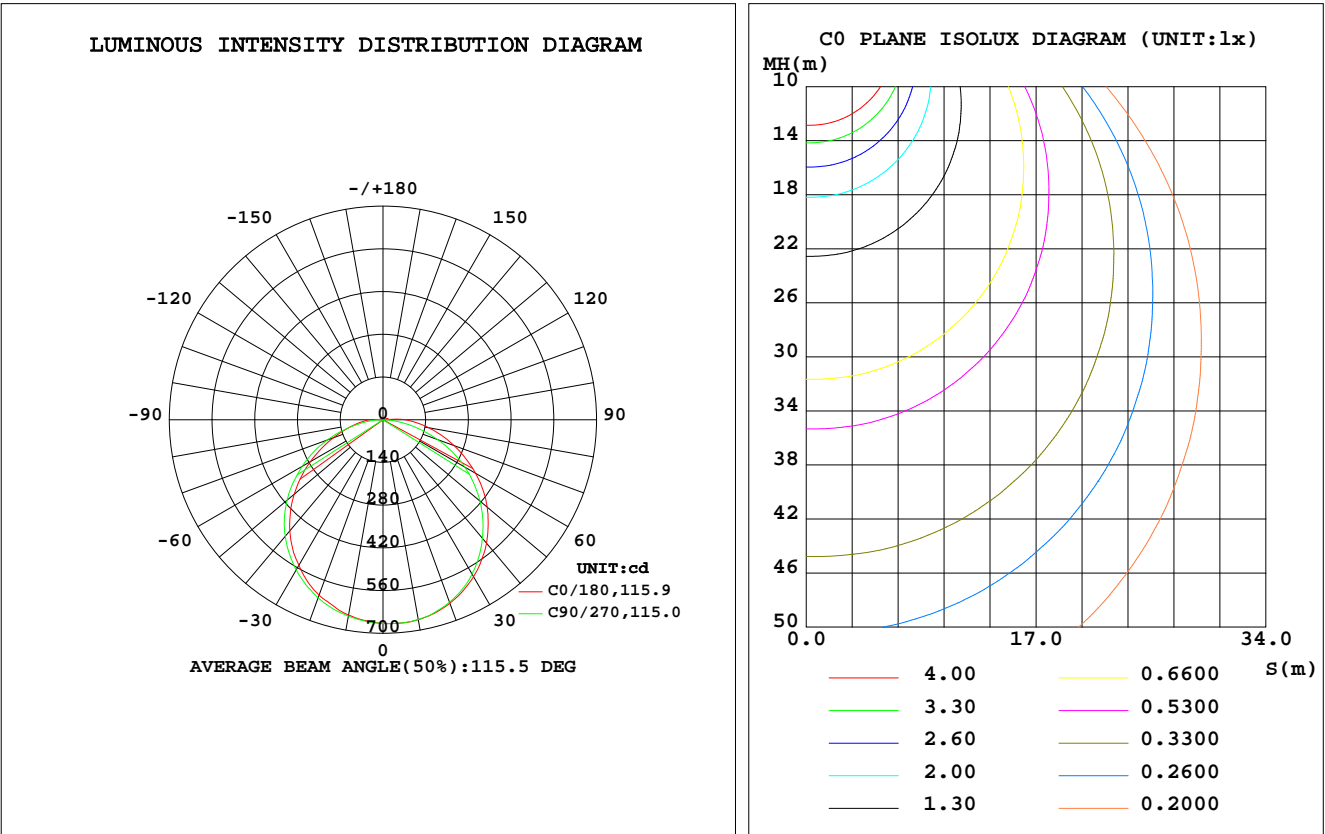


LUMINAIRE PHOTOMETRIC TEST REPORT

Test:U:24.007V I:0.7757A P:18.623W PF:1.0000 Freq:0Hz Lamp Flux:2039.5lx1 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: 109.51 lm/W			
MODEL	1M IP20 21015112	Imax(cd)	669.2	S/MH(C0/180)	1.24
NOMINAL POWER(W)	17.5	LOR(%)	100.0	S/MH(C90/270)	1.27
RATED VOLTAGE(V)	24	TOTAL FLUX(lm)	2039.5	η UP,DN(C0-180)	0.4,50.1
NOMINAL FLUX(lm)	2039.51	CIE CLASS	DIRECT	η UP,DN(C180-360)	0.4,49.1
LAMPS INSIDE	1	η up(%)	0.8	CIBSE SHR NOM	1.25
TEST VOLTAGE(V)	24	η down(%)	99.2	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	665.3	662.5	664.6	651.4	650.0	652.7	653.5	661.9	0- 10	63.24	63.24	3.1,3.1
20	640.4	636.2	636.6	615.1	612.5	616.6	621.1	638.0	10- 20	181.9	245.1	12,12
30	594.0	591.3	584.0	553.3	550.8	561.9	568.7	590.2	20- 30	277.8	522.9	25.6,25.6
40	528.0	524.6	506.6	480.3	475.2	487.4	498.3	510.3	30- 40	338.4	861.2	42.2,42.2
50	445.8	438.4	415.1	388.9	380.2	396.6	410.1	430.3	40- 50	355.0	1216	59.6,59.6
60	349.7	336.6	309.2	281.3	274.4	289.9	305.8	329.1	50- 60	324.8	1541	75.6,75.6
70	248.1	228.7	190.8	170.5	173.3	178.4	194.3	217.6	60- 70	252.6	1794	87.9,87.9
80	152.6	130.2	76.89	77.43	94.47	91.37	81.87	115.4	70- 80	157.8	1951	95.7,95.7
90	72.39	50.78	5.421	22.41	44.67	39.15	9.600	43.43	80- 90	72.31	2024	99.2,99.2
100	5.711	7.142	0.0887	0.8984	0.6254	5.506	0.7128	0.5974	90-100	10.15	2034	99.7,99.7
110	4.240	0.6123	0.0887	0.1855	1.609	1.082	1.739	0.4834	100-110	3.005	2037	99.9,99.9
120	0.2578	0.2614	0.0887	0.0856	0.4309	0.8578	2.040	0.4342	110-120	0.6435	2038	99.9,99.9
130	0.2578	0.2614	0.0887	0.0856	0.4324	0.6334	2.040	0.4530	120-130	0.4496	2038	99.9,99.9
140	0.2578	0.2614	0.4406	0.2537	0.6304	0.6970	2.040	0.5659	130-140	0.4262	2038	99.9,99.9
150	0.2578	0.2614	0.7222	0.2564	0.8595	0.6970	2.040	0.8574	140-150	0.4087	2039	100,100
160	0.2578	0.3492	1.198	0.3227	1.119	0.6970	1.794	1.218	150-160	0.3500	2039	100,100
170	0.4313	0.6077	2.660	0.5154	1.118	0.6970	1.626	1.309	160-170	0.2668	2039	100,100
180	0.6016	1.132	2.927	0.7707	1.031	0.7850	1.508	1.285	170-180	0.1108	2040	100,100
DEG	LUMINOUS INTENSITY:cd									UNIT:lm		

Conical surface Flux(90deg): 1039.5 lm

%lum = 51.0%

%lamp = 51.0%

Conical surface Flux(120deg): 1541.1 lm

%lum = 75.6%

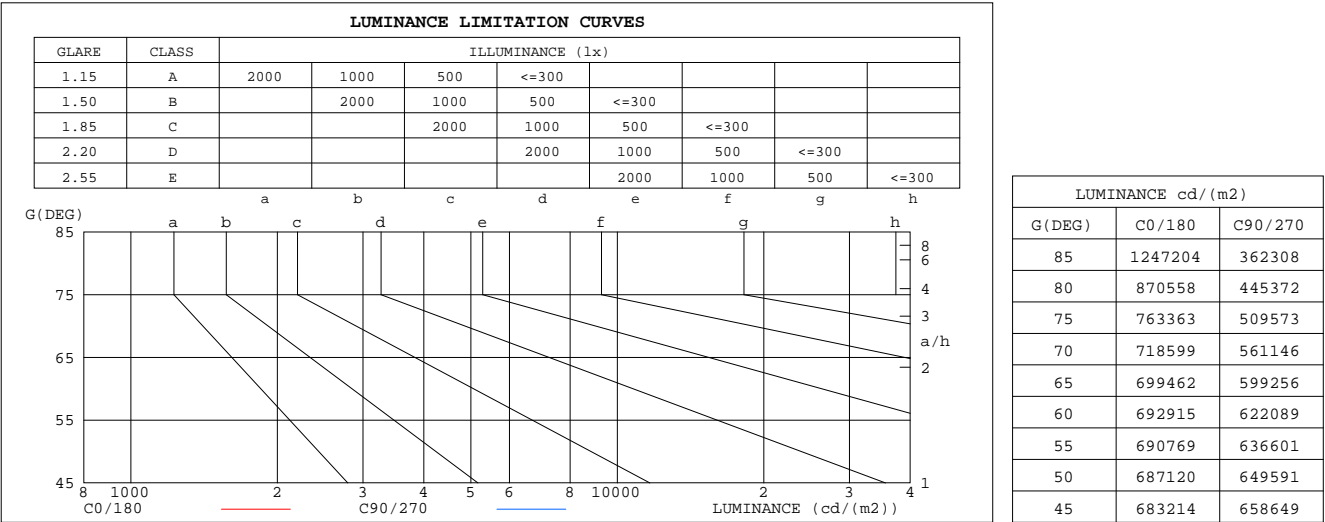
%lamp = 75.6%

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:24.007V I:0.7757A P:18.623W PF:1.0000 Freq:0Hz Lamp Flux:2039.51x1 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:24.007V I:0.7757A P:18.623W PF:1.0000 Freq:0Hz Lamp Flux:2039.51x1 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	.332	.189	.060	.324	.185	.059	.310	.178	.057	.298	.172	.055	.286	.166	.053	
2.0	.304	.167	.051	.298	.164	.051	.286	.159	.049	.274	.154	.048	.264	.149	.047	
3.0	.279	.148	.044	.273	.146	.044	.262	.142	.043	.252	.138	.042	.243	.134	.042	
4.0	.255	.133	.039	.250	.131	.039	.241	.128	.038	.232	.124	.038	.223	.121	.037	
5.0	.235	.120	.035	.230	.118	.034	.222	.116	.034	.214	.113	.034	.207	.110	.033	
6.0	.217	.109	.031	.213	.108	.031	.206	.105	.031	.198	.103	.030	.192	.101	.030	
7.0	.202	.100	.028	.198	.099	.028	.191	.097	.028	.185	.095	.028	.179	.093	.027	
8.0	.188	.092	.026	.185	.091	.026	.179	.089	.025	.173	.088	.025	.168	.086	.025	
9.0	.176	.085	.024	.173	.084	.024	.168	.083	.023	.162	.081	.023	.158	.080	.023	
10.0	.165	.079	.022	.163	.079	.022	.158	.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	.196	.196	.196	.168	.168	.168	.115	.115	.115	.066	.066	.066	.021	.021	.021	
1.0	.188	.162	.139	.161	.139	.119	.110	.096	.082	.063	.055	.048	.020	.018	.016	
2.0	.180	.138	.102	.154	.119	.089	.106	.082	.062	.061	.048	.036	.020	.015	.012	
3.0	.172	.120	.079	.148	.104	.069	.101	.072	.048	.059	.042	.028	.019	.014	.009	
4.0	.164	.107	.063	.141	.093	.055	.097	.065	.039	.056	.038	.023	.018	.012	.008	
5.0	.157	.097	.053	.135	.084	.046	.093	.059	.032	.054	.034	.019	.017	.011	.006	
6.0	.150	.089	.045	.129	.077	.039	.089	.054	.028	.051	.032	.016	.017	.010	.005	
7.0	.143	.082	.039	.123	.071	.034	.085	.050	.024	.049	.029	.014	.016	.010	.005	
8.0	.136	.076	.035	.117	.066	.030	.081	.046	.021	.047	.027	.013	.015	.009	.004	
9.0	.130	.071	.031	.112	.062	.027	.078	.043	.019	.045	.026	.011	.015	.008	.004	
10.0	.124	.067	.028	.107	.058	.025	.074	.041	.018	.043	.024	.011	.014	.008	.003	

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:24.007V I:0.7757A P:18.623W PF:1.0000 Freq:0Hz Lamp Flux:2039.5lx1 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		35.8	37.3	36.1	37.6	37.8	35.5	37.0	35.7	37.2	37.5
	3H	37.7	39.1	38.0	39.3	39.6	37.0	38.4	37.3	38.7	38.9
	4H	38.6	39.9	38.9	40.2	40.5	37.6	39.0	37.9	39.2	39.5
	6H	39.5	40.8	39.8	41.0	41.3	38.0	39.3	38.4	39.6	39.9
	8H	39.9	41.2	40.3	41.5	41.8	38.1	39.4	38.5	39.7	40.0
	12H	40.4	41.6	40.7	41.9	42.2	38.2	39.4	38.6	39.7	40.0
4H	2H	36.4	37.8	36.8	38.1	38.3	36.2	37.5	36.5	37.8	38.1
	3H	38.5	39.7	38.9	40.0	40.4	37.9	39.1	38.3	39.5	39.8
	4H	39.6	40.7	40.0	41.0	41.4	38.7	39.8	39.1	40.1	40.5
	6H	40.7	41.7	41.1	42.0	42.4	39.3	40.3	39.7	40.6	41.0
	8H	41.2	42.1	41.6	42.5	42.9	39.5	40.4	39.9	40.8	41.2
	12H	41.8	42.6	42.2	43.0	43.5	39.6	40.4	40.0	40.8	41.3
8H	4H	39.9	40.8	40.4	41.2	41.6	39.2	40.1	39.6	40.5	40.9
	6H	41.2	42.0	41.7	42.4	42.9	40.0	40.7	40.4	41.2	41.6
	8H	42.0	42.6	42.4	43.1	43.5	40.3	41.0	40.8	41.4	41.9
	12H	42.7	43.3	43.2	43.8	44.3	40.6	41.2	41.1	41.6	42.1
12H	4H	40.0	40.8	40.4	41.2	41.6	39.2	40.1	39.7	40.5	40.9
	6H	41.4	42.0	41.8	42.5	42.9	40.2	40.8	40.6	41.3	41.8
	8H	42.1	42.7	42.6	43.2	43.7	40.6	41.2	41.1	41.6	42.1
Variations with the observer position at spacings:											
S = 1.0H	+ 0.1 / - 0.1					+ 0.1 / - 0.2					
1.5H	+ 0.2 / - 0.3					+ 0.2 / - 0.3					
2.0H	+ 0.1 / - 0.3					+ 0.2 / - 0.4					

CIE Pub.117, 2040 lm Total Lamp Luminous Flux Corrected ($8\log(F/F_0) = 2.5$)

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:

UTILIZATION FACTORS TABLE

Test:U:24.007V I:0.7757A P:18.623W PF:1.0000 Freq:0Hz Lamp Flux:2039.5lx1 lm		
NAME:	TYPE:LED	WEIGHT:N/A
SPEC.:N/A	DIM.:	SERIAL No.:N/A
MFR.:	SUR.:	Shielding Angle:N/A

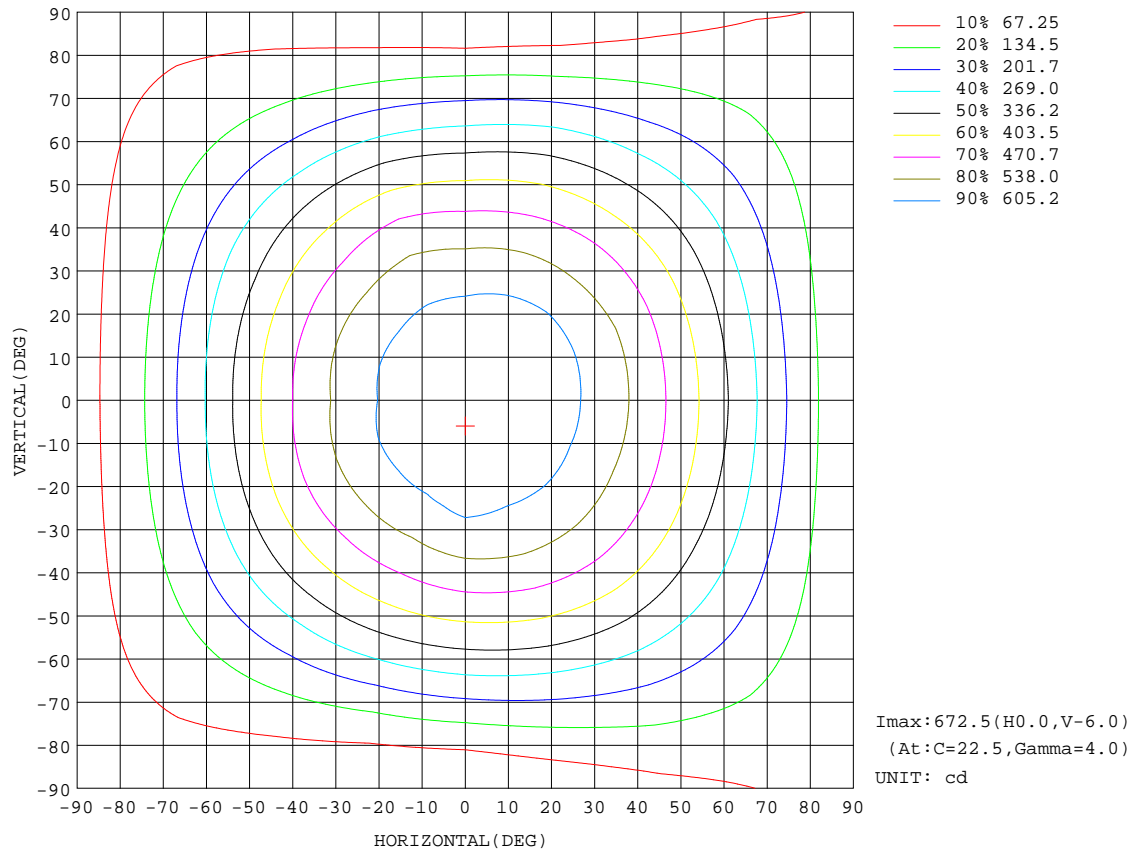
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS(PERCENT) $k(RI) \times RCR = 5$									
$k = 0.60$	56	44	37	55	44	37	54	44	37	30
0.80	66	54	47	65	54	46	63	53	46	39
1.00	74	63	55	73	62	55	71	64	55	47
1.25	81	71	63	80	70	63	77	68	62	54
1.50	86	76	69	85	75	68	82	73	67	59
2.00	93	84	78	92	83	77	88	81	75	67
2.50	97	89	83	95	88	82	91	85	80	71
3.00	101	94	88	99	92	87	94	89	84	75
4.00	105	99	94	103	97	92	98	94	90	80
5.00	108	102	98	105	100	96	100	96	93	84
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:24.007V I:0.7757A P:18.623W PF:1.0000 Freq:0Hz Lamp Flux:2039.5lx1 lm		
NAME:	TYPE:LED	WEIGHT:N/A
SPEC.:N/A	DIM.:	SERIAL No.:N/A
MFR.:	SUR.:	Shielding Angle:N/A

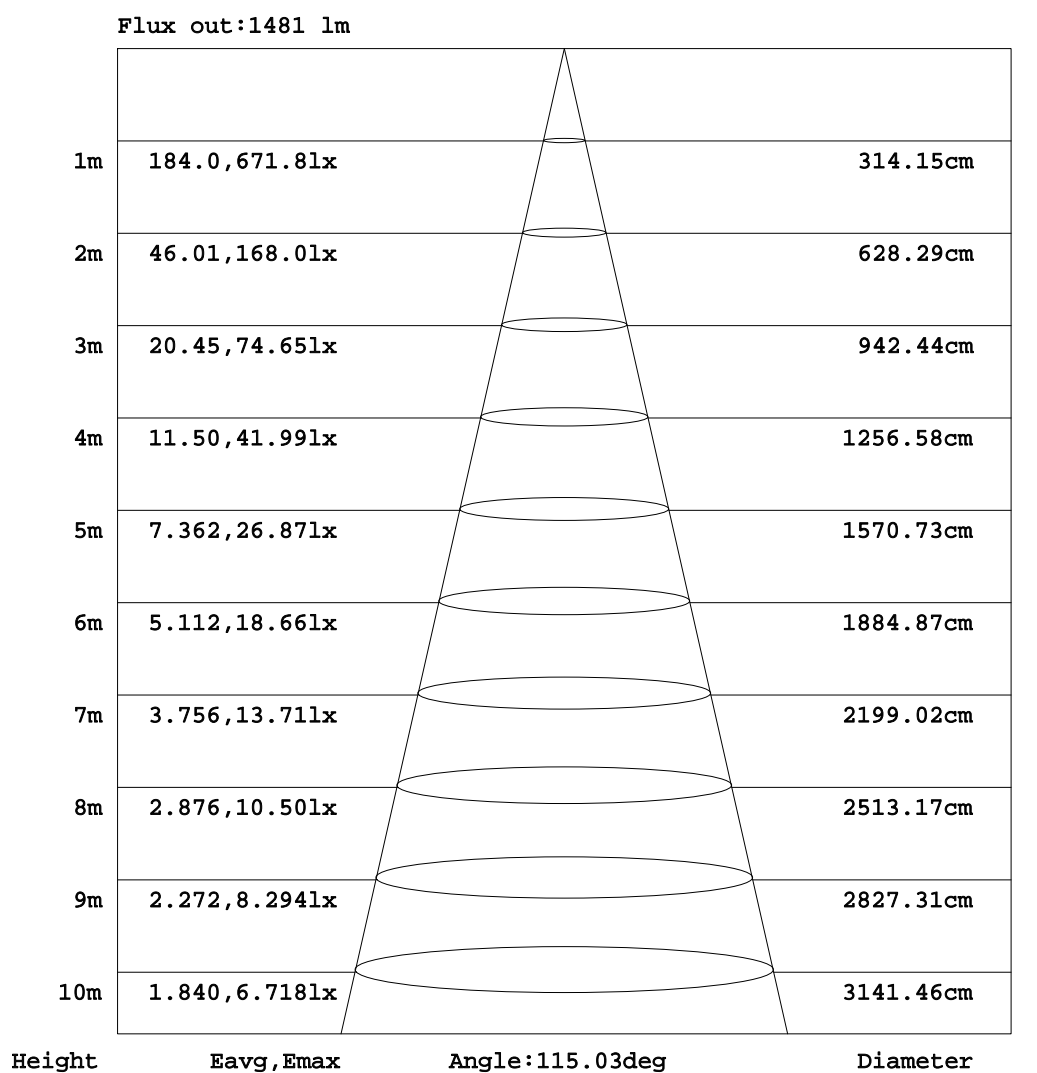


C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: HIGH
Temperature:24.9DEG
Operators:Zero huang
Test Date:2023-12-18

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:24.007V I:0.7757A P:18.623W PF:1.0000 Freq:0Hz Lamp Flux:2039.5lx1 lm		
NAME:	TYPE:LED	WEIGHT:N/A
SPEC.:N/A	DIM.:	SERIAL No.:N/A
MFR.:	SUR.:	Shielding Angle:N/A

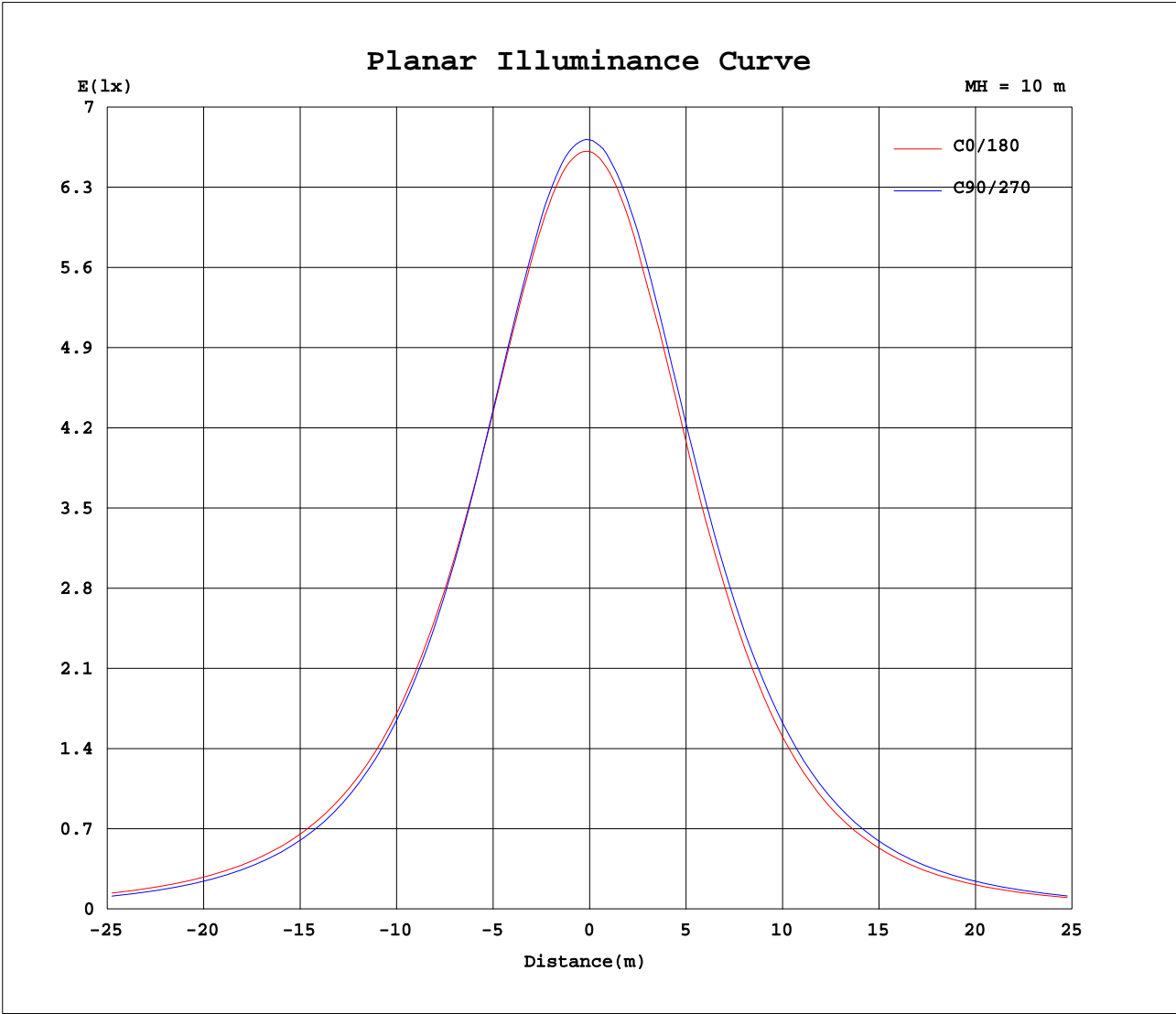


Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

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:24.007V I:0.7757A P:18.623W PF:1.0000 Freq:0Hz Lamp Flux:2039.51x1 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(°)	0	22.5	45	67.5	90	112.5	135	157.5	180	202.5	225	247.5	270	292.5	315	337.5			
γ (°)	0	668	668	668	668	668	668	668	668	668	668	668	668	668	668	668			
5	669	669	668	667	669	664	662	662	661	661	663	663	663	666	666	667			
10	665	661	663	660	665	653	651	652	650	651	653	654	653	661	662	662			
15	656	651	651	647	654	640	635	635	631	634	637	640	640	649	653	651			
20	640	636	636	630	637	620	615	613	613	614	617	621	621	631	638	637			
25	620	613	615	611	614	593	589	586	585	587	591	599	597	609	617	615			
30	594	589	591	588	584	563	553	555	551	555	562	571	569	581	590	590			
35	563	558	561	558	548	529	521	518	516	519	527	542	535	547	557	559			
40	528	522	525	521	507	489	480	478	475	478	487	508	498	510	510	523			
45	488	485	485	478	463	447	437	434	429	432	443	464	457	469	476	482			
50	446	448	438	431	415	401	389	384	380	384	397	413	410	424	430	438			
55	400	395	390	380	363	350	338	331	328	331	345	359	359	376	380	391			
60	350	340	337	326	309	294	281	277	274	282	290	303	306	323	329	339			
65	298	290	282	268	252	234	224	224	222	230	233	246	252	269	274	287			
70	248	240	229	211	191	173	171	174	173	175	178	188	194	208	218	235			
75	199	192	178	154	131	119	122	128	130	130	130	132	136	148	163	185			
80	153	147	130	104	76.9	69.8	77.4	88.9	94.5	95.8	91.4	85.3	81.9	93.2	115	139			
85	110	105	87.1	60.0	31.4	31.0	44.1	59.2	66.3	68.2	62.1	50.0	39.0	49.6	73.8	97.9			
90	72.4	67.7	50.8	27.9	5.42	9.46	22.4	36.7	44.7	46.4	39.1	25.8	9.60	21.8	43.4	62.7			
95	0.81	0.76	0.44	0.27	0.18	0.18	0.17	0.35	0.43	0.51	0.36	0.27	0.53	0.42	0.17	0.34			
100	5.71	13.9	7.14	0.56	0.09	0.09	0.90	0.50	0.63	8.25	5.51	1.21	0.71	0.26	0.60	3.36			
105	11.0	7.48	2.44	0.35	0.09	0.09	0.26	1.36	6.66	6.85	3.48	0.95	1.24	0.24	0.54	3.61			
110	4.24	2.07	0.61	0.35	0.09	0.09	0.19	1.29	1.61	1.54	1.08	0.90	1.74	0.35	0.48	1.79			
115	0.78	0.43	0.41	0.35	0.09	0.09	0.09	0.34	0.43	0.52	0.97	0.89	1.95	0.42	0.44	0.99			
120	0.26	0.30	0.26	0.35	0.09	0.09	0.09	0.26	0.43	0.54	0.86	0.89	2.04	0.46	0.43	0.72			
125	0.26	0.26	0.26	0.35	0.09	0.25	0.09	0.26	0.43	0.55	0.75	0.99	2.04	0.53	0.43	0.45			
130	0.26	0.26	0.26	0.35	0.09	0.34	0.09	0.26	0.43	0.57	0.63	1.24	2.04	0.69	0.45	0.30			
135	0.26	0.26	0.26	0.35	0.09	0.35	0.25	0.26	0.49	0.58	0.66	1.24	2.04	0.87	0.51	0.41			
140	0.26	0.26	0.26	0.35	0.44	0.35	0.25	0.26	0.63	0.60	0.70	1.24	2.04	0.92	0.57	0.54			
145	0.26	0.26	0.26	0.35	0.62	0.35	0.26	0.26	0.79	0.60	0.70	1.24	2.04	1.09	0.77	0.70			
150	0.26	0.26	0.26	0.40	0.72	0.35	0.26	0.26	0.86	0.60	0.70	1.24	2.04	1.39	0.86	0.71			
155	0.26	0.26	0.26	0.48	0.96	0.40	0.29	0.26	1.05	0.60	0.70	1.24	2.04	1.55	1.03	0.72			
160	0.26	0.26	0.35	0.64	1.20	0.53	0.32	0.26	1.12	0.60	0.70	1.24	1.79	2.17	1.22	0.73			
165	0.43	0.36	0.55	1.05	1.50	0.78	0.34	0.31	1.12	0.60	0.70	1.24	1.71	2.57	1.26	0.75			
170	0.43	0.53	0.61	1.33	2.66	0.88	0.52	0.43	1.12	0.60	0.70	1.24	1.63	2.69	1.31	0.76			
175	0.53	0.58	1.05	1.48	2.89	1.15	0.77	0.49	1.12	0.60	0.70	1.24	1.54	2.81	1.35	0.77			
180	0.60	0.60	1.13	1.50	2.93	1.13	0.77	0.52	1.03	0.60	0.79	1.24	1.51	2.86	1.28	0.77			

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: