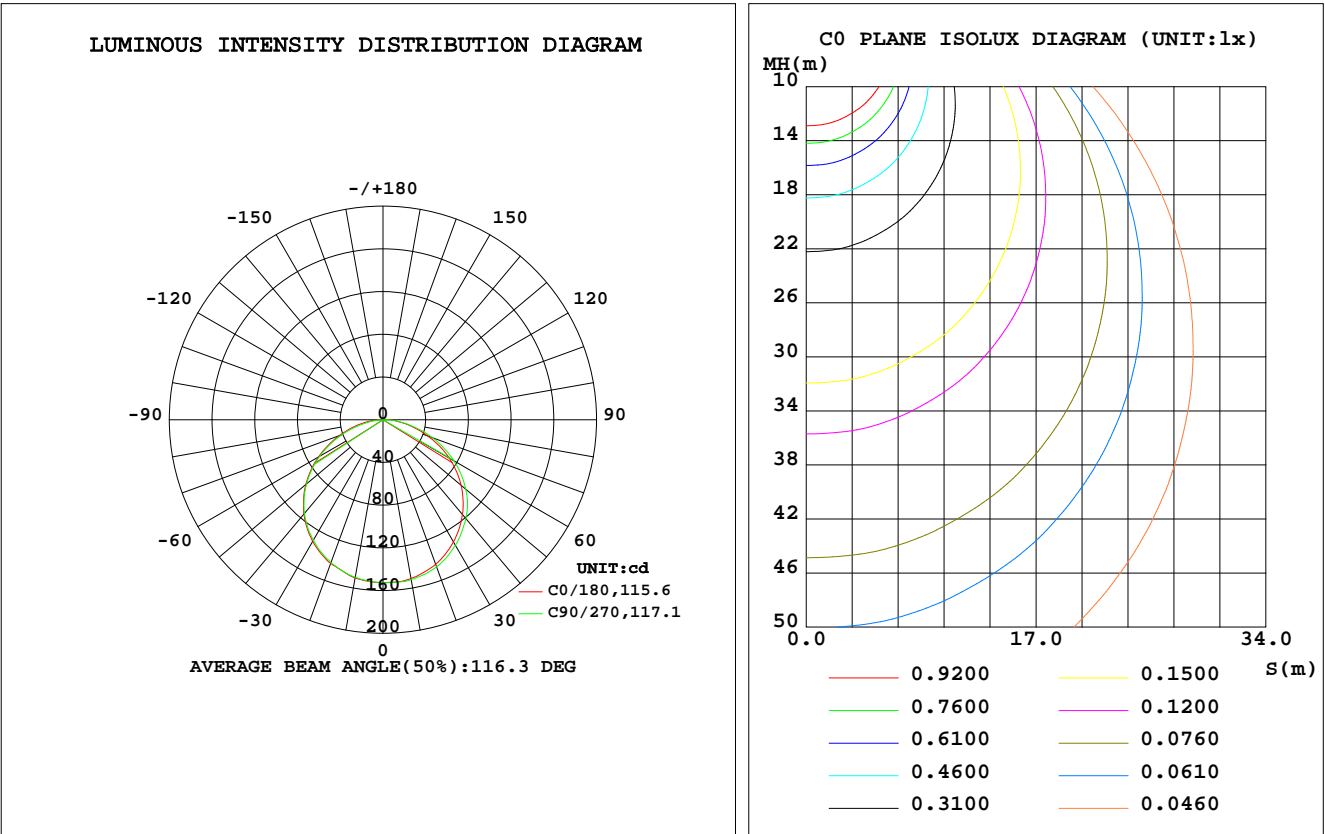


LUMINAIRE PHOTOMETRIC TEST REPORT

Test:U:24.007V I:0.1558A P:3.7399W PF:1.0000 Freq:0Hz Lamp Flux:457.409x1 lm		
NAME:	TYPE:LED	WEIGHT:N/A
SPEC.:N/A	DIM.:	SERIAL No.:N/A
MFR.:	SUR.:	Shielding Angle:N/A

DATA OF LAMP		PHOTOMETRIC DATA Eff: 122.31 lm/W			
OB 830 3.5W	W000000 F1 1M IP20 21015107	Imax(cd)	152.8	S/MH(C0/180)	1.28
NOMINAL POWER(W)	3.5	LOR(%)	100.0	S/MH(C90/270)	1.27
RATED VOLTAGE(V)	24	TOTAL FLUX(lm)	457.41	η UP,DN(C0-180)	0.1,51.6
NOMINAL FLUX(lm)	457.409	CIE CLASS	DIRECT	η UP,DN(C180-360)	0.0,48.2
LAMPS INSIDE	1	η up(%)	0.2	CIBSE SHR NOM	1.25
TEST VOLTAGE(V)	24	η down(%)	99.8	CIBSE SHR MAX	1.35



C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: HIGH
Temperature:24.9DEG
Operators:Zero huang
Test Date:2023-12-29

γ Range: 0 - 180DEG
γ Interval: 1.0DEG
Test System:EVERFINE GO-R5000_V2 SYSTEM V2.0.366
Humidity:60%
Test Distance:26.000m [K=1.5110]
Remarks:

ZONAL FLUX DIAGRAM

ZONAL FLUX DIAGRAM:

γ	C0	C45	C90	C135	C180	C225	C270	C315	γ	Φ zone	Φ total	%lum, lamp
10	151.0	151.8	152.1	151.6	150.4	149.3	149.6	149.5	0- 10	14.47	14.47	3.16,3.16
20	144.1	145.6	146.6	145.1	143.1	141.5	142.5	142.3	10- 20	41.71	56.18	12.3,12.3
30	132.0	134.9	135.6	133.9	131.6	129.0	130.2	130.9	20- 30	63.88	120.1	26.2,26.2
40	115.8	119.1	120.8	116.7	115.3	112.8	114.4	114.0	30- 40	78.02	198.1	43.3,43.3
50	95.56	99.14	101.2	97.69	94.30	92.31	93.47	91.90	40- 50	82.03	280.1	61.2,61.2
60	71.51	75.12	76.72	73.64	69.85	67.64	68.50	67.34	50- 60	74.86	355.0	77.6,77.6
70	44.69	48.70	49.22	46.36	43.53	40.67	40.82	40.31	60- 70	57.26	412.2	90.1,90.1
80	20.68	23.35	22.38	21.41	20.04	17.07	14.52	15.32	70- 80	33.10	445.3	97.4,97.4
90	6.444	6.470	3.610	4.151	3.338	2.862	0	2.392	80- 90	11.28	456.6	99.8,99.8
100	0	0	0	0	0	0	0	0	90-100	0.7367	457.4	100,100
110	0	0	0.1794	0	0	0	0	0	100-110	0.0072	457.4	100,100
120	0	0	0.2699	0	0	0	0	0	110-120	0.0201	457.4	100,100
130	0	0	0.1800	0	0	0	0	0	120-130	0.0191	457.4	100,100
140	0	0	0.0900	0	0	0	0	0	130-140	0.0068	457.4	100,100
150	0	0	0	0	0	0	0	0	140-150	0.0006	457.4	100,100
160	0	0	0	0	0	0	0	0	150-160	0	457.4	100,100
170	0	0	0	0	0	0	0	0	160-170	0	457.4	100,100
180	0	0	0	0	0	0	0	0	170-180	0	457.4	100,100
DEG	LUMINOUS INTENSITY:cd									UNIT:lm		

Conical surface Flux(90deg): 239.29 lm

%lum = 52.3%

%lamp = 52.3%

Conical surface Flux(120deg): 354.98 lm

%lum = 77.6%

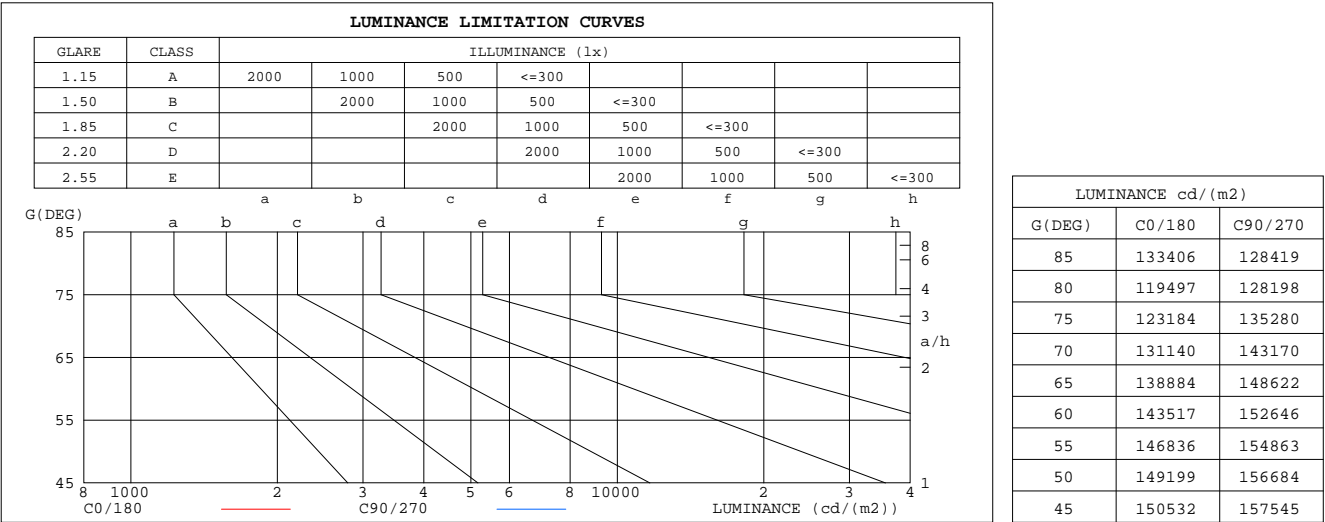
%lamp = 77.6%

C Range: 0 - 360DEG
 C Interval: 22.5DEG
 Test Speed: HIGH
 Temperature:24.9DEG
 Operators:Zero huang
 Test Date:2023-12-29

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-R5000_V2 SYSTEM V2.0.366
 Humidity:60%
 Test Distance:26.000m [K=1.5110]
 Remarks:

LUMINANCE LIMITATION CURVES

Test:U:24.007V I:0.1558A P:3.7399W PF:1.0000 Freq:0Hz Lamp Flux:457.409x1 lm		
NAME:	TYPE:LED	WEIGHT:N/A
SPEC.:N/A	DIM.:	SERIAL No.:N/A
MFR.:	SUR.:	Shielding Angle:N/A



C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: HIGH
Temperature:24.9DEG
Operators:Zero huang
Test Date:2023-12-29

γ Range: 0 - 180DEG
γ Interval: 1.0DEG
Test System:EVERFINE GO-R5000_V2 SYSTEM V2.0.366
Humidity:60%
Test Distance:26.000m [K=1.5110]
Remarks:

WEC AND CCEC

Test:U:24.007V I:0.1558A P:3.7399W PF:1.0000 Freq:0Hz Lamp Flux:457.409x1 lm									
NAME:				TYPE:LED				WEIGHT:N/A	
SPEC.:N/A				DIM.:				SERIAL No.:N/A	
MFR.:				SUR.:				Shielding Angle:N/A	

pcc	80%			70%			50%			30%			10%			0
pw	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
pfc	20%			20%			20%			20%			20%			0
RCR	RCR:Room Cavity Ratio						Wall Exitance Coefficients(WEC)									
0.0																
1.0	.318	.181	.057	.311	.178	.056	.298	.171	.055	.285	.165	.053	.274	.159	.051	
2.0	.297	.163	.050	.291	.160	.049	.279	.155	.048	.268	.150	.047	.258	.146	.046	
3.0	.274	.146	.044	.268	.144	.043	.258	.140	.042	.248	.136	.042	.239	.132	.041	
4.0	.252	.131	.039	.247	.129	.038	.238	.126	.038	.229	.123	.037	.221	.120	.037	
5.0	.233	.119	.034	.229	.117	.034	.220	.115	.034	.213	.112	.033	.205	.110	.033	
6.0	.216	.108	.031	.212	.107	.031	.204	.105	.030	.198	.103	.030	.191	.101	.030	
7.0	.201	.099	.028	.197	.098	.028	.191	.096	.028	.184	.095	.028	.179	.093	.027	
8.0	.187	.091	.026	.184	.091	.026	.178	.089	.025	.173	.087	.025	.167	.086	.025	
9.0	.175	.085	.024	.173	.084	.024	.167	.083	.023	.162	.081	.023	.158	.080	.023	
10.0	.165	.079	.022	.162	.078	.022	.157	.077	.022	.153	.076	.022	.149	.075	.021	

pcc	80%			70%			50%			30%			10%			0
pw	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
pfc	20%			20%			20%			20%			20%			0
RCR	RCR:Room Cavity Ratio						Ceiling Cavity Exitance Coefficients(CCEC)									
0.0	.192	.192	.192	.164	.164	.164	.112	.112	.112	.064	.064	.064	.021	.021	.021	
1.0	.182	.157	.135	.156	.135	.116	.107	.093	.080	.061	.054	.047	.020	.017	.015	
2.0	.174	.133	.099	.149	.115	.085	.102	.079	.060	.059	.046	.035	.019	.015	.011	
3.0	.167	.116	.075	.143	.100	.065	.098	.069	.046	.057	.040	.027	.018	.013	.009	
4.0	.159	.102	.059	.136	.088	.051	.094	.062	.036	.054	.036	.021	.017	.012	.007	
5.0	.152	.092	.048	.130	.080	.042	.090	.056	.030	.052	.033	.018	.017	.011	.006	
6.0	.144	.084	.040	.124	.072	.035	.086	.051	.025	.050	.030	.015	.016	.010	.005	
7.0	.137	.077	.034	.118	.067	.030	.082	.047	.021	.047	.028	.013	.015	.009	.004	
8.0	.131	.071	.030	.113	.062	.026	.078	.043	.018	.045	.026	.011	.015	.008	.004	
9.0	.125	.066	.026	.108	.057	.023	.074	.040	.016	.043	.024	.010	.014	.008	.003	
10.0	.119	.062	.024	.103	.054	.021	.071	.038	.015	.042	.022	.009	.013	.007	.003	

C Range: 0 - 360DEG
 C Interval: 22.5DEG
 Test Speed: HIGH
 Temperature:24.9DEG
 Operators:Zero huang
 Test Date:2023-12-29

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-R5000_V2 SYSTEM V2.0.366
 Humidity:60%
 Test Distance:26.000m [K=1.5110]
 Remarks:

UGR(Unified Glare Rating) Table

Test:U:24.007V I:0.1558A P:3.7399W PF:1.0000 Freq:0Hz Lamp Flux:457.409x1 lm										
NAME:					TYPE:LED			WEIGHT:N/A		
SPEC.:N/A					DIM.:			SERIAL No.:N/A		
MFR.:					SUR.:			Shielding Angle:N/A		
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	30.4	31.9	30.6	32.1	32.3	30.6	32.2	30.9	32.4	32.6
3H	31.9	33.3	32.2	33.6	33.8	32.3	33.7	32.6	33.9	34.2
4H	32.5	33.9	32.9	34.1	34.4	32.9	34.3	33.3	34.5	34.8
6H	33.0	34.3	33.4	34.6	34.9	33.4	34.7	33.8	35.0	35.3
8H	33.2	34.5	33.6	34.7	35.0	33.6	34.9	34.0	35.2	35.4
12H	33.4	34.6	33.7	34.9	35.2	33.8	35.0	34.1	35.3	35.6
4H 2H	31.0	32.4	31.4	32.7	32.9	31.2	32.6	31.6	32.9	33.1
3H	32.8	34.0	33.1	34.3	34.6	33.1	34.3	33.4	34.6	34.9
4H	33.5	34.6	33.9	35.0	35.3	33.9	35.0	34.3	35.3	35.6
6H	34.2	35.2	34.6	35.5	35.9	34.6	35.5	35.0	35.9	36.3
8H	34.4	35.3	34.9	35.7	36.1	34.8	35.7	35.2	36.1	36.5
12H	34.7	35.5	35.1	35.9	36.3	35.0	35.8	35.4	36.2	36.6
8H 4H	33.9	34.8	34.3	35.2	35.6	34.2	35.1	34.6	35.5	35.9
6H	34.7	35.5	35.2	35.9	36.3	35.0	35.8	35.5	36.2	36.6
8H	35.1	35.8	35.6	36.2	36.6	35.4	36.1	35.9	36.5	37.0
12H	35.4	36.0	35.9	36.5	37.0	35.7	36.3	36.2	36.8	37.2
12H 4H	33.9	34.8	34.4	35.1	35.6	34.2	35.0	34.6	35.4	35.8
6H	34.8	35.5	35.3	35.9	36.4	35.1	35.8	35.6	36.2	36.7
8H	35.3	35.8	35.7	36.3	36.8	35.6	36.1	36.0	36.6	37.1
Variations with the observer position at spacings:										
S = 1.0H	+ 0.1 / - 0.2					+ 0.1 / - 0.2				
1.5H	+ 0.2 / - 0.3					+ 0.2 / - 0.3				
2.0H	+ 0.1 / - 0.4					+ 0.1 / - 0.3				

CIE Pub.117, 457.4 lm Total Lamp Luminous Flux Corrected ($8\log(F/F_0) = -2.7$)

C Range: 0 - 360DEG
 C Interval: 22.5DEG
 Test Speed: HIGH
 Temperature:24.9DEG
 Operators:Zero huang
 Test Date:2023-12-29

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-R5000_V2 SYSTEM V2.0.366
 Humidity:60%
 Test Distance:26.000m [K=1.5110]
 Remarks:

UTILIZATION FACTORS TABLE

Test:U:24.007V I:0.1558A P:3.7399W PF:1.0000 Freq:0Hz Lamp Flux:457.409x1 lm		
NAME:	TYPE:LED	WEIGHT:N/A
SPEC.:N/A	DIM.:	SERIAL No.:N/A
MFR.:	SUR.:	Shielding Angle:N/A

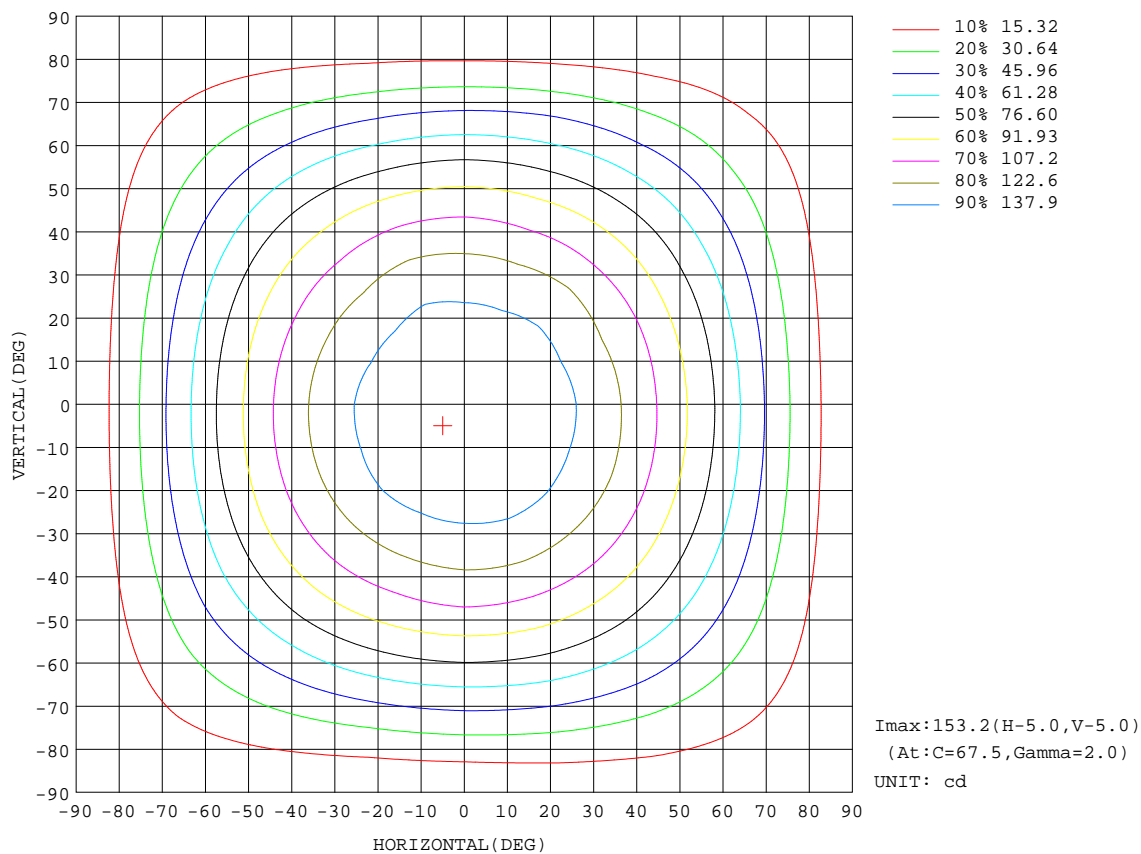
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS(PERCENT) $k(RI) \times RCR = 5$									
$k = 0.60$	57	45	38	56	45	38	55	44	38	31
0.80	67	55	48	66	55	47	64	54	47	40
1.00	75	64	56	74	63	56	72	65	56	48
1.25	82	72	64	81	71	64	78	69	63	56
1.50	87	77	70	86	76	70	83	75	69	61
2.00	94	86	79	92	84	78	89	82	77	69
2.50	98	90	84	96	89	83	92	86	81	73
3.00	102	95	89	100	93	88	95	90	86	77
4.00	106	100	95	103	98	94	99	95	91	82
5.00	108	103	99	106	101	97	101	98	94	85
ROOM INDEX	UF(total)									Direct
According to DIN EN 13032-2 2004			Suspended					SHRNOM = 1.25		

C Range: 0 - 360DEG
 C Interval: 22.5DEG
 Test Speed: HIGH
 Temperature:24.9DEG
 Operators:Zero huang
 Test Date:2023-12-29

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-R5000_V2 SYSTEM V2.0.366
 Humidity:60%
 Test Distance:26.000m [K=1.5110]
 Remarks:

ISOCANDELA DIAGRAM

Test:U:24.007V I:0.1558A P:3.7399W PF:1.0000 Freq:0Hz Lamp Flux:457.409x1 lm		
NAME:	TYPE:LED	WEIGHT:N/A
SPEC.:N/A	DIM.:	SERIAL No.:N/A
MFR.:	SUR.:	Shielding Angle:N/A

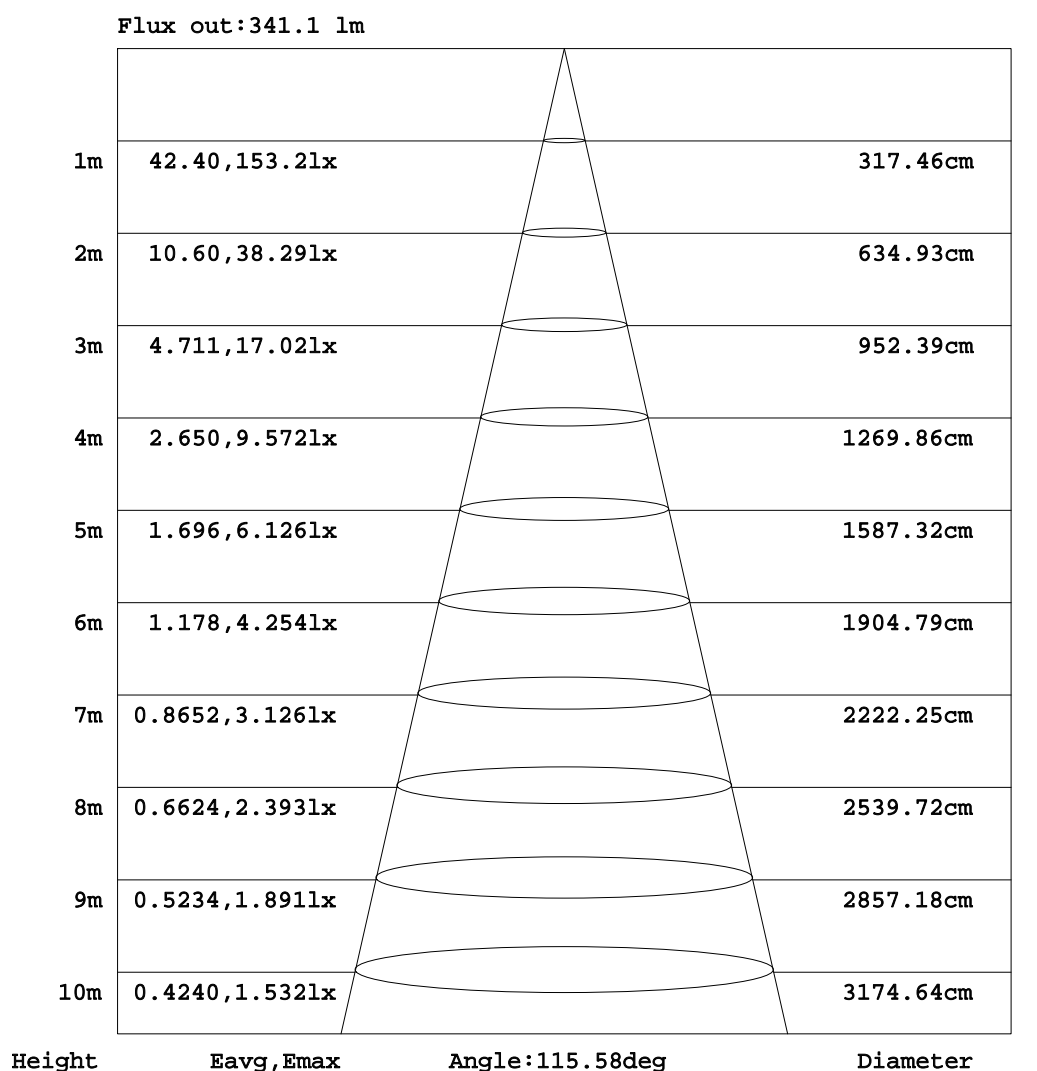


C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: HIGH
Temperature:24.9DEG
Operators:Zero huang
Test Date:2023-12-29

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
Test System:EVERFINE GO-R5000_V2 SYSTEM V2.0.366
Humidity:60%
Test Distance:26.000m [K=1.5110]
Remarks:

AAI Figure

Test:U:24.007V I:0.1558A P:3.7399W PF:1.0000 Freq:0Hz Lamp Flux:457.409x1 lm		
NAME:	TYPE:LED	WEIGHT:N/A
SPEC.:N/A	DIM.:	SERIAL No.:N/A
MFR.:	SUR.:	Shielding Angle:N/A

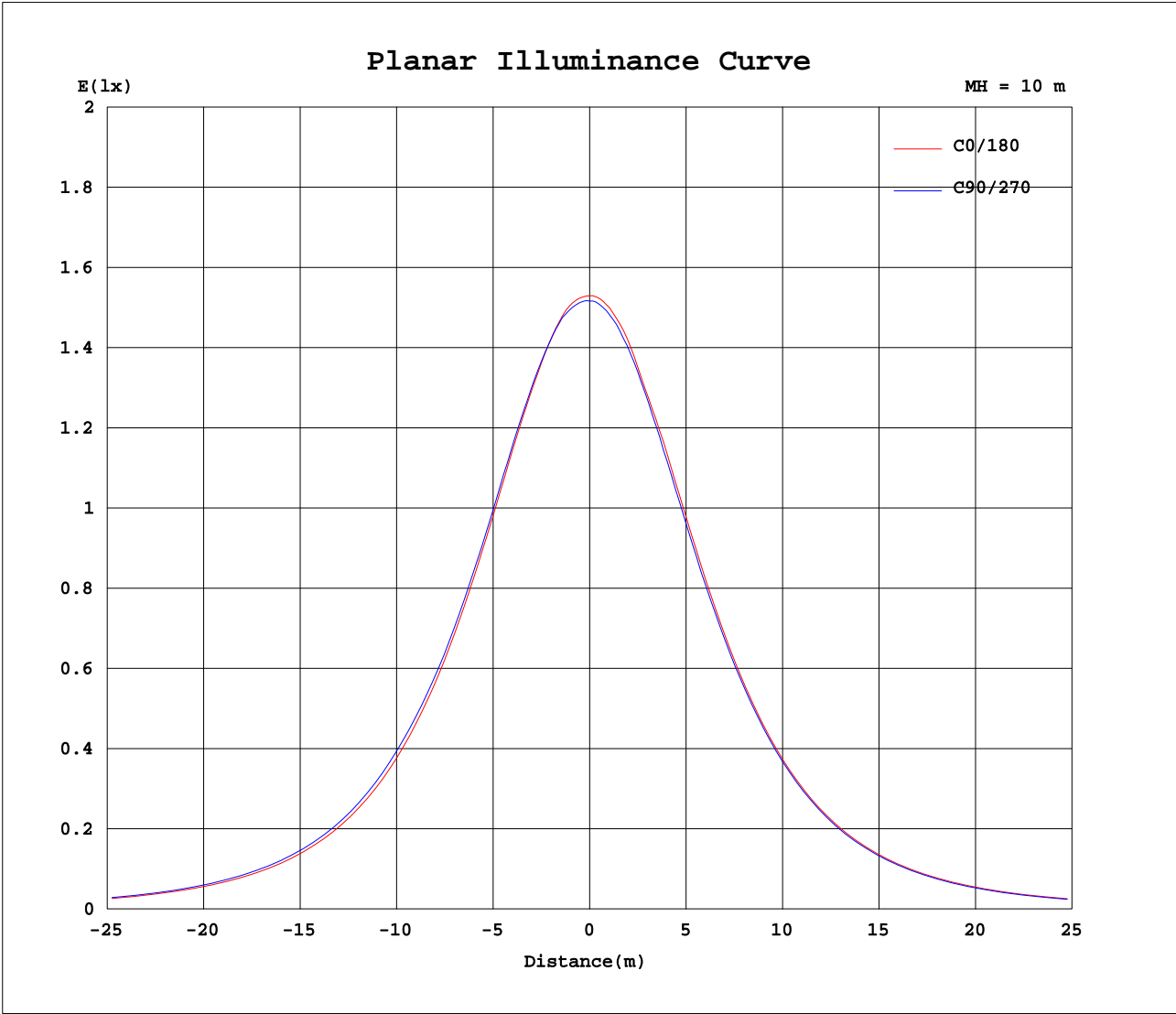


Note: The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG
 C Interval: 22.5DEG
 Test Speed: HIGH
 Temperature: 24.9DEG
 Operators: Zero huang
 Test Date: 2023-12-29

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System: EVERFINE GO-R5000_V2 SYSTEM V2.0.366
 Humidity: 60%
 Test Distance: 26.000m [K=1.5110]
 Remarks:

Planar Illuminance Curve



C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: HIGH
Temperature:24.9DEG
Operators:Zero huang
Test Date:2023-12-29

γ Range: 0 - 180DEG
γ Interval: 1.0DEG
Test System:EVERFINE GO-R5000_V2 SYSTEM V2.0.366
Humidity:60%
Test Distance:26.000m [K=1.5110]
Remarks:

LUMINOUS DISTRIBUTION INTENSITY DATA

Test:U:24.007V I:0.1558A P:3.7399W PF:1.0000 Freq:0Hz Lamp Flux:457.409x1 lm		
NAME:	TYPE:LED	WEIGHT:N/A
SPEC.:N/A	DIM.:	SERIAL No.:N/A
MFR.:	SUR.:	Shielding Angle:N/A

Table--1

UNIT: cd

C(DEG) γ (DEG)	0	22.5	45	67.5	90	112.5	135	157.5	180	202.5	225	247.5	270	292.5	315	337.5			
0	152	152	152	152	152	152	152	152	152	152	152	152	152	152	152	152			
5	152	152	152	153	153	152	153	153	152	152	151	151	152	151	152	152			
10	151	151	152	152	152	152	152	151	150	150	149	149	150	149	149	150			
15	148	149	149	151	150	149	149	148	147	147	146	147	147	146	146	147			
20	144	145	146	147	147	145	145	144	143	142	142	143	142	141	142	142			
25	139	140	141	142	142	140	140	139	138	137	136	138	137	136	137	137			
30	132	133	135	136	136	134	134	133	132	130	129	131	130	129	131	130			
35	124	126	128	129	128	127	126	125	124	123	121	124	123	122	123	122			
40	116	118	119	120	121	118	117	117	115	114	113	115	114	113	114	114			
45	106	109	110	111	112	109	108	107	105	104	103	104	105	102	102	104			
50	95.6	97.4	99.1	100	101	98.6	97.7	96.5	94.3	93.3	92.3	92.6	93.5	91.7	91.9	93.3			
55	83.9	85.8	87.4	89.1	89.3	87.8	86.5	84.9	82.4	81.1	80.3	80.3	81.3	80.1	80.1	81.3			
60	71.5	73.2	75.1	76.5	76.7	75.1	73.6	72.2	69.9	68.3	67.6	67.4	68.5	67.5	67.3	68.8			
65	58.5	60.1	62.0	63.4	63.1	61.5	59.8	59.2	56.6	55.0	54.5	53.8	54.8	54.5	54.0	55.4			
70	44.7	46.8	48.7	49.9	49.2	47.3	46.4	46.1	43.5	41.9	40.7	40.1	40.8	41.5	40.3	41.9			
75	31.8	33.5	35.4	36.1	35.2	33.3	33.4	33.4	31.2	29.6	28.1	27.1	27.1	26.9	27.2	28.6			
80	20.7	22.4	23.4	23.4	22.4	20.9	21.4	21.7	20.0	18.9	17.1	15.1	14.5	14.7	15.3	17.3			
85	11.6	12.9	13.7	13.0	11.2	10.5	11.2	11.8	10.5	9.72	8.43	6.43	4.85	5.37	6.75	8.54			
90	6.44	6.74	6.47	5.21	3.61	3.93	4.15	4.08	3.34	3.63	2.86	1.49	0.00	0.67	2.39	4.02			
95	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	0.00			
100	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	0.00			
105	0.00	0.00	0.00	0.18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00			
110	0.00	0.00	0.00	0.09	0.18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00			
115	0.00	0.00	0.00	0.09	0.27	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00			
120	0.00	0.00	0.00	0.09	0.27	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00			
125	0.00	0.00	0.00	0.09	0.27	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00			
130	0.00	0.00	0.00	0.00	0.18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00			
135	0.00	0.00	0.00	0.00	0.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00			
140	0.00	0.00	0.00	0.00	0.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00			
145	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	0.00			
150	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	0.00			
155	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	0.00			
160	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	0.00			
165	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	0.00			
170	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	0.00			
175	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	0.00			
180	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	0.00			

C Range: 0 - 360DEG
 C Interval: 22.5DEG
 Test Speed: HIGH
 Temperature:24.9DEG
 Operators:Zero huang
 Test Date:2023-12-29

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-R5000_V2 SYSTEM V2.0.366
 Humidity:60%
 Test Distance:26.000m [K=1.5110]
 Remarks: