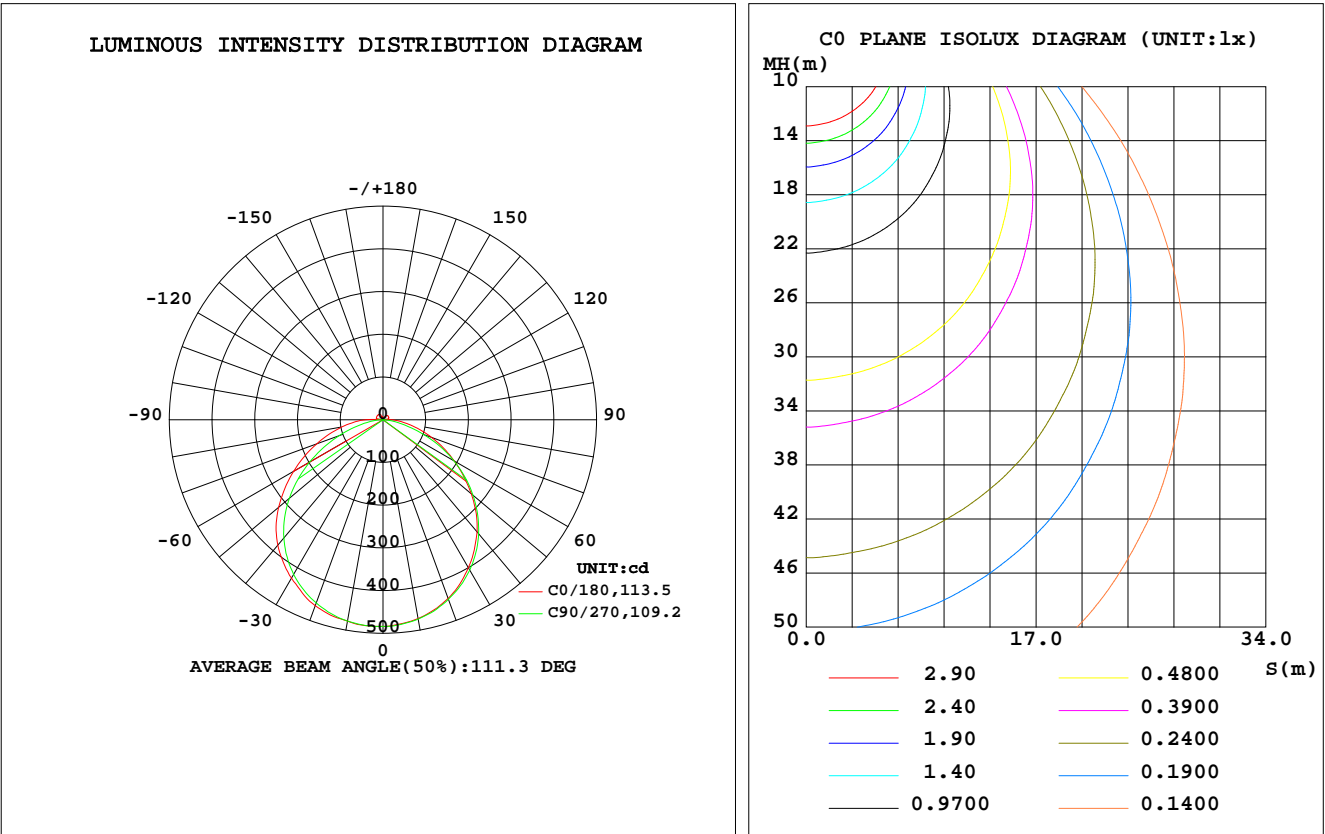


LUMINAIRE PHOTOMETRIC TEST REPORT

Test:U:24.002V I:0.5438A P:13.053W PF:1.0000 Freq:0Hz Lamp Flux:1456.89x1 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: 111.61 lm/W			
MODEL:W00100FF F1 1M IP67 21015138		Imax(cd)	484.0	S/MH(C0/180)	1.32
NOMINAL POWER(W)	13	LOR(%)	100.0	S/MH(C90/270)	1.28
RATED VOLTAGE(V)	24	TOTAL FLUX(lm)	1456.9	η UP,DN(C0-180)	1.6,47.3
NOMINAL FLUX(lm)	1456.89	CIE CLASS	DIRECT	η UP,DN(C180-360)	1.7,49.3
LAMPS INSIDE	1	η up(%)	3.4	CIBSE SHR NOM	1.25
TEST VOLTAGE(V)	24	η down(%)	96.6	CIBSE SHR MAX	1.35



C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: HIGH
Temperature:24.9DEG
Operators:Zero huang
Test Date:2023-12-18

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	472.4	474.8	474.2	479.3	478.7	479.6	478.5	474.3	0- 10	45.87	45.87	3.15,3.15
20	445.4	449.4	447.5	458.7	463.2	461.2	456.6	449.9	10- 20	132.1	178.0	12.2,12.2
30	399.7	406.9	406.3	422.3	428.4	427.0	418.3	411.1	20- 30	201.7	379.7	26.1,26.1
40	342.8	346.2	348.2	369.5	383.3	377.3	360.8	350.1	30- 40	244.3	624.0	42.8,42.8
50	270.1	272.1	275.2	302.2	318.8	310.7	286.4	273.6	40- 50	252.6	876.6	60.2,60.2
60	192.7	187.8	191.3	220.3	241.6	231.1	198.4	193.0	50- 60	223.5	1100	75.5,75.5
70	120.8	112.2	102.0	137.7	165.4	148.6	109.7	117.1	60- 70	166.3	1266	86.9,86.9
80	61.12	52.42	30.07	70.62	98.17	77.52	39.17	56.19	70- 80	98.41	1365	93.7,93.7
90	21.96	20.09	0.9819	27.63	41.48	32.29	3.894	18.96	80- 90	43.37	1408	96.6,96.6
100	6.877	8.264	0.1750	7.278	7.200	13.33	0.3519	10.11	90-100	6.998	1415	97.1,97.1
110	14.74	10.03	0.1750	10.19	16.27	12.64	0.9650	10.80	100-110	9.669	1425	97.8,97.8
120	14.99	10.20	0.1750	11.14	16.61	12.11	1.485	10.28	110-120	9.604	1434	98.5,98.5
130	14.99	9.417	0.6151	11.22	16.36	11.85	1.838	8.906	120-130	8.518	1443	99,99
140	12.87	6.806	1.044	11.22	15.84	11.24	1.839	5.739	130-140	6.522	1449	99.5,99.5
150	8.448	1.152	1.313	1.201	14.14	9.028	2.100	0.6873	140-150	4.574	1454	99.8,99.8
160	0.8532	1.740	1.400	6.511	0.8549	8.191	2.100	1.199	150-160	1.795	1456	99.9,99.9
170	1.022	1.482	2.270	3.942	4.596	4.352	2.712	1.456	160-170	0.9045	1457	100,100
180	1.276	1.309	2.538	1.199	0.8519	0.6784	1.663	1.284	170-180	0.2250	1457	100,100
DEG	LUMINOUS INTENSITY:cd									UNIT:lm		

Conical surface Flux(90deg): 751.62 lm

%lum = 51.6%

%lamp = 51.6%

Conical surface Flux(120deg): 1100.1 lm

%lum = 75.5%

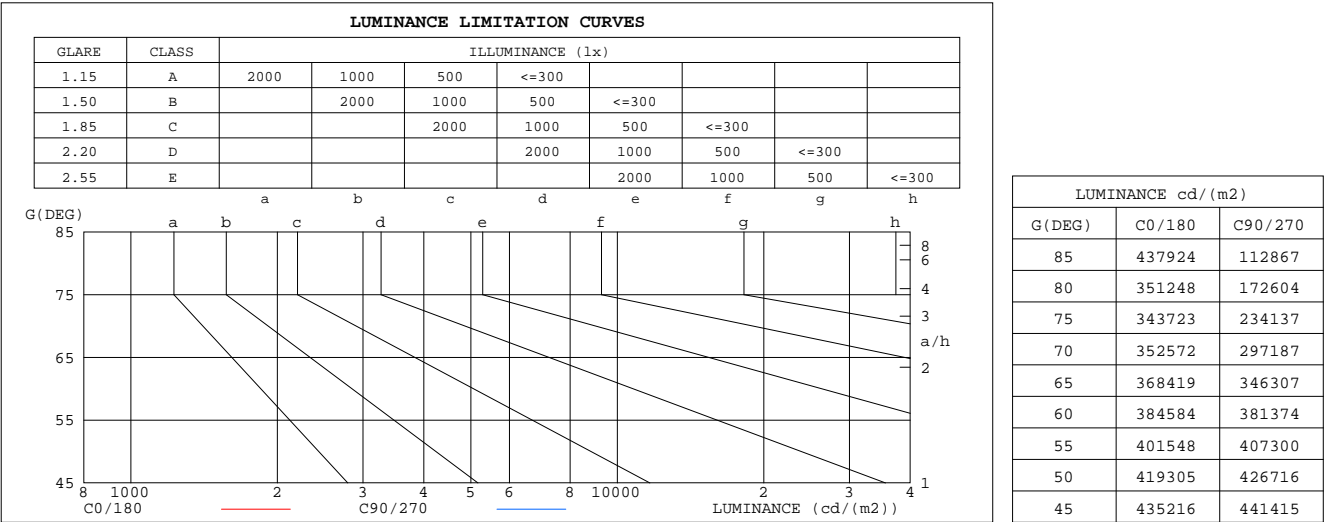
%lamp = 75.5%

C Range: 0 - 360DEG
 C Interval: 22.5DEG
 Test Speed: HIGH
 Temperature:24.9DEG
 Operators:Zero huang
 Test Date:2023-12-18

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:24.002V I:0.5438A P:13.053W PF:1.0000 Freq:0Hz Lamp Flux:1456.89x1 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:2023-12-18

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:24.002V I:0.5438A P:13.053W PF:1.0000 Freq:0Hz Lamp Flux:1456.89x1 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	.319	.181	.057	.311	.177	.056	.295	.169	.054	.281	.162	.052	.269	.156	.050	
2.0	.295	.162	.050	.288	.158	.049	.274	.152	.047	.262	.147	.046	.250	.141	.045	
3.0	.271	.144	.043	.265	.142	.043	.253	.137	.042	.241	.132	.041	.231	.128	.040	
4.0	.249	.130	.038	.244	.128	.038	.233	.124	.037	.223	.120	.036	.214	.116	.035	
5.0	.230	.117	.034	.225	.116	.034	.215	.112	.033	.207	.109	.032	.198	.106	.032	
6.0	.213	.107	.031	.209	.105	.030	.200	.103	.030	.192	.100	.029	.185	.097	.029	
7.0	.198	.098	.028	.194	.097	.028	.187	.094	.027	.179	.092	.027	.172	.090	.026	
8.0	.185	.090	.025	.181	.089	.025	.175	.087	.025	.168	.085	.025	.162	.083	.024	
9.0	.173	.084	.023	.170	.083	.023	.164	.081	.023	.158	.079	.023	.152	.077	.022	
10.0	.163	.078	.022	.160	.077	.022	.154	.076	.021	.149	.074	.021	.144	.072	.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	.216	.216	.216	.185	.185	.185	.126	.126	.126	.072	.072	.072	.023	.023	.023	
1.0	.207	.182	.159	.177	.156	.137	.121	.107	.095	.070	.062	.055	.022	.020	.018	
2.0	.199	.158	.124	.170	.136	.107	.117	.094	.074	.067	.055	.044	.022	.018	.014	
3.0	.191	.140	.100	.164	.121	.087	.112	.084	.061	.065	.049	.036	.021	.016	.012	
4.0	.183	.127	.084	.157	.110	.073	.108	.077	.052	.062	.045	.031	.020	.015	.010	
5.0	.176	.117	.073	.151	.101	.064	.104	.071	.045	.060	.041	.027	.019	.014	.009	
6.0	.168	.109	.066	.145	.094	.057	.100	.066	.040	.058	.039	.024	.019	.013	.008	
7.0	.162	.102	.060	.139	.088	.052	.096	.062	.037	.056	.036	.022	.018	.012	.007	
8.0	.155	.096	.055	.134	.083	.048	.092	.058	.034	.054	.034	.020	.017	.011	.007	
9.0	.149	.091	.052	.128	.079	.045	.089	.056	.032	.052	.033	.019	.017	.011	.006	
10.0	.143	.087	.049	.124	.075	.043	.086	.053	.030	.050	.031	.018	.016	.010	.006	

C Range: 0 - 360DEG
 C Interval: 22.5DEG
 Test Speed: HIGH
 Temperature:24.9DEG
 Operators:Zero huang
 Test Date:2023-12-18

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:24.002V I:0.5438A P:13.053W PF:1.0000 Freq:0Hz Lamp Flux:1456.89x1 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		33.2	34.6	33.5	34.9	35.2	33.3	34.7	33.6	35.0	35.3
	3H	34.6	36.0	35.0	36.3	36.6	34.4	35.8	34.8	36.1	36.4
	4H	35.2	36.5	35.6	36.9	37.2	34.8	36.1	35.2	36.4	36.7
	6H	35.8	37.0	36.2	37.3	37.7	35.0	36.2	35.4	36.5	36.9
	8H	36.0	37.2	36.4	37.6	37.9	35.0	36.2	35.4	36.5	36.9
	12H	36.3	37.4	36.7	37.8	38.1	35.0	36.1	35.4	36.5	36.9
4H	2H	33.7	35.0	34.0	35.3	35.6	33.7	35.0	34.1	35.4	35.7
	3H	35.3	36.4	35.7	36.8	37.2	35.1	36.3	35.5	36.6	37.0
	4H	36.1	37.1	36.5	37.5	37.9	35.6	36.7	36.0	37.0	37.4
	6H	36.8	37.7	37.2	38.1	38.6	35.9	36.9	36.4	37.3	37.7
	8H	37.1	38.0	37.6	38.4	38.9	36.0	36.9	36.5	37.3	37.8
	12H	37.4	38.2	37.9	38.7	39.2	36.0	36.8	36.5	37.3	37.8
8H	4H	36.3	37.2	36.8	37.6	38.1	35.9	36.7	36.3	37.2	37.6
	6H	37.2	37.9	37.7	38.4	38.9	36.4	37.1	36.9	37.5	38.0
	8H	37.6	38.3	38.2	38.8	39.3	36.6	37.2	37.1	37.7	38.2
	12H	38.1	38.7	38.7	39.2	39.7	36.7	37.2	37.2	37.7	38.3
12H	4H	36.3	37.1	36.8	37.5	38.0	35.9	36.7	36.4	37.1	37.6
	6H	37.3	37.9	37.8	38.4	38.9	36.5	37.1	37.0	37.6	38.1
	8H	37.8	38.3	38.3	38.8	39.4	36.7	37.3	37.2	37.8	38.3
Variations with the observer position at spacings:											
S = 1.0H	+ 0.2 / - 0.2					+ 0.2 / - 0.3					
1.5H	+ 0.2 / - 0.3					+ 0.2 / - 0.4					
2.0H	+ 0.2 / - 0.2					+ 0.3 / - 0.3					

CIE Pub.117, 1457 lm Total Lamp Luminous Flux Corrected ($8\log(F/F_0) = 1.3$)

C Range: 0 - 360DEG
 C Interval: 22.5DEG
 Test Speed: HIGH
 Temperature:24.9DEG
 Operators:Zero huang
 Test Date:2023-12-18

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:24.002V I:0.5438A P:13.053W PF:1.0000 Freq:0Hz Lamp Flux:1456.89x1 lm		
NAME:	TYPE:LED	WEIGHT:N/A
SPEC.:N/A	DIM.:	SERIAL No.:N/A
MFR.:	SUR.:	Shielding Angle:N/A

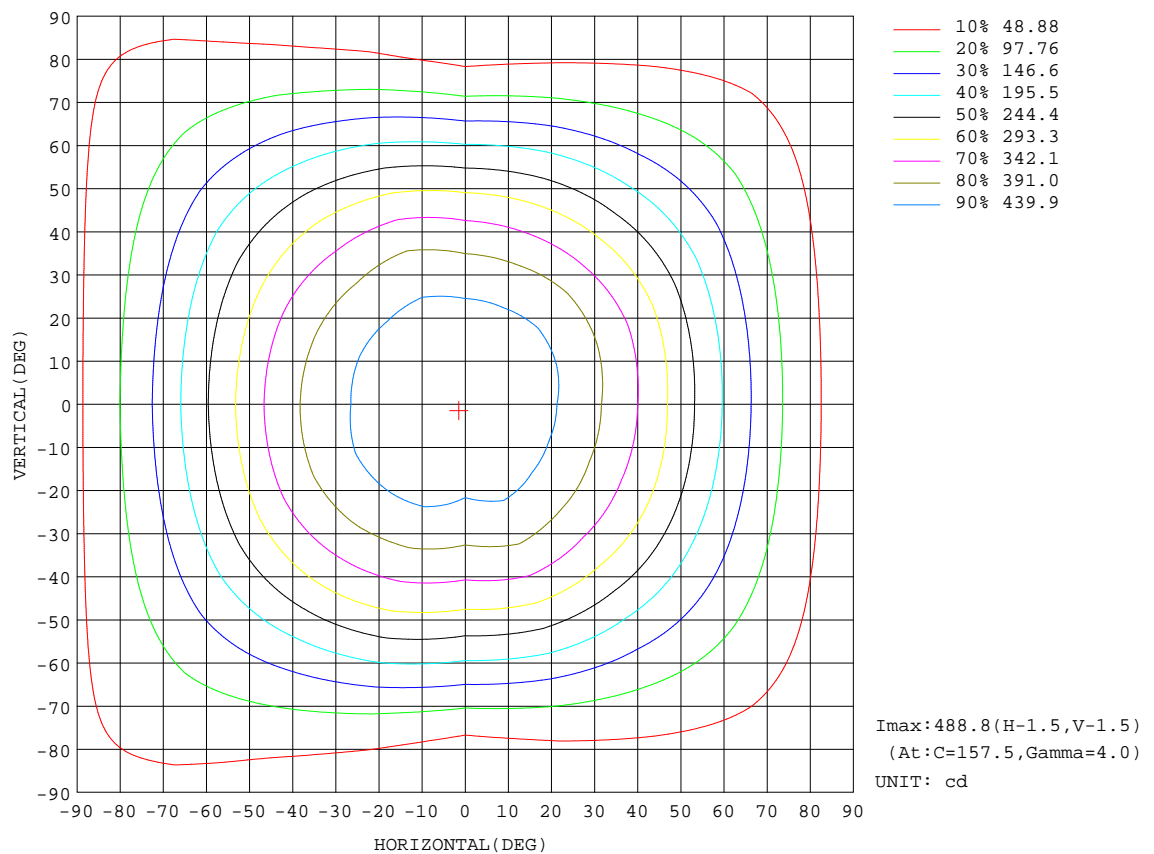
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS(PERCENT) $k(RI) \times RCR = 5$									
$k = 0.60$	56	45	38	56	44	38	54	44	37	31
0.80	66	55	47	65	54	47	63	53	46	39
1.00	75	63	56	73	63	56	71	64	55	48
1.25	82	71	64	80	70	63	77	68	62	55
1.50	87	77	69	85	76	69	81	73	67	59
2.00	94	85	78	91	83	77	87	81	75	67
2.50	97	89	83	95	88	82	91	85	80	71
3.00	101	94	88	98	92	87	94	88	84	75
4.00	105	99	94	102	97	92	97	93	89	79
5.00	107	102	98	105	100	96	99	96	93	82
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:2023-12-18

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:24.002V I:0.5438A P:13.053W PF:1.0000 Freq:0Hz Lamp Flux:1456.89x1 lm		
NAME:	TYPE:LED	WEIGHT:N/A
SPEC.:N/A	DIM.:	SERIAL No.:N/A
MFR.:	SUR.:	Shielding Angle:N/A

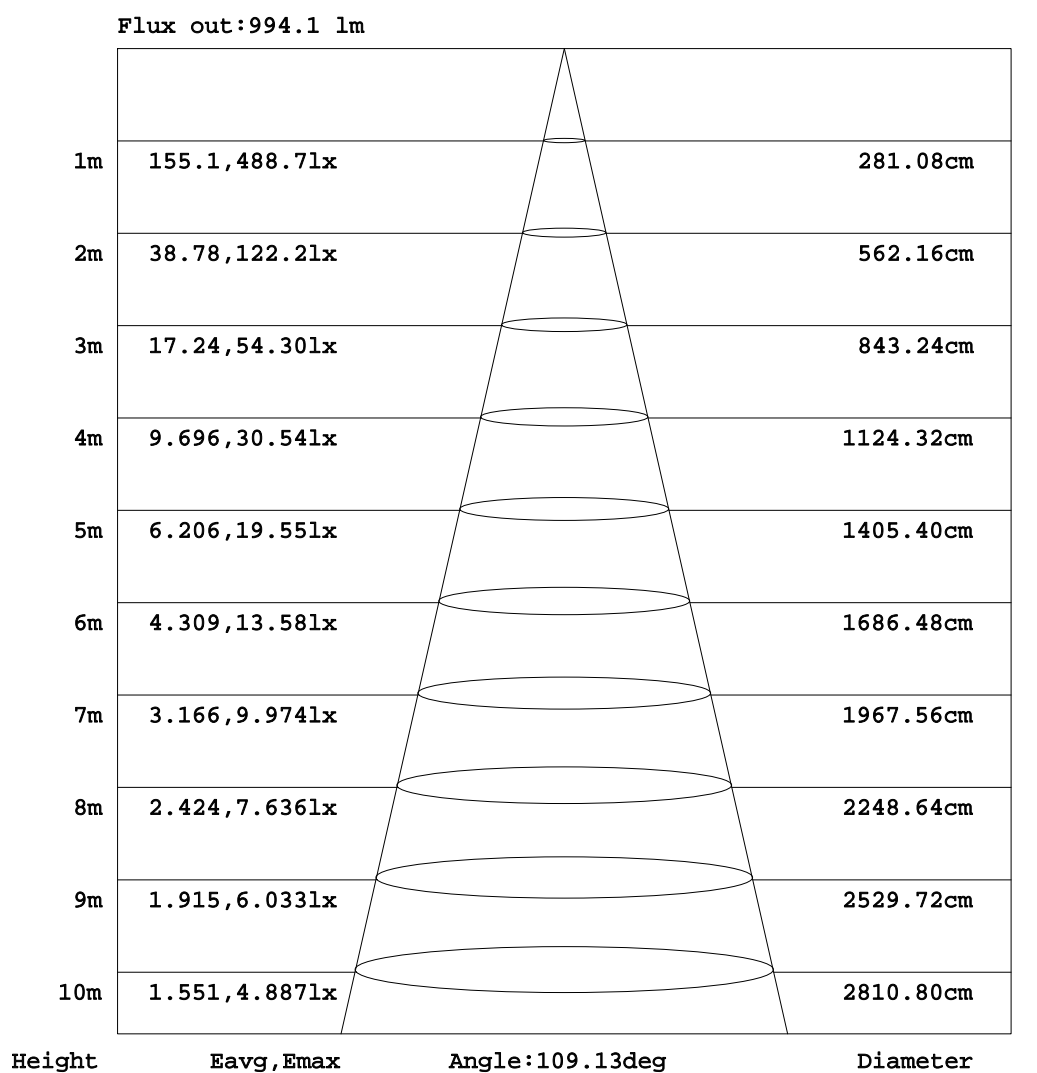


C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: HIGH
Temperature:24.9DEG
Operators:Zero huang
Test Date:2023-12-18

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:24.002V I:0.5438A P:13.053W PF:1.0000 Freq:0Hz Lamp Flux:1456.89x1 lm		
NAME:	TYPE:LED	WEIGHT:N/A
SPEC.:N/A	DIM.:	SERIAL No.:N/A
MFR.:	SUR.:	Shielding Angle:N/A

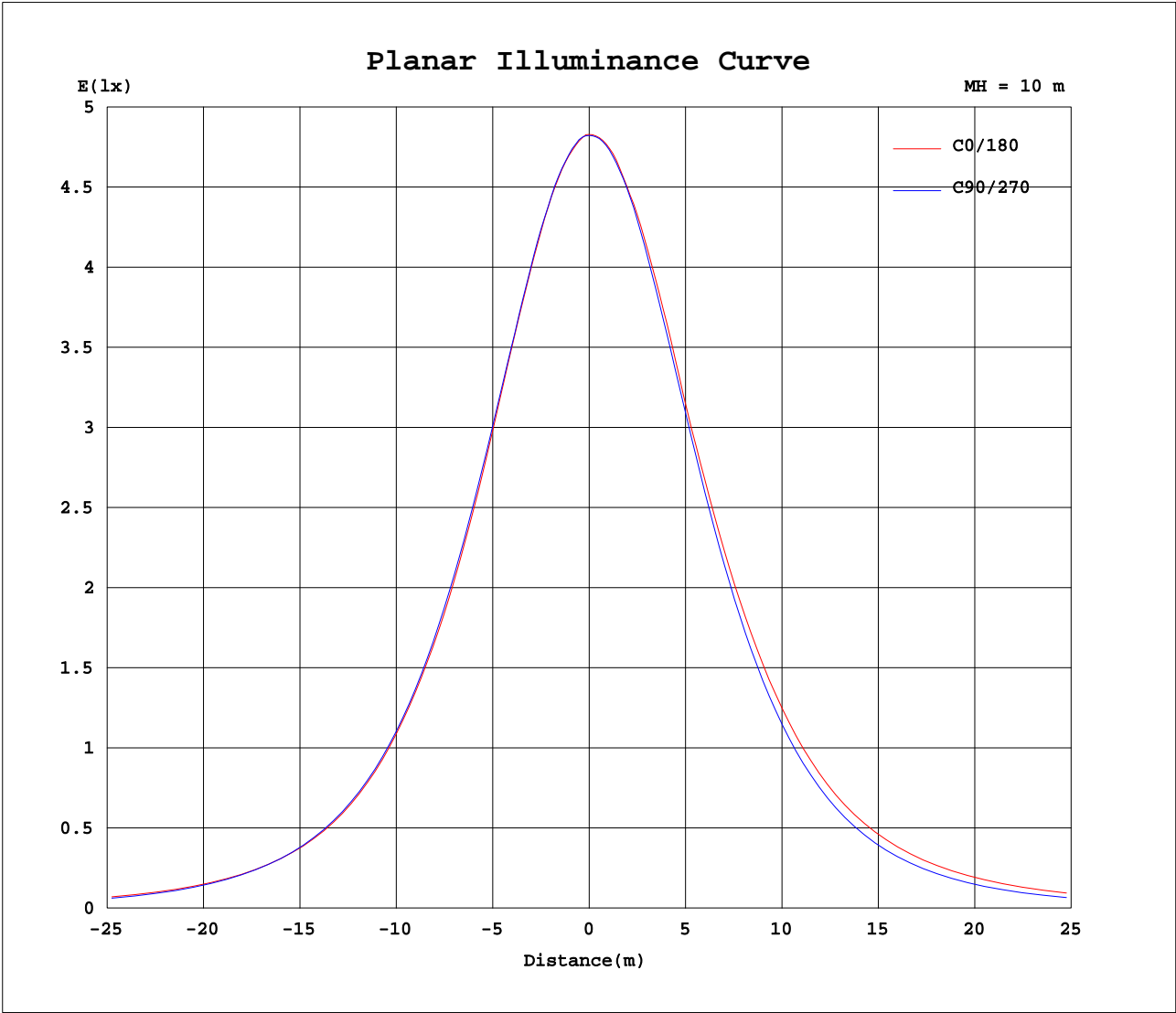


Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG
 C Interval: 22.5DEG
 Test Speed: HIGH
 Temperature:24.9DEG
 Operators:Zero huang
 Test Date:2023-12-18

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:2023-12-18

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:24.002V I:0.5438A P:13.053W PF:1.0000 Freq:0Hz Lamp Flux:1456.89x1 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	484	484	484	484	484	484	484	484	484	484	484	484	484	484	484	484			
5	479	481	482	482	481	483	484	484	484	483	483	483	483	482	481	481			
10	472	473	475	476	474	479	479	482	479	480	480	479	478	476	474	474			
15	461	460	464	467	463	471	471	474	474	474	473	472	470	466	464	463			
20	445	445	449	455	448	459	459	462	463	464	461	461	457	454	450	448			
25	425	424	431	437	429	442	443	446	447	448	447	446	439	436	433	429			
30	400	400	407	416	406	420	422	427	428	428	427	428	418	414	411	406			
35	372	372	379	389	379	394	394	406	407	407	404	407	392	386	384	379			
40	343	342	346	357	348	364	370	380	383	380	377	378	361	354	350	348			
45	308	308	311	320	313	331	337	349	354	352	345	343	326	319	313	313			
50	270	273	272	280	275	295	302	314	319	316	311	303	286	282	274	276			
55	231	230	230	238	234	256	263	275	280	278	273	262	243	241	233	237			
60	193	189	188	194	191	212	220	235	242	241	231	218	198	199	193	197			
65	156	153	149	150	147	166	177	195	203	202	189	174	153	156	154	160			
70	121	118	112	109	102	123	138	157	165	163	149	131	110	116	117	124			
75	89.1	87.1	79.4	72.2	60.8	84.4	102	121	130	124	110	92.4	70.4	78.1	84.1	91.1			
80	61.1	59.4	52.4	44.0	30.1	53.3	70.6	88.6	98.2	91.8	77.5	60.0	39.2	48.8	56.2	62.5			
85	38.2	37.1	31.4	24.2	9.87	31.3	45.3	61.5	68.3	63.3	50.7	36.2	17.8	28.0	33.7	39.2			
90	22.0	22.9	20.1	14.1	0.98	17.8	27.6	37.0	41.5	39.8	32.3	20.4	3.89	13.0	19.0	23.1			
95	0.92	0.52	0.70	0.45	0.27	0.79	1.03	1.05	0.26	0.26	0.26	0.38	0.26	0.72	0.28	0.17			
100	6.88	7.43	8.26	2.46	0.18	2.44	7.28	12.5	7.20	11.0	13.3	4.33	0.35	4.53	10.1	9.94			
105	14.0	12.7	9.67	4.22	0.18	4.27	9.51	13.9	16.3	15.5	12.6	6.85	0.61	4.53	10.9	14.1			
110	14.7	13.7	10.03	4.39	0.18	4.79	10.2	14.3	16.3	15.5	12.6	5.97	0.96	4.19	10.8	14.2			
115	15.0	14.2	10.1	4.39	0.18	5.14	11.0	15.1	16.6	15.5	12.6	5.62	1.14	3.66	11.0	14.2			
120	15.0	14.4	10.2	3.87	0.18	5.49	11.1	15.5	16.6	15.5	12.1	5.18	1.49	3.14	10.3	14.2			
125	15.1	14.4	10.02	3.34	0.44	5.58	11.2	15.6	16.6	15.4	11.8	4.83	1.49	2.61	9.76	13.7			
130	15.0	14.1	9.42	2.81	0.62	5.58	11.2	15.6	16.4	15.1	11.9	4.10	1.84	1.91	8.91	12.8			
135	14.1	12.9	8.28	1.23	0.79	2.70	11.2	15.6	16.3	15.1	11.4	0.88	1.84	0.61	7.70	11.6			
140	12.9	11.7	6.81	1.14	1.04	4.45	11.2	15.6	15.8	14.7	11.2	4.75	1.84	1.05	5.74	10.2			
145	11.0	9.60	5.06	1.32	1.14	4.45	10.7	15.3	15.3	14.1	11.1	4.57	2.19	1.22	3.34	8.07			
150	8.45	7.13	1.15	1.57	1.31	4.45	1.20	14.1	14.1	13.5	9.03	4.57	2.10	1.22	0.69	5.22			
155	5.04	3.05	0.79	1.58	1.40	4.53	6.46	4.52	12.9	12.4	0.96	4.57	2.10	1.22	1.29	0.86			
160	0.85	0.94	1.74	1.23	1.40	3.32	6.51	5.28	0.85	0.95	8.19	4.57	2.10	1.83	1.20	1.46			
165	1.02	1.37	1.83	1.49	1.49	3.14	5.14	6.88	6.64	6.58	6.88	4.38	2.63	2.53	1.20	1.20			
170	1.02	1.37	1.48	1.58	2.27	3.23	3.94	4.91	4.60	4.70	4.35	3.16	2.71	2.53	1.46	1.29			
175	1.02	1.37	1.57	1.67	2.54	1.40	3.26	3.61	2.90	2.74	2.70	2.71	1.66	2.53	1.46	1.38			
180	1.28	1.29	1.31	1.67	2.54	1.39	1.20	1.12	0.85	0.49	0.68	1.23	1.66	2.53	1.28	1.20			

C Range: 0 - 360DEG
 C Interval: 22.5DEG
 Test Speed: HIGH
 Temperature:24.9DEG
 Operators:Zero huang
 Test Date:2023-12-18

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: