80	0	0.5101	0	0.6283	7.273	0.8086	0	0.7600	75- 80	2.264	270.1	99.8,90
85	0	0	0	0	0.3265	0	0	0	80- 85	0.4569	270.6	100,90.2
90	0	0	0	0	0	0	0	0	85- 90	0.0121	270.6	100,90.2
95									90- 95			
100									95-100			
105									100-105			
110									105-110			
115									110-115			
120									115-120			
125									120-125			
130									125-130			
135									130-135			
140									135-140			
145									140-145			
150									145-150			
155									150-155			
160									155-160			
165									160-165			
170									165-170			
175									170-175			
180									175-180			
DEG	LUMINOUS INTENSITY:cd								UNIT:lm			

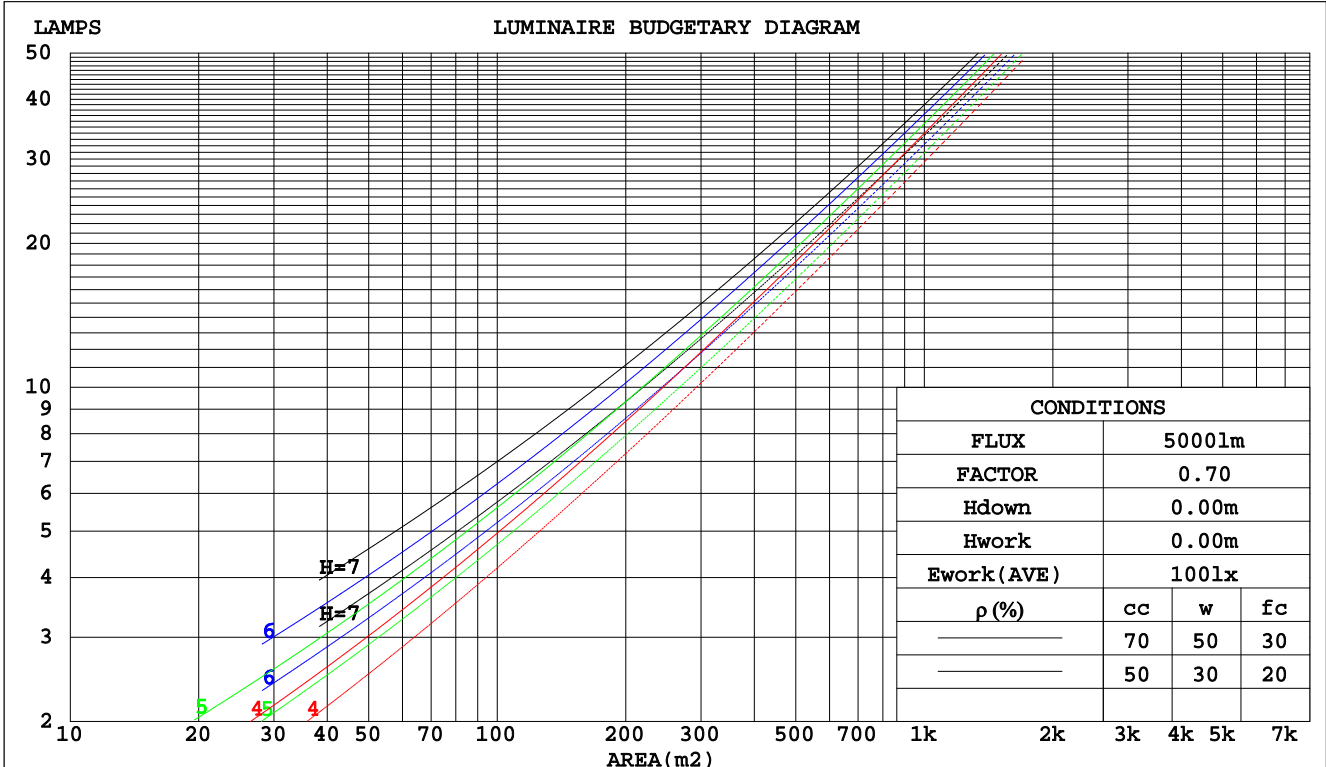
C Range: 0 - 360DEG
 C Interval: 5.0DEG
 Test Speed: HIGH
 Temperature:20DEG
 Operators:Y
 Test Date:2024-05-08

γ Range: 0 - 90DEG
 γ Interval: 0.5DEG
 Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.291
 Humidity:65.0%
 Test Distance:8.750m [K=1.0000]
 Remarks:

CU AND LUMINAIRE BUDGETARY ESTIMATE DIAGRAM

Test:U:11.95V I:0.3975A P:2.998W PF:0.6313 Lamp Flux:235x1 lm		
NAME: 489871-2700K ELATION 22''	TYPE:489871-2700K ELATION	22 WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:	PROTECTION ANGLE:

pcc	80%			70%			50%			30%			10%			0
	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
pw																0
pfc	20%			20%			20%			20%			20%			0
RCR	RCR:Room Cavity Ratio Coefficients of Utilization(CU)															
0.0	1.07	1.07	1.07	1.05	1.05	1.05	1.00	1.00	1.00	.96	.96	.96	.92	.92	.92	.90
1.0	.96	.93	.90	.94	.91	.89	.91	.88	.86	.87	.85	.83	.84	.82	.81	.79
2.0	.86	.80	.76	.84	.79	.75	.81	.77	.73	.78	.75	.72	.75	.73	.70	.68
3.0	.76	.70	.65	.75	.69	.64	.72	.67	.63	.70	.66	.62	.68	.64	.61	.59
4.0	.68	.61	.56	.67	.61	.56	.65	.59	.55	.63	.58	.54	.61	.57	.53	.52
5.0	.62	.54	.49	.61	.54	.49	.59	.53	.48	.57	.52	.48	.56	.51	.47	.45
6.0	.56	.48	.43	.55	.48	.43	.54	.47	.43	.52	.46	.42	.51	.46	.42	.40
7.0	.51	.44	.38	.50	.43	.38	.49	.43	.38	.48	.42	.38	.46	.41	.38	.36
8.0	.47	.39	.35	.46	.39	.34	.45	.39	.34	.44	.38	.34	.43	.38	.34	.32
9.0	.43	.36	.31	.42	.36	.31	.41	.35	.31	.40	.35	.31	.40	.34	.31	.29
10.0	.40	.33	.28	.39	.33	.28	.38	.32	.28	.38	.32	.28	.37	.32	.28	.27



C Range: 0 - 360DEG
 C Interval: 5.0DEG
 Test Speed: HIGH
 Temperature:20DEG
 Operators:Y
 Test Date:2024-05-08

γ Range: 0 - 90DEG
 γ Interval: 0.5DEG
 Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.291
 Humidity:65.0%
 Test Distance:8.750m [K=1.0000]
 Remarks:

WEC AND CCEC

Test:U:11.95V I:0.3975A P:2.998W PF:0.6313 Lamp Flux:235x1 lm		
NAME: 489871-2700K ELATION 22''	TYPE:489871-2700K ELATION	22WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:	PROTECTION ANGLE:

ρcc	80%			70%			50%			30%			10%			0
ρw	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
ρfc	20%			20%			20%			20%			20%			0
RCR	RCR:Room Cavity Ratio						Wall Exitance Coefficients(WEC)									
0.0																
1.0	.229	.130	.041	.223	.127	.040	.211	.121	.039	.200	.116	.037	.190	.110	.036	
2.0	.224	.123	.038	.218	.120	.037	.208	.116	.036	.199	.112	.035	.190	.108	.034	
3.0	.213	.113	.034	.208	.111	.034	.199	.108	.033	.191	.104	.032	.183	.101	.031	
4.0	.200	.104	.031	.196	.103	.030	.188	.100	.030	.181	.097	.029	.174	.095	.029	
5.0	.188	.096	.028	.184	.095	.028	.177	.092	.027	.171	.090	.027	.165	.088	.026	
6.0	.177	.089	.025	.173	.088	.025	.167	.086	.025	.161	.084	.025	.156	.082	.024	
7.0	.166	.082	.023	.163	.081	.023	.158	.080	.023	.152	.078	.023	.147	.077	.023	
8.0	.156	.076	.021	.154	.076	.021	.149	.074	.021	.144	.073	.021	.140	.072	.021	
9.0	.148	.071	.020	.145	.071	.020	.141	.070	.020	.137	.068	.020	.133	.067	.019	
10.0	.140	.067	.019	.138	.066	.019	.133	.065	.018	.130	.064	.018	.126	.063	.018	

ρcc	80%			70%			50%			30%			10%			0
ρw	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
ρfc	20%			20%			20%			20%			20%			0
RCR	RCR:Room Cavity Ratio						Ceiling Cavity Exitance Coefficients(CCEC)									
0.0	.172	.172	.172	.147	.147	.147	.100	.100	.100	.058	.058	.058	.018	.018	.018	
1.0	.159	.141	.125	.136	.121	.108	.093	.083	.075	.054	.048	.043	.017	.016	.014	
2.0	.150	.119	.093	.129	.103	.081	.088	.071	.056	.051	.041	.033	.016	.013	.011	
3.0	.142	.103	.071	.122	.089	.062	.084	.062	.043	.048	.036	.026	.016	.012	.008	
4.0	.135	.091	.056	.116	.078	.049	.080	.055	.034	.046	.032	.020	.015	.010	.007	
5.0	.129	.081	.045	.111	.070	.040	.076	.049	.028	.044	.029	.017	.014	.009	.005	
6.0	.123	.073	.038	.106	.063	.033	.073	.044	.023	.042	.026	.014	.014	.009	.005	
7.0	.117	.067	.032	.101	.058	.028	.070	.041	.020	.040	.024	.012	.013	.008	.004	
8.0	.112	.062	.027	.096	.054	.024	.067	.038	.017	.039	.022	.010	.013	.007	.003	
9.0	.107	.057	.024	.092	.050	.021	.064	.035	.015	.037	.021	.009	.012	.007	.003	
10.0	.102	.053	.021	.088	.046	.018	.061	.033	.013	.036	.019	.008	.012	.006	.003	

C Range: 0 - 360DEG
 C Interval: 5.0DEG
 Test Speed: HIGH
 Temperature:20DEG
 Operators:Y
 Test Date:2024-05-08

γ Range: 0 - 90DEG
 γ Interval: 0.5DEG
 Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.291
 Humidity:65.0%
 Test Distance:8.750m [K=1.0000]
 Remarks:

UGR(Unified Glare Rating) Table

Test:U:11.95V I:0.3975A P:2.998W PF:0.6313 Lamp Flux:235x1 lm										
NAME: 489871-2700K ELATION 22''					TYPE:489871-2700K ELATION			22WEIGHT:		
SPEC.:					DIM.:			SERIAL No.:		
MFR.:					SUR.:			PROTECTION ANGLE:		
ceiling/cavity	0.7	0.7	0.5	0.5	0.3	0.7	0.7	0.5	0.5	0.3
walls	0.5	0.3	0.5	0.3	0.3	0.5	0.3	0.5	0.3	0.3
working 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	9.0	10.4	9.3	10.6	10.8	7.7	9.1	8.0	9.3	9.5
3H	9.7	11.0	10.0	11.2	11.4	7.6	8.8	7.9	9.1	9.3
4H	9.8	11.0	10.1	11.2	11.5	7.5	8.7	7.8	8.9	9.2
6H	9.7	10.8	10.0	11.1	11.3	7.4	8.5	7.7	8.8	9.0
8H	9.6	10.7	10.0	11.0	11.3	7.3	8.4	7.7	8.7	9.0
12H	9.6	10.6	9.9	10.9	11.2	7.3	8.3	7.6	8.6	8.9
4H 2H	9.4	10.6	9.7	10.8	11.1	8.2	9.4	8.5	9.7	9.9
3H	10.4	11.5	10.8	11.8	12.1	8.1	9.2	8.5	9.5	9.7
4H	10.7	11.7	11.1	12.0	12.3	8.1	9.0	8.4	9.3	9.6
6H	10.8	11.6	11.2	12.0	12.3	8.0	8.8	8.4	9.1	9.5
8H	10.8	11.5	11.2	11.9	12.3	7.9	8.7	8.3	9.0	9.4
12H	10.7	11.4	11.1	11.8	12.2	7.9	8.6	8.3	8.9	9.3
8H 4H	10.6	11.4	11.1	11.8	12.1	8.1	8.9	8.5	9.3	9.6
6H	10.8	11.4	11.2	11.8	12.2	8.1	8.7	8.5	9.1	9.5
8H	10.8	11.3	11.2	11.7	12.2	8.0	8.6	8.5	9.0	9.4
12H	10.7	11.2	11.2	11.6	12.1	8.0	8.4	8.5	8.9	9.4
12H 4H	10.6	11.3	11.0	11.7	12.1	8.1	8.8	8.5	9.2	9.6
6H	10.7	11.3	11.2	11.7	12.1	8.0	8.6	8.5	9.0	9.5
8H	10.7	11.2	11.2	11.6	12.1	8.0	8.5	8.5	8.9	9.4
Variations with the observer position at spacings:										
S = 1.0H	+ 0.6 / - 0.5					+ 1.2 / - 1.8				
1.5H	+ 1.4 / - 3.7					+ 0.7 / - 0.7				
2.0H	+ 1.7 / - 7.1					+ 2.5 / - 6.8				

CIE Pub.117 Corrected 300.0 lm Total Lamp Luminous Flux.(8log(F/F0) = -4.2)

C Range: 0 - 360DEG
 C Interval: 5.0DEG
 Test Speed: HIGH
 Temperature:20DEG
 Operators:Y
 Test Date:2024-05-08

γ Range: 0 - 90DEG
 γ Interval: 0.5DEG
 Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.291
 Humidity:65.0%
 Test Distance:8.750m [K=1.0000]
 Remarks:

UTILIZATION FACTORS TABLE

Test:U:11.95V I:0.3975A P:2.998W PF:0.6313 Lamp Flux:235x1 lm		
NAME: 489871-2700K ELATION 22''	TYPE:489871-2700K ELATION	22 WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:	PROTECTION ANGLE:

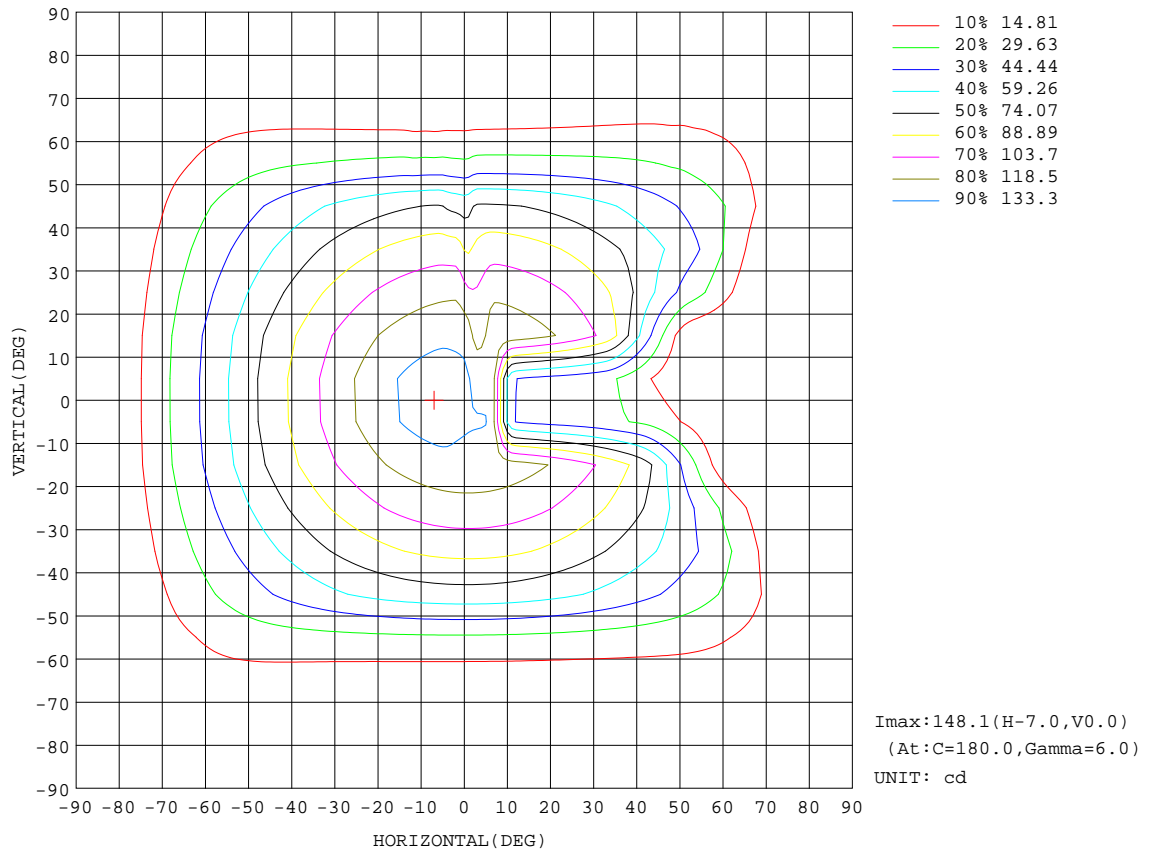
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS(PERCENT) $k(RI) \times RCR = 5$									
k = 0.60	57	47	42	56	47	41	55	47	41	36
0.80	66	57	51	65	57	51	64	56	50	45
1.00	74	65	60	73	65	59	71	66	59	53
1.25	80	72	67	79	71	66	77	70	66	60
1.50	84	77	72	83	76	71	80	75	70	64
2.00	90	83	79	88	82	78	85	80	77	70
2.50	93	87	82	91	86	82	88	83	80	73
3.00	95	90	86	93	89	85	90	86	83	76
4.00	98	94	91	96	92	89	93	89	87	79
5.00	100	96	93	98	95	92	94	91	89	81
ROOM INDEX	UF(total)									Direct
According to DIN EN 13032-2 2004			Suspended				SHRNOM = 1.25			

C Range: 0 - 360DEG
 C Interval: 5.0DEG
 Test Speed: HIGH
 Temperature:20DEG
 Operators:Y
 Test Date:2024-05-08

γ Range: 0 - 90DEG
 γ Interval: 0.5DEG
 Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.291
 Humidity:65.0%
 Test Distance:8.750m [K=1.0000]
 Remarks:

ISOCANDELA DIAGRAM

Test:U:11.95V I:0.3975A P:2.998W PF:0.6313 Lamp Flux:235x1 lm		
NAME: 489871-2700K ELATION 22''	TYPE:489871-2700K ELATION	22 WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:	PROTECTION ANGLE:

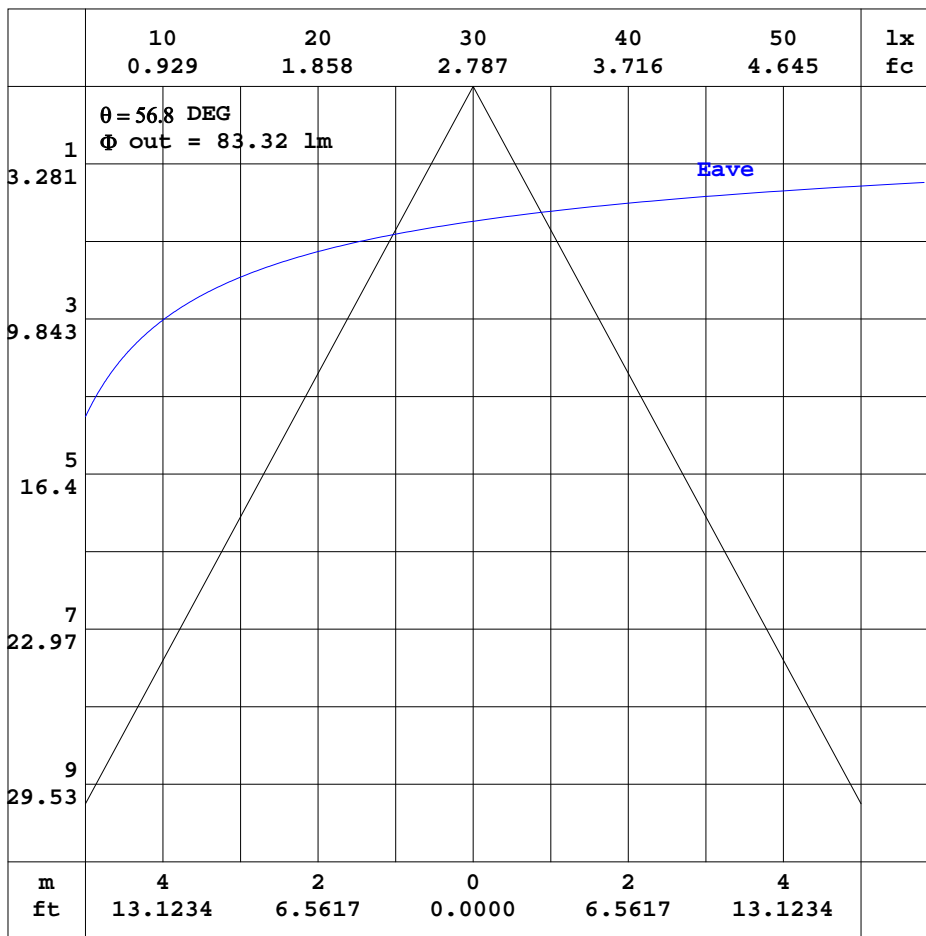


C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature:20DEG
Operators:Y
Test Date:2024-05-08

γ Range: 0 - 90DEG
γ Interval: 0.5DEG
Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.291
Humidity:65.0%
Test Distance:8.750m [K=1.0000]
Remarks:

AAI CURVES

Test:U:11.95V I:0.3975A P:2.998W PF:0.6313 Lamp Flux:235x1 lm		
NAME: 489871-2700K ELATION 22''	TYPE:489871-2700K ELATION	22 WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:	PROTECTION ANGLE:



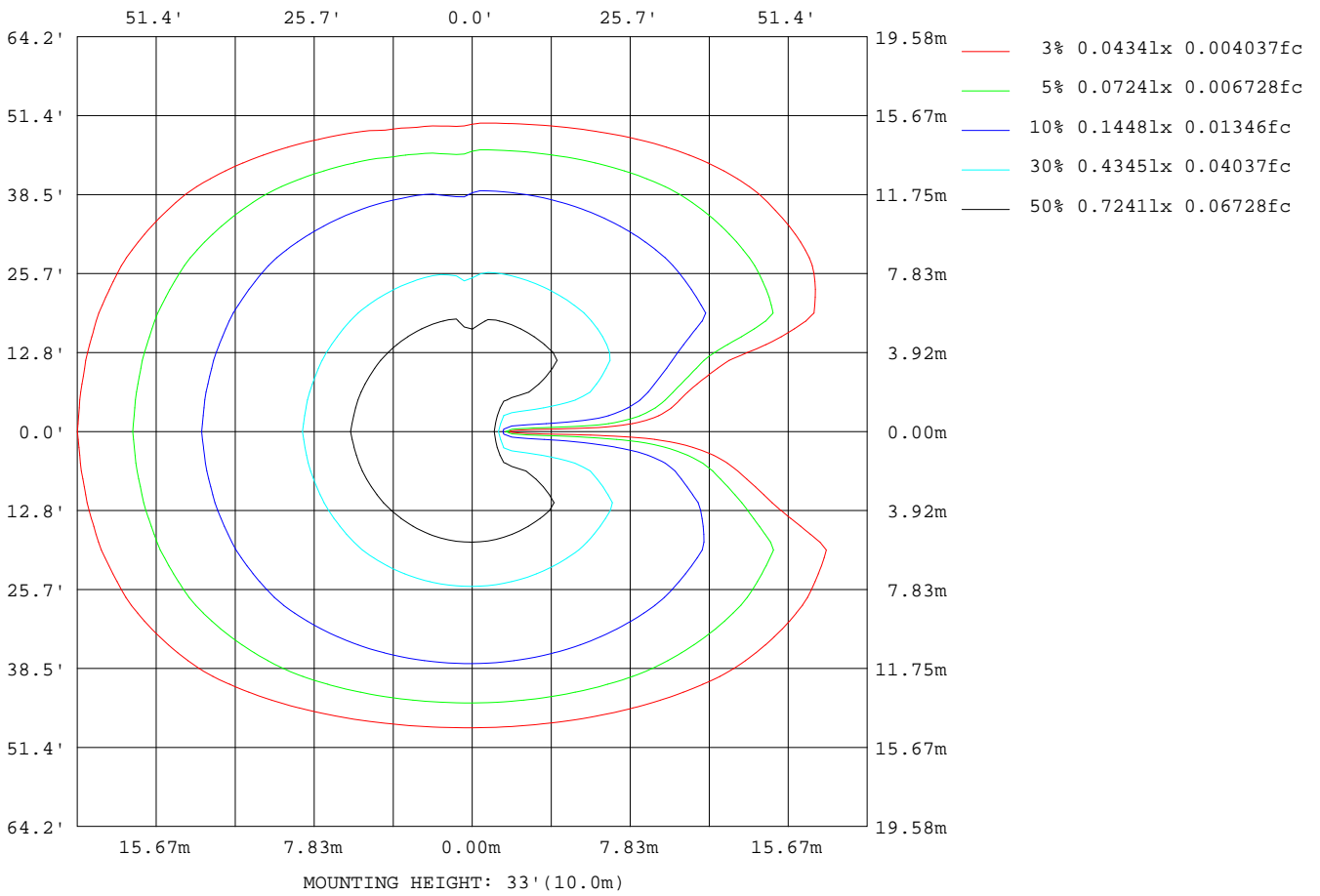
Note: The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature: 20DEG
Operators: Y
Test Date: 2024-05-08

γ Range: 0 - 90DEG
 γ Interval: 0.5DEG
Test System: EVERFINE GO-2000B_V1 SYSTEM V2.0.291
Humidity: 65.0%
Test Distance: 8.750m [K=1.0000]
Remarks:

ISOLUX DIAGRAM

Test:U:11.95V I:0.3975A P:2.998W PF:0.6313 Lamp Flux:235x1 lm		
NAME: 489871-2700K ELATION 22''	TYPE:489871-2700K ELATION	22 WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:	PROTECTION ANGLE:



C Range: 0 - 360DEG
 C Interval: 5.0DEG
 Test Speed: HIGH
 Temperature:20DEG
 Operators:Y
 Test Date:2024-05-08

γ Range: 0 - 90DEG
 γ Interval: 0.5DEG
 Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.291
 Humidity:65.0%
 Test Distance:8.750m [K=1.0000]
 Remarks:

LED Avg.L Report

Test:U:11.95V I:0.3975A P:2.998W PF:0.6313 Lamp Flux:235x1 lm		
NAME: 489871-2700K ELATION 22''	TYPE:489871-2700K ELATION	22 WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:	PROTECTION ANGLE:

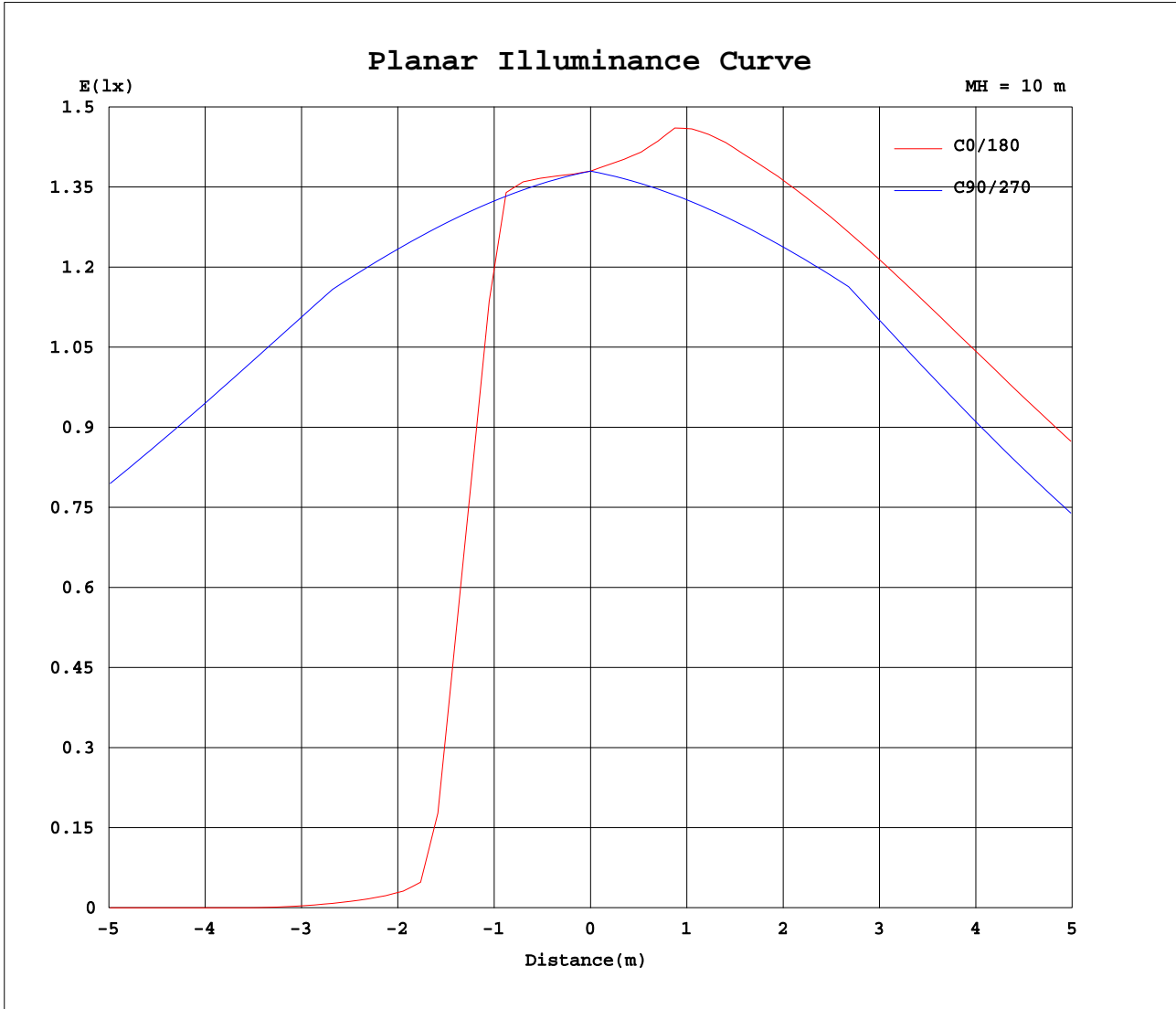
AvgL	cd/m2
L_0~180(65)av	233
L_0~180(75)av	164
L_0~180(85)av	9
L_90~270(65)av	83
L_90~270(75)av	23
L_90~270(85)av	0
L_45(65)av	265
L_45(75)av	116
L_45(85)av	0

Standard: GB/T 29293-2012

C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature:20DEG
Operators:Y
Test Date:2024-05-08

γ Range: 0 - 90DEG
γ Interval: 0.5DEG
Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.291
Humidity:65.0%
Test Distance:8.750m [K=1.0000]
Remarks:

Planar Illuminance Curve



C Range: 0 - 360DEG
 C Interval: 5.0DEG
 Test Speed: HIGH
 Temperature: 20DEG
 Operators: Y
 Test Date: 2024-05-08

γ Range: 0 - 90DEG
 γ Interval: 0.5DEG
 Test System: EVERFINE GO-2000B_V1 SYSTEM V2.0.291
 Humidity: 65.0%
 Test Distance: 8.750m [K=1.0000]
 Remarks:

LUMINOUS DISTRIBUTION INTENSITY DATA

Test:U:11.95V I:0.3975A P:2.998W PF:0.6313 Lamp Flux:235x1 lm		
NAME: 489871-2700K ELATION 22''	TYPE:489871-2700K ELATION	22WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:	PROTECTION ANGLE:

Table--4

UNIT: cd

C(DEG) γ (DEG)	285	290	295	300	305	310	315	320	325	330	335	340	345	350	355				
0	138	138	138	138	138	138	138	138	138	138	138	138	138	138	138				
5	130	130	129	130	131	132	132	132	133	134	134	135	135	135	135				
10	122	124	126	131	125	116	104	91.3	77.5	63.0	49.1	39.6	30.2	21.2	12.7				
15	116	129	127	121	112	101	92.2	83.6	74.4	64.8	54.7	44.4	33.7	22.9	11.9				
20	123	124	124	124	125	125	120	109	96.6	83.9	70.6	56.9	42.9	28.7	14.4				
25	116	117	117	117	117	117	117	118	118	102	85.8	69.0	51.9	34.7	17.4				
30	109	109	109	109	109	109	109	109	109	109	99.2	79.4	59.5	39.6	19.8				
35	98.9	99.3	99.8	100	101	101	100	100.0	99.6	99.2	98.7	86.5	63.3	41.0	20.1				
40	87.9	88.2	88.6	89.1	89.7	90.5	91.3	91.1	90.0	87.6	81.7	73.7	54.3	33.9	16.3				
45	76.8	77.1	77.5	78.0	78.5	79.1	79.8	80.7	81.4	76.1	66.8	54.1	38.8	22.5	10.2				
50	58.2	60.3	62.8	65.5	67.5	68.0	68.6	69.3	70.0	70.7	60.6	43.1	22.1	7.88	2.93				
55	37.9	40.4	43.4	46.8	50.5	54.1	57.5	58.3	58.7	59.1	59.4	42.6	19.9	1.63	0.67				
60	17.6	20.8	24.5	28.8	33.2	37.6	41.7	45.3	48.3	48.3	47.7	44.7	23.0	4.08	0.22				
65	10.6	11.7	13.1	15.0	17.3	22.1	27.1	31.3	34.7	37.3	36.9	31.4	20.8	5.57	0.00				
70	6.26	7.00	8.03	9.41	11.2	13.4	16.0	18.3	22.7	25.5	27.0	24.6	12.3	1.71	0.00				
75	1.83	2.20	2.75	3.57	4.70	6.20	8.06	10.0	12.4	14.8	16.3	14.9	8.99	0.32	0.00				
80	0.10	0.17	0.26	0.37	0.50	0.63	0.76	1.23	3.10	5.12	6.73	7.36	3.58	0.00	0.00				
85	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.11	0.10	0.27	0.00	0.00			
90	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00				

C Range: 0 - 360DEG
 C Interval: 5.0DEG
 Test Speed: HIGH
 Temperature:20DEG
 Operators:Y
 Test Date:2024-05-08

γ Range: 0 - 90DEG
 γ Interval: 0.5DEG
 Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.291
 Humidity:65.0%
 Test Distance:8.750m [K=1.0000]
 Remarks: