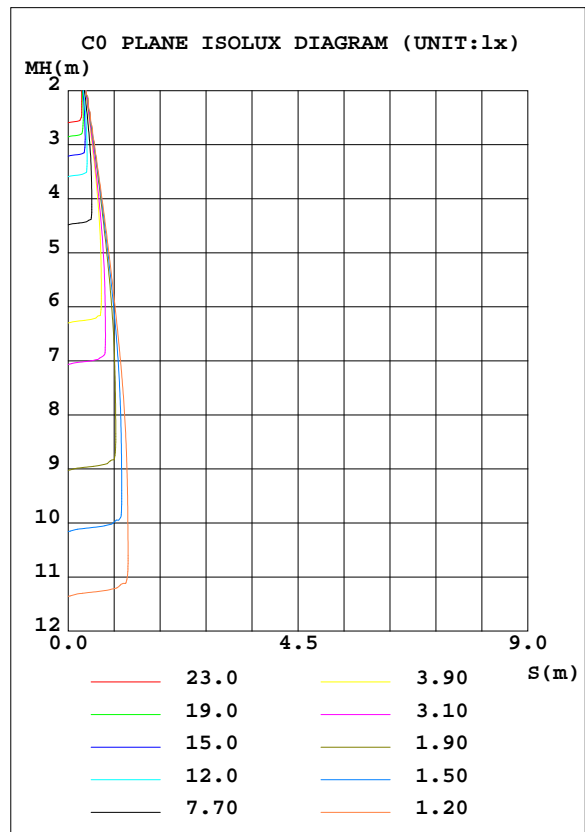
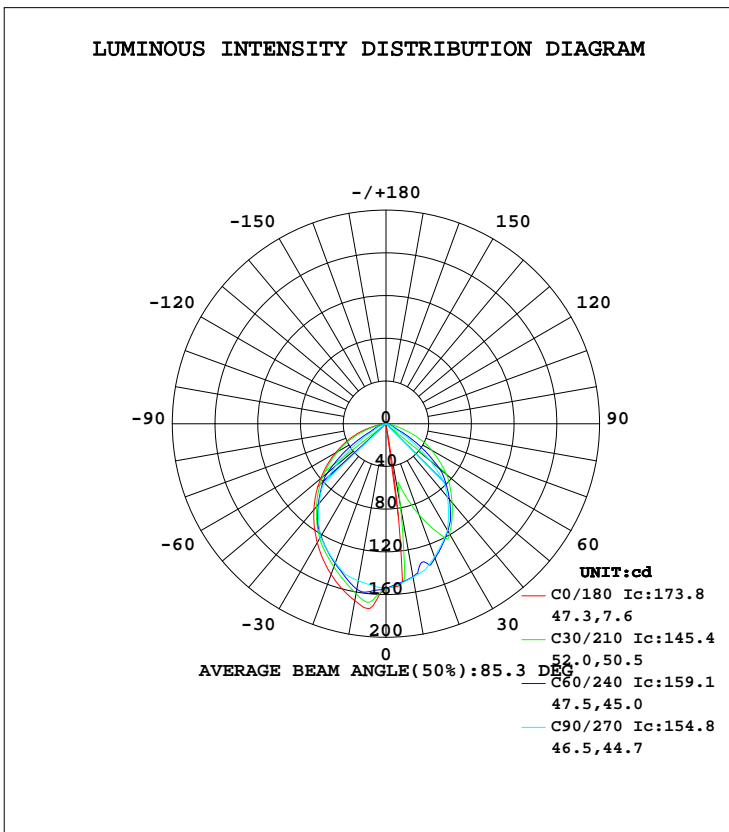


LUMINAIRE PHOTOMETRIC TEST REPORT

Test:U:11.95V I:0.4015A P:3.023W PF:0.6303 Lamp Flux:235x1 lm		
NAME: 489871-3000K ELATION 22''	TYPE:489871-3000K ELATION	22 WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:	PROTECTION ANGLE:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 78.05 lm/W			
MODEL	489871-3000K ELATION 22''	Imax(cd)	173.8	S/MH(C0/180)	1.23
NOMINAL POWER(W)	3	LOR(%)	100.4	S/MH(C90/270)	1.18
RATED VOLTAGE(V)	12	TOTAL FLUX(lm)	301.21	η UP, DN(C0-180)	0.0,48.2
NOMINAL FLUX(lm)	300	CIE CLASS	DIRECT	η UP, DN(C180-360)	0.0,52.2
LAMPS INSIDE	1	η up(%)	0.0	CIBSE SHR NOM	0.50
TEST VOLTAGE(V)	12	η down(%)	100.4	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	152.0	150.1	150.3	161.5	173.7	162.6	152.0	151.2	0- 5	3.718	3.718	1.23,1.24
10	2.094	123.2	145.9	157.3	168.2	159.7	149.2	117.9	5- 10	10.34	14.05	4.67,4.68
15	0	98.98	141.5	146.3	159.9	149.8	146.4	93.61	10- 15	14.54	28.60	9.49,9.53
20	0	130.1	132.7	136.2	150.2	140.8	138.4	134.4	15- 20	19.89	48.49	16.1,16.2
25	0	126.6	123.9	126.4	139.8	131.7	130.4	131.4	20- 25	24.90	73.39	24.4,24.5
30	0	116.7	115.1	116.4	128.7	121.9	122.5	121.8	25- 30	28.75	102.1	33.9,34
35	0	106.5	102.2	106.0	117.1	111.7	109.9	112.0	30- 35	31.29	133.4	44.3,44.5
40	0	95.85	89.36	95.08	105.1	100.9	97.27	101.7	35- 40	32.26	165.7	55,55.2
45	0	82.71	76.50	82.22	92.70	87.77	84.67	88.70	40- 45	31.62	197.3	65.5,65.8
50	0	69.91	54.24	69.83	80.06	74.91	61.12	76.03	45- 50	29.13	226.4	75.2,75.5
55	0	57.21	31.97	57.58	67.28	62.17	37.57	63.52	50- 55	24.61	251.1	83.3,83.7
60	0	39.07	9.706	40.44	54.68	43.52	14.03	46.01	55- 60	18.90	270.0	89.6,90
65	0	21.99	6.904	24.54	42.32	26.12	9.872	29.87	60- 65	13.24	283.2	94,94.4
70	0	10.73	4.102	13.46	30.26	14.05	5.719	17.74	65- 70	9.225	292.4	97.1,97.5
75	0	5.565	1.301	6.951	17.97	7.271	1.566	9.066	70- 75	5.752	298.2	99,99.4
80	0	0.6571	0	0.7863	7.723	0.9449	0	0.9948	75- 80	2.548	300.7	99.8,100
85	0	0	0	0	0.2938	0	0	0	80- 85	0.4854	301.2	100,100
90	0	0	0	0	0	0	0	0	85- 90	0.0106	301.2	100,100
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			

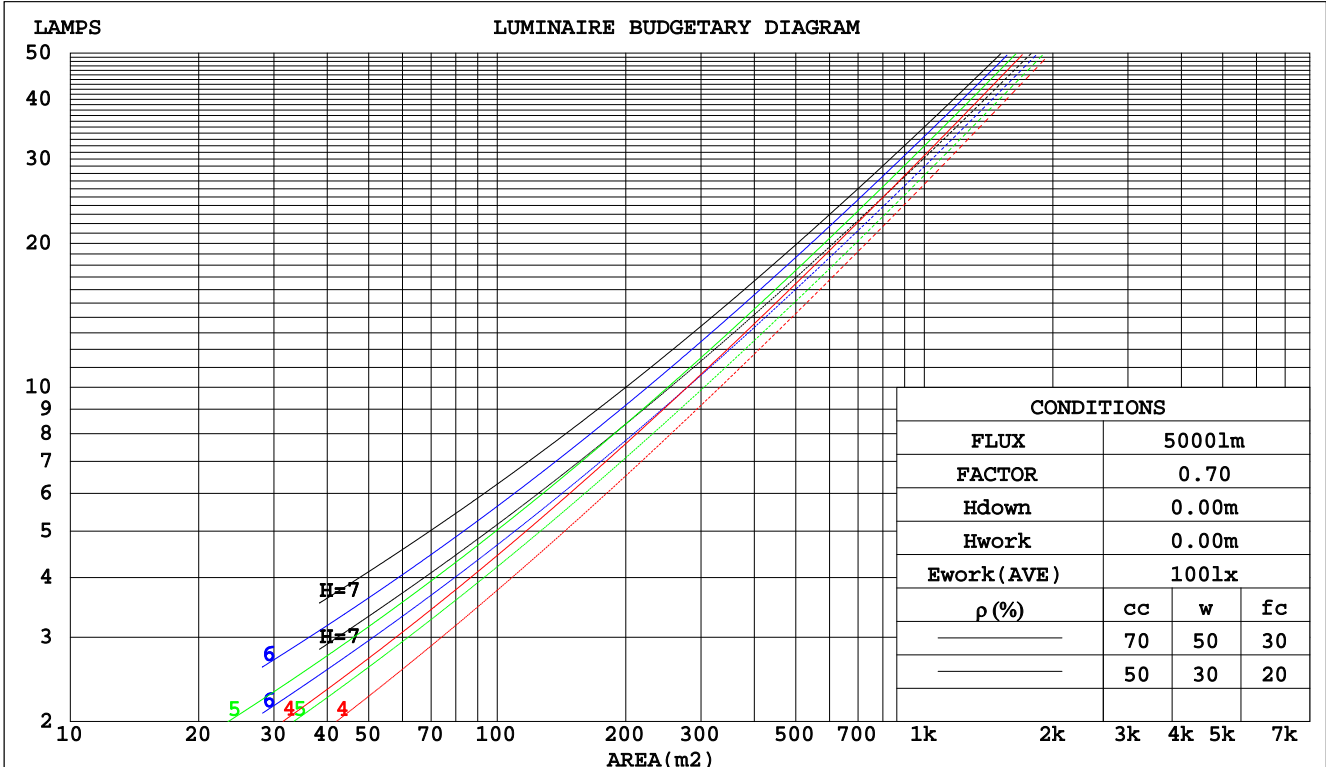
C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature:20DEG
Operators:Y
Test Date:2024-05-08

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:0.4015A P:3.023W PF:0.6303 Lamp Flux:235x1 lm		
NAME: 489871-3000K ELATION 22''	TYPE:489871-3000K 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																
pfc	20%			20%			20%			20%			20%			0
RCR	RCR:Room Cavity Ratio															
	Coefficients of Utilization(CU)															
0.0	1.20	1.20	1.20	1.17	1.17	1.17	1.12	1.12	1.12	1.07	1.07	1.07	1.02	1.02	1.02	1.00
1.0	1.07	1.04	1.00	1.05	1.02	.99	1.01	.98	.96	.97	.95	.93	.93	.92	.90	.88
2.0	.95	.89	.85	.94	.88	.84	.90	.86	.82	.87	.83	.80	.84	.81	.78	.76
3.0	.85	.78	.72	.84	.77	.71	.81	.75	.70	.78	.73	.69	.75	.71	.68	.66
4.0	.76	.68	.62	.75	.68	.62	.73	.66	.61	.70	.65	.60	.68	.63	.59	.57
5.0	.69	.60	.54	.68	.60	.54	.66	.59	.54	.64	.58	.53	.62	.57	.52	.51
6.0	.62	.54	.48	.61	.54	.48	.60	.53	.47	.58	.52	.47	.56	.51	.47	.45
7.0	.57	.49	.43	.56	.48	.43	.54	.47	.42	.53	.47	.42	.52	.46	.42	.40
8.0	.52	.44	.38	.51	.44	.38	.50	.43	.38	.49	.43	.38	.48	.42	.38	.36
9.0	.48	.40	.35	.47	.40	.35	.46	.39	.35	.45	.39	.34	.44	.38	.34	.33
10.0	.44	.37	.32	.44	.37	.32	.43	.36	.32	.42	.36	.31	.41	.35	.31	.30



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:0.4015A P:3.023W PF:0.6303 Lamp Flux:235x1 lm		
NAME: 489871-3000K ELATION 22''	TYPE:489871-3000K 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	.255	.145	.046	.248	.141	.045	.235	.135	.043	.223	.129	.041	.212	.123	.040	
2.0	.249	.137	.042	.243	.134	.041	.232	.129	.040	.221	.124	.039	.212	.120	.038	
3.0	.237	.126	.038	.231	.124	.037	.221	.120	.036	.212	.116	.036	.204	.113	.035	
4.0	.223	.116	.034	.218	.114	.034	.209	.111	.033	.201	.108	.033	.193	.105	.032	
5.0	.209	.107	.031	.205	.105	.031	.197	.103	.030	.190	.100	.030	.183	.098	.029	
6.0	.196	.098	.028	.193	.097	.028	.186	.095	.028	.179	.093	.027	.173	.091	.027	
7.0	.185	.091	.026	.181	.090	.026	.175	.089	.026	.169	.087	.025	.164	.085	.025	
8.0	.174	.085	.024	.171	.084	.024	.165	.083	.024	.160	.081	.023	.155	.080	.023	
9.0	.164	.079	.022	.162	.079	.022	.157	.077	.022	.152	.076	.022	.147	.075	.022	
10.0	.155	.074	.021	.153	.074	.021	.148	.073	.020	.144	.072	.020	.140	.070	.020	

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	.191	.191	.191	.163	.163	.163	.112	.112	.112	.064	.064	.064	.020	.020	.020	
1.0	.177	.157	.139	.152	.135	.120	.104	.093	.083	.060	.054	.048	.019	.017	.016	
2.0	.167	.133	.104	.143	.114	.090	.098	.079	.063	.057	.046	.037	.018	.015	.012	
3.0	.159	.115	.079	.136	.099	.069	.093	.069	.048	.054	.040	.028	.017	.013	.009	
4.0	.151	.101	.063	.129	.087	.054	.089	.061	.038	.051	.036	.023	.017	.012	.007	
5.0	.144	.090	.051	.123	.078	.044	.085	.054	.031	.049	.032	.018	.016	.010	.006	
6.0	.137	.082	.042	.118	.071	.036	.081	.049	.026	.047	.029	.015	.015	.010	.005	
7.0	.130	.074	.035	.112	.065	.031	.077	.045	.022	.045	.027	.013	.015	.009	.004	
8.0	.124	.069	.030	.107	.060	.027	.074	.042	.019	.043	.025	.011	.014	.008	.004	
9.0	.119	.064	.027	.102	.055	.023	.071	.039	.016	.041	.023	.010	.013	.008	.003	
10.0	.113	.059	.023	.098	.052	.020	.068	.036	.015	.040	.021	.009	.013	.007	.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:0.4015A P:3.023W PF:0.6303 Lamp Flux:235x1 lm										
NAME: 489871-3000K ELATION 22''					TYPE:489871-3000K 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	9.3	10.6	9.5	10.8	11.0	8.2	9.5	8.4	9.7	9.9
3H	10.0	11.2	10.2	11.4	11.7	8.1	9.3	8.4	9.6	9.8
4H	10.0	11.2	10.3	11.4	11.7	8.0	9.2	8.3	9.4	9.7
6H	9.9	11.0	10.2	11.3	11.5	7.9	9.0	8.2	9.3	9.5
8H	9.8	10.9	10.2	11.2	11.5	7.8	8.9	8.2	9.2	9.5
12H	9.8	10.8	10.1	11.1	11.4	7.8	8.8	8.1	9.1	9.4
4H 2H	9.7	10.9	10.0	11.1	11.4	8.7	9.9	9.0	10.2	10.4
3H	10.8	11.8	11.1	12.1	12.4	8.7	9.7	9.0	10.0	10.3
4H	11.1	12.0	11.4	12.3	12.6	8.6	9.5	9.0	9.9	10.2
6H	11.1	11.9	11.5	12.2	12.6	8.5	9.3	8.9	9.7	10.0
8H	11.0	11.8	11.4	12.1	12.5	8.5	9.2	8.9	9.6	10.0
12H	11.0	11.7	11.4	12.1	12.5	8.4	9.1	8.9	9.5	9.9
8H 4H	11.0	11.8	11.4	12.1	12.5	8.7	9.5	9.1	9.9	10.2
6H	11.1	11.7	11.5	12.1	12.5	8.6	9.3	9.1	9.7	10.1
8H	11.1	11.6	11.5	12.0	12.5	8.6	9.2	9.1	9.6	10.0
12H	11.0	11.5	11.5	11.9	12.4	8.6	9.0	9.0	9.5	10.0
12H 4H	11.0	11.6	11.4	12.0	12.4	8.7	9.4	9.1	9.8	10.2
6H	11.0	11.6	11.5	12.0	12.5	8.6	9.2	9.1	9.6	10.1
8H	11.0	11.5	11.5	11.9	12.4	8.6	9.1	9.1	9.5	10.0
Variations with the observer position at spacings:										
S = 1.0H	+ 0.6 / - 0.5					+ 1.0 / - 1.4				
1.5H	+ 1.4 / - 3.5					+ 0.7 / - 0.6				
2.0H	+ 1.6 / - 6.4					+ 2.3 / - 5.6				

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:0.4015A P:3.023W PF:0.6303 Lamp Flux:235x1 lm		
NAME: 489871-3000K ELATION 22''	TYPE:489871-3000K ELATION	22 WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:	PROTECTION ANGLE:

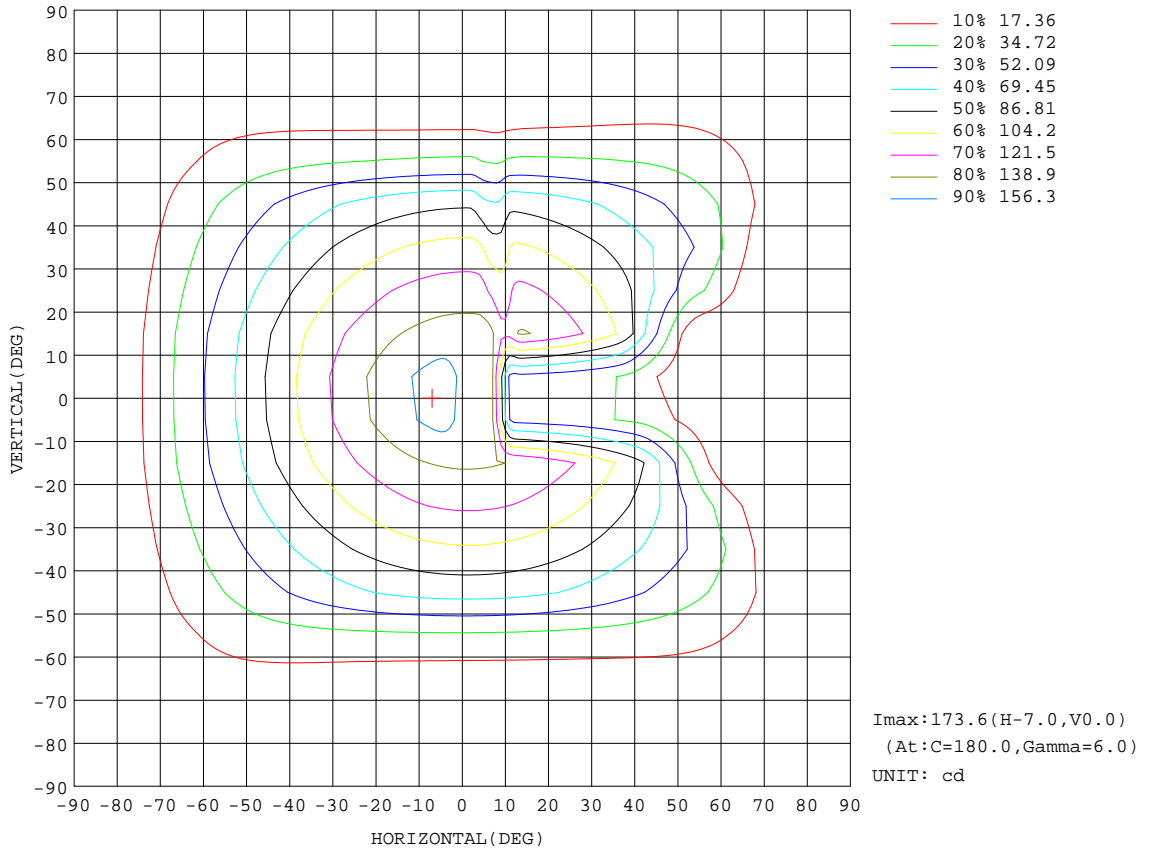
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS(PERCENT) $k(RI) \times RCR = 5$									
k = 0.60	63	53	46	63	52	46	62	52	46	40
0.80	74	63	57	73	63	57	71	62	56	50
1.00	82	73	66	81	72	66	79	73	65	59
1.25	89	80	74	88	80	74	85	78	73	66
1.50	94	85	80	92	85	79	90	83	78	71
2.00	100	93	87	98	92	87	95	90	85	78
2.50	103	97	92	101	95	91	98	93	89	81
3.00	106	100	96	104	99	95	100	96	93	85
4.00	109	105	101	107	103	99	103	100	97	88
5.00	111	107	104	109	105	102	105	102	99	91
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:0.4015A P:3.023W PF:0.6303 Lamp Flux:235x1 lm		
NAME: 489871-3000K ELATION 22''	TYPE:489871-3000K ELATION	22 WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:	PROTECTION ANGLE:

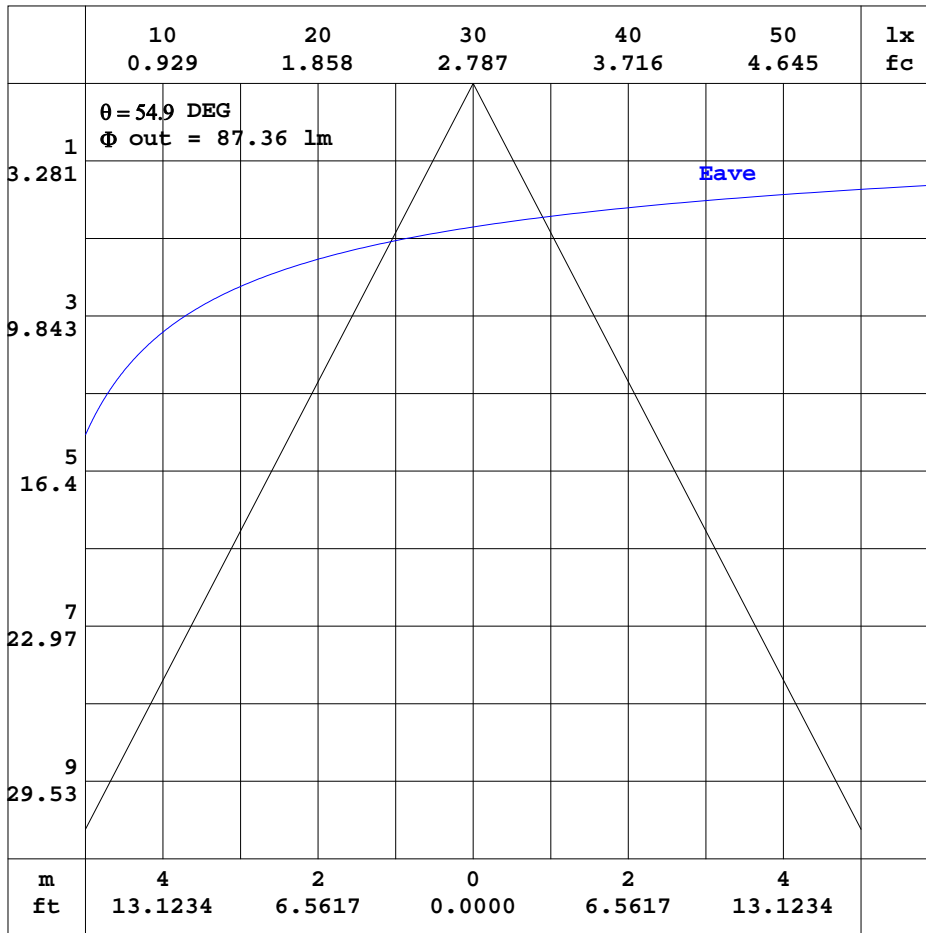


C Range: 0 - 360DEG
 C Interval: 5.0DEG
 Test Speed: HIGH
 Temperature: 20DEG
 Operators: Y
 Test Date: 2024-05-08

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:0.4015A P:3.023W PF:0.6303 Lamp Flux:235x1 lm		
NAME: 489871-3000K ELATION 22''	TYPE:489871-3000K ELATION	22 WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:	PROTECTION ANGLE:



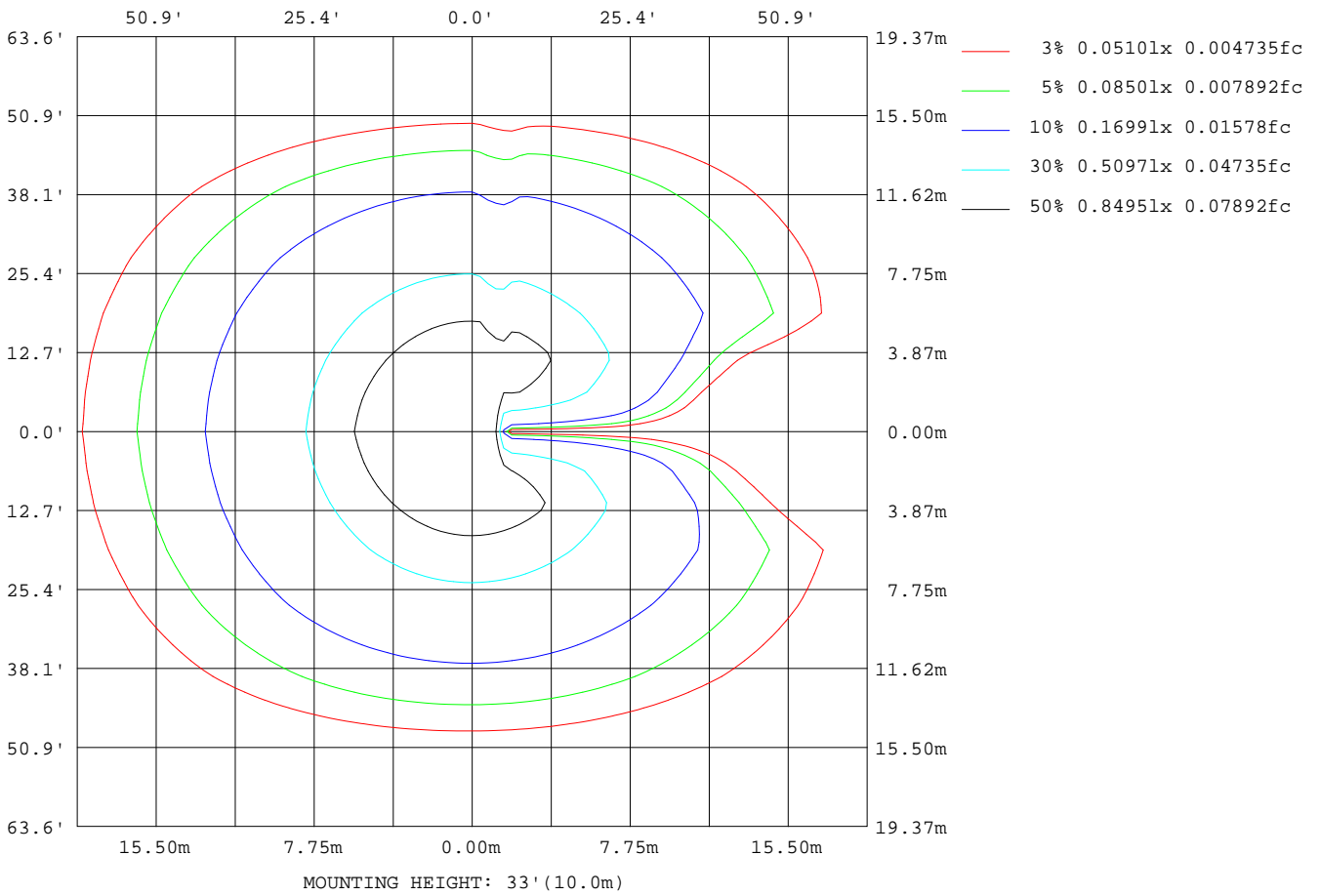
Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

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:0.4015A P:3.023W PF:0.6303 Lamp Flux:235x1 lm		
NAME: 489871-3000K ELATION 22''	TYPE:489871-3000K 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:0.4015A P:3.023W PF:0.6303 Lamp Flux:235x1 lm		
NAME: 489871-3000K ELATION 22''	TYPE:489871-3000K ELATION	22 WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:	PROTECTION ANGLE:

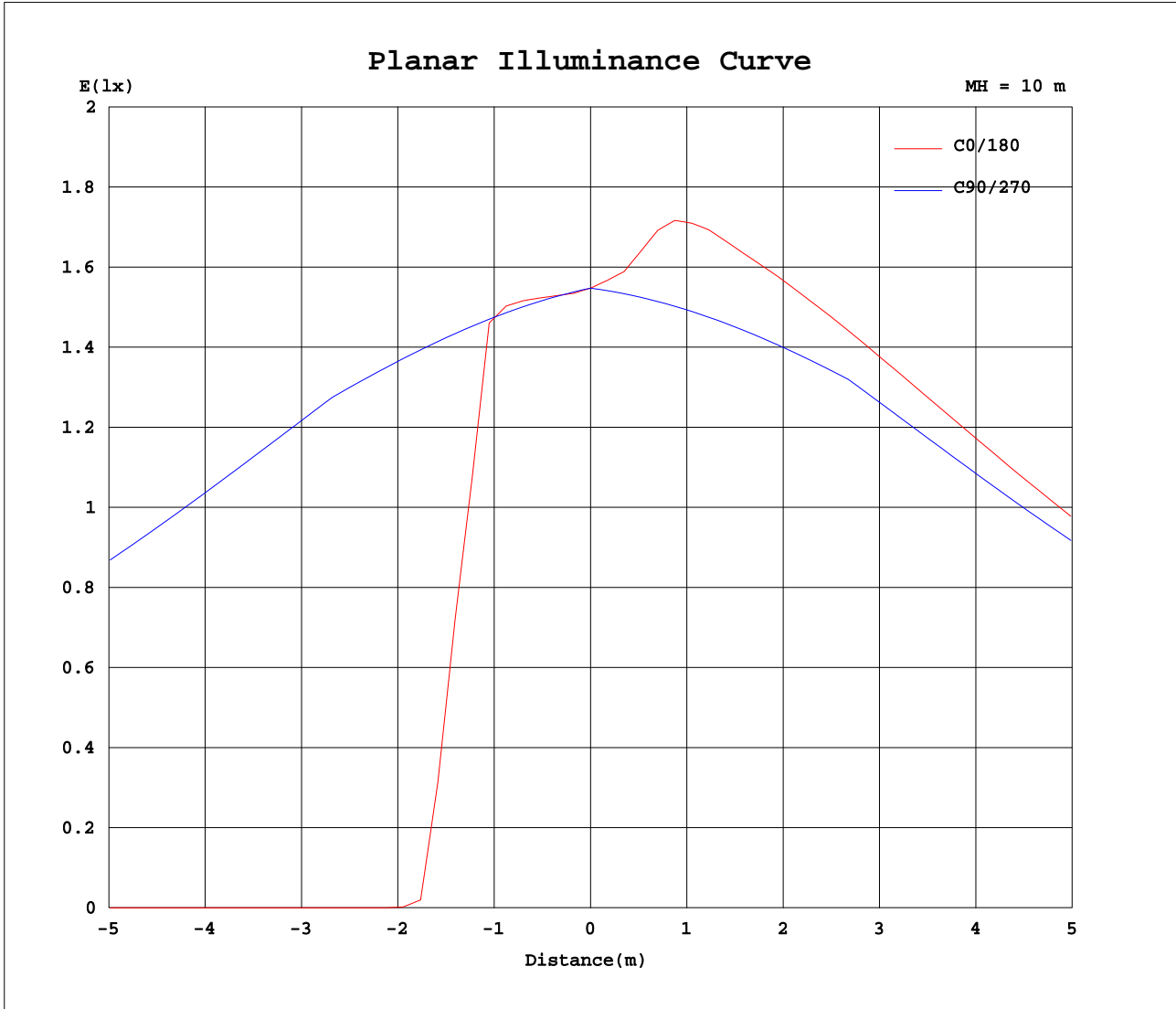
AvgL	cd/m2
L_0~180(65)av	250
L_0~180(75)av	174
L_0~180(85)av	8
L_90~270(65)av	99
L_90~270(75)av	28
L_90~270(85)av	0
L_45(65)av	303
L_45(75)av	139
L_45(85)av	0

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:0.4015A P:3.023W PF:0.6303 Lamp Flux:235x1 lm		
NAME: 489871-3000K ELATION 22''	TYPE:489871-3000K 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	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155				
5	151	151	151	151	151	151	151	151	151	151	151	151	152	152	152				
10	149	149	148	148	147	135	118	104	89.4	74.1	58.5	44.9	32.0	20.3	10.2				
15	146	146	140	123	114	99.8	93.6	90.6	81.9	71.5	60.3	48.7	36.8	24.7	12.4				
20	133	126	121	122	136	140	134	122	108	93.7	78.8	63.6	48.0	32.1	16.1				
25	119	113	123	130	131	131	131	132	132	114	96.1	77.2	58.1	38.9	19.5				
30	106	117	122	122	122	122	122	122	122	123	111	89.0	66.7	44.5	22.2				
35	95.6	111	112	112	113	112	112	112	111	111	111	98.4	73.3	48.6	24.2				
40	94.3	98.3	98.7	99.3	100.0	101	102	101	101	99.6	98.1	94.7	72.1	45.7	22.1				
45	85.1	85.7	86.1	86.7	87.2	87.9	88.7	89.6	90.6	87.7	81.0	70.7	56.8	34.2	16.0				
50	64.3	66.8	69.5	72.6	74.8	75.4	76.0	76.7	77.6	78.5	70.3	54.9	35.4	17.8	7.33				
55	41.6	44.6	48.0	51.8	55.8	59.8	63.5	64.4	64.9	65.4	65.7	49.7	24.9	3.36	1.20				
60	19.0	22.7	26.9	31.7	36.6	41.5	46.0	50.0	53.1	53.2	52.9	52.2	28.5	5.36	0.39				
65	11.5	12.7	14.3	16.4	19.0	24.3	29.9	34.7	38.4	41.2	41.4	37.6	27.3	7.77	0.03				
70	6.96	7.78	8.91	10.4	12.4	14.8	17.7	21.0	25.2	28.3	29.9	28.4	16.9	4.01	0.00				
75	2.28	2.69	3.28	4.13	5.35	6.99	9.07	11.5	14.3	16.9	18.5	17.5	11.5	1.12	0.00				
80	0.13	0.22	0.35	0.49	0.65	0.83	0.99	1.55	3.63	5.87	7.66	8.35	5.69	0.07	0.00				
85	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.16	0.19	0.88	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: