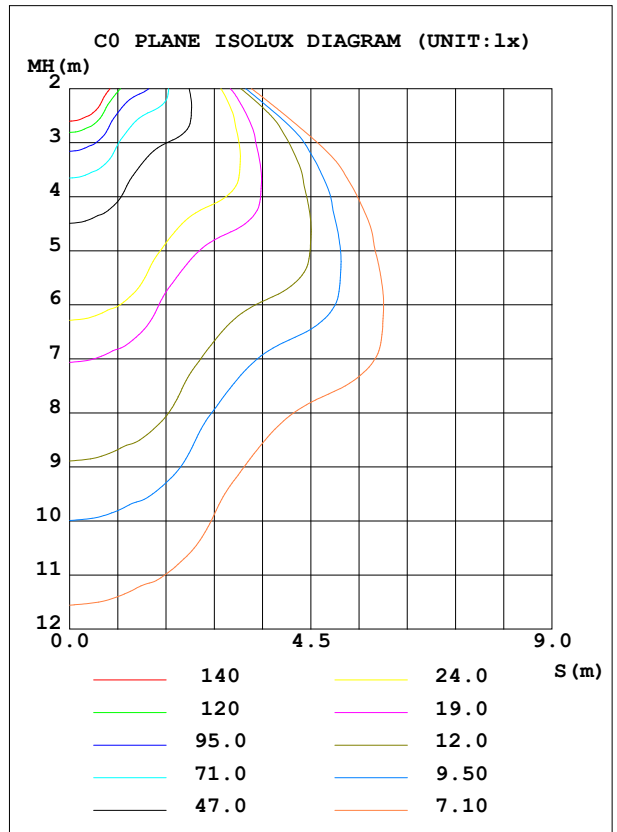
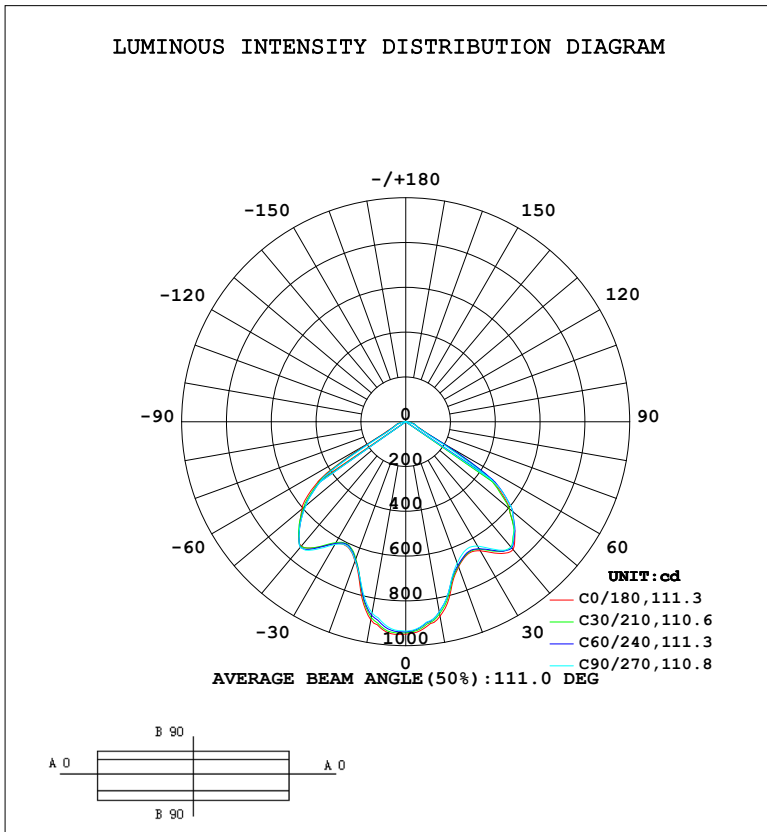


LUMINAIRE PHOTOMETRIC TEST REPORT

Test:U:220.16V I:0.1638A P:20.540W PF:0.5694 Freq:50.00Hz		
Lamp Flux:2060.48x1 lm		
NAME: HYO-240R-20W 6000K	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:	

DATA OF LAMP		PHOTOMETRIC DATA Eff: 100.32 lm/W			
MODEL		Imax (cd)	950.2	S/MH (C0/180)	0.89
NOMINAL POWER (W)		LOR (%)	100.0	S/MH (C90/270)	0.90
RATED VOLTAGE (V)	--	TOTAL FLUX (lm)	2060.5	η UP, DN (C0-180)	0.0, 50.5
NOMINAL FLUX (lm)	2060.48	CIE CLASS	DIRECT	η UP, DN (C180-360)	0.0, 49.5
LAMPS INSIDE	1	η up (%)	0.0	CIBSE SHR NOM	1.25
TEST VOLTAGE (V)	--	η down (%)	100.0	CIBSE SHR MAX	1.35



C Range: 0 - 360DEG
 C Interval: 15.0DEG
 Test Speed: 10.0deg/s
 Temperature: 25.3°C
 Operators: DAMIN
 Test Date: 2023-08-15

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
 Test System: EVERFINE GO-3000H_V1 SYSTEM V2.00.463
 Humidity: 65.0%
 Test Distance: 9.000m [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
10	881.7	866.1	862.9	871.7	898.4	881.5	866.9	861.1	0- 10	86.12	86.12	4.18,4.18
20	690.1	684.5	672.2	656.8	662.1	649.6	660.0	660.0	10- 20	213.4	299.5	14.5,14.5
30	665.5	655.7	641.5	627.0	628.7	624.5	633.1	645.4	20- 30	292.2	591.7	28.7,28.7
40	745.5	735.8	731.9	722.7	725.2	728.6	732.6	728.8	30- 40	435.0	1027	49.8,49.8
50	602.8	623.5	623.7	603.2	603.4	578.4	581.4	581.1	40- 50	517.5	1544	74.9,74.9
60	180.4	188.3	119.1	193.2	187.1	150.2	114.1	170.3	50- 60	397.4	1942	94.2,94.2
70	48.61	48.30	47.53	48.10	51.34	48.97	46.51	47.99	60- 70	74.36	2016	97.8,97.8
80	23.96	20.58	17.37	20.42	25.23	19.94	15.58	18.28	70- 80	36.73	2053	99.6,99.6
90	0.5714	0.5425	0.4798	0.5357	0.5820	0.5839	0.4808	0.5608	80- 90	7.879	2060	100,100
100									90-100			
110									100-110			
120									110-120			
130									120-130			
140									130-140			
150									140-150			
160									150-160			
170									160-170			
180									170-180			
DEG	LUMINOUS INTENSITY:cd									UNIT:lm		

Conical surface Flux(90deg): 1287.3 lm

%lum = 62.5%

%lamp = 62.5%

Conical surface Flux(120deg): 1941.5 lm

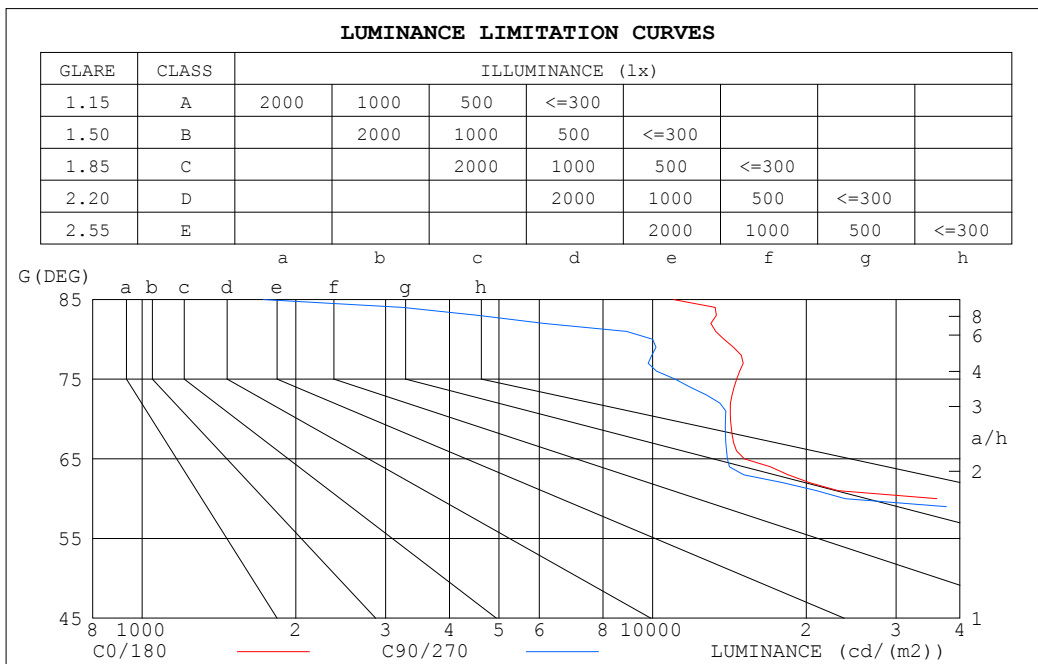
%lum = 94.2%

%lamp = 94.2%

C Range: 0 - 360DEG
 C Interval: 15.0DEG
 Test Speed: 10.0deg/s
 Temperature:25.3°C
 Operators:DAMIN
 Test Date:2023-08-15

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-3000H_V1 SYSTEM V2.00.463
 Humidity:65.0%
 Test Distance:9.000m [K=1.0000]
 Remarks:

LUMINANCE LIMITATION CURVES



LUMINANCE cd/(m2)		
G (DEG)	C0/180	C90/270
85	10999	1729
80	13800	10005
75	14610	11064
70	14213	13897
65	15133	14014
60	36071	23828
55	85151	87744
50	93772	97031
45	97304	96864

C Range: 0 - 360DEG
 C Interval: 15.0DEG
 Test Speed: 10.0deg/s
 Temperature: 25.3°C
 Operators: DAMIN
 Test Date: 2023-08-15

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
 Test System: EVERFINE GO-3000H_V1 SYSTEM V2.00.463
 Humidity: 65.0%
 Test Distance: 9.000m [K=1.0000]
 Remarks:

WEC AND CCEC

ρ_{cc}	80%			70%			50%			30%			10%			0
ρ_w	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
ρ_{fc}	20%			20%			20%			20%			20%			0
RCR	RCR:Room Cavity Ratio						Wall Exitance Coefficients(WEC)									
0.0																
1.0	.252	.143	.045	.245	.140	.044	.232	.133	.043	.220	.127	.041	.209	.121	.039	
2.0	.248	.136	.042	.242	.133	.041	.230	.128	.040	.220	.123	.039	.210	.119	.037	
3.0	.237	.126	.038	.231	.124	.037	.221	.120	.036	.212	.116	.036	.204	.113	.035	
4.0	.224	.116	.034	.219	.115	.034	.211	.112	.033	.202	.109	.033	.195	.106	.032	
5.0	.211	.108	.031	.207	.106	.031	.199	.104	.031	.192	.101	.030	.185	.099	.030	
6.0	.199	.100	.029	.195	.099	.028	.188	.097	.028	.182	.095	.028	.176	.093	.027	
7.0	.188	.093	.026	.184	.092	.026	.178	.090	.026	.172	.088	.026	.167	.087	.025	
8.0	.177	.086	.024	.174	.086	.024	.168	.084	.024	.163	.083	.024	.158	.081	.024	
9.0	.167	.081	.023	.164	.080	.022	.159	.079	.022	.155	.077	.022	.150	.076	.022	
10.0	.158	.076	.021	.156	.075	.021	.151	.074	.021	.147	.073	.021	.143	.072	.021	

ρ_{cc}	80%			70%			50%			30%			10%			0
ρ_w	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
ρ_{fc}	20%			20%			20%			20%			20%			0
RCR	RCR:Room Cavity Ratio						Ceiling Cavity Exitance Coefficients(CCEC)									
0.0	.190	.190	.190	.163	.163	.163	.111	.111	.111	.064	.064	.064	.020	.020	.020	
1.0	.176	.157	.139	.151	.134	.120	.103	.092	.083	.059	.054	.048	.019	.017	.016	
2.0	.166	.132	.103	.142	.114	.089	.098	.079	.062	.056	.046	.037	.018	.015	.012	
3.0	.158	.114	.079	.136	.098	.069	.093	.068	.048	.054	.040	.028	.017	.013	.009	
4.0	.151	.100	.062	.129	.087	.054	.089	.060	.038	.051	.035	.022	.017	.012	.007	
5.0	.144	.090	.050	.124	.078	.043	.085	.054	.031	.049	.032	.018	.016	.010	.006	
6.0	.137	.081	.041	.118	.070	.036	.081	.049	.025	.047	.029	.015	.015	.009	.005	
7.0	.131	.074	.035	.113	.065	.030	.078	.045	.021	.045	.027	.013	.015	.009	.004	
8.0	.125	.069	.030	.108	.060	.026	.075	.042	.018	.043	.025	.011	.014	.008	.004	
9.0	.120	.064	.026	.103	.055	.023	.072	.039	.016	.042	.023	.010	.013	.008	.003	
10.0	.115	.060	.023	.099	.052	.020	.069	.036	.014	.040	.022	.009	.013	.007	.003	

C Range: 0 - 360DEG
 C Interval: 15.0DEG
 Test Speed: 10.0deg/s
 Temperature:25.3°C
 Operators:DAMIN
 Test Date:2023-08-15

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-3000H_V1 SYSTEM V2.00.463
 Humidity:65.0%
 Test Distance:9.000m [K=1.0000]
 Remarks:

UGR(Unified Glare Rating) Table

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	27.8	29.2	28.1	29.4	29.6	27.9	29.3	28.2	29.5	29.7
3H	27.8	29.0	28.0	29.3	29.5	27.8	29.1	28.1	29.3	29.6
4H	27.7	28.9	28.0	29.2	29.4	27.8	29.0	28.1	29.2	29.5
6H	27.7	28.8	28.0	29.1	29.4	27.7	28.9	28.0	29.1	29.4
8H	27.7	28.8	28.0	29.1	29.3	27.7	28.8	28.0	29.0	29.3
12H	27.7	28.7	28.0	29.0	29.3	27.6	28.7	28.0	29.0	29.3
4H 2H	27.8	29.0	28.1	29.3	29.5	27.9	29.1	28.2	29.4	29.6
3H	27.8	28.8	28.1	29.1	29.4	27.9	28.9	28.2	29.2	29.5
4H	27.8	28.8	28.2	29.1	29.4	27.8	28.8	28.2	29.1	29.4
6H	27.9	28.7	28.2	29.0	29.4	27.8	28.6	28.2	29.0	29.3
8H	27.9	28.6	28.3	29.0	29.4	27.8	28.5	28.2	28.9	29.3
12H	27.9	28.6	28.3	28.9	29.3	27.7	28.4	28.2	28.8	29.2
8H 4H	27.7	28.5	28.1	28.9	29.2	27.8	28.5	28.2	28.9	29.3
6H	27.8	28.5	28.3	28.9	29.3	27.8	28.4	28.2	28.8	29.2
8H	27.9	28.4	28.3	28.8	29.3	27.8	28.3	28.2	28.7	29.2
12H	27.9	28.4	28.4	28.8	29.3	27.7	28.2	28.2	28.6	29.1
12H 4H	27.7	28.4	28.1	28.8	29.2	27.7	28.4	28.2	28.8	29.2
6H	27.8	28.4	28.3	28.8	29.2	27.7	28.3	28.2	28.7	29.2
8H	27.9	28.3	28.3	28.8	29.2	27.7	28.2	28.2	28.6	29.1
Variations with the observer position at spacings(CIE Pub.117):										
S = 1.0H	+ 0.2 / - 0.4					+ 0.5 / - 0.6				
1.5H	+ 1.0 / - 1.9					+ 1.3 / - 2.3				
2.0H	+ 2.2 / - 5.8					+ 2.3 / - 6.9				

CIE Pub.117, 2060 lm Total Lamp Luminous Flux Corrected (8log(F/F0) = 2.5)
 Area: 0.01 m2

C Range: 0 - 360DEG
 C Interval: 15.0DEG
 Test Speed: 10.0deg/s
 Temperature:25.3°C
 Operators:DAMIN
 Test Date:2023-08-15

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-3000H_V1 SYSTEM V2.00.463
 Humidity:65.0%
 Test Distance:9.000m [K=1.0000]
 Remarks:

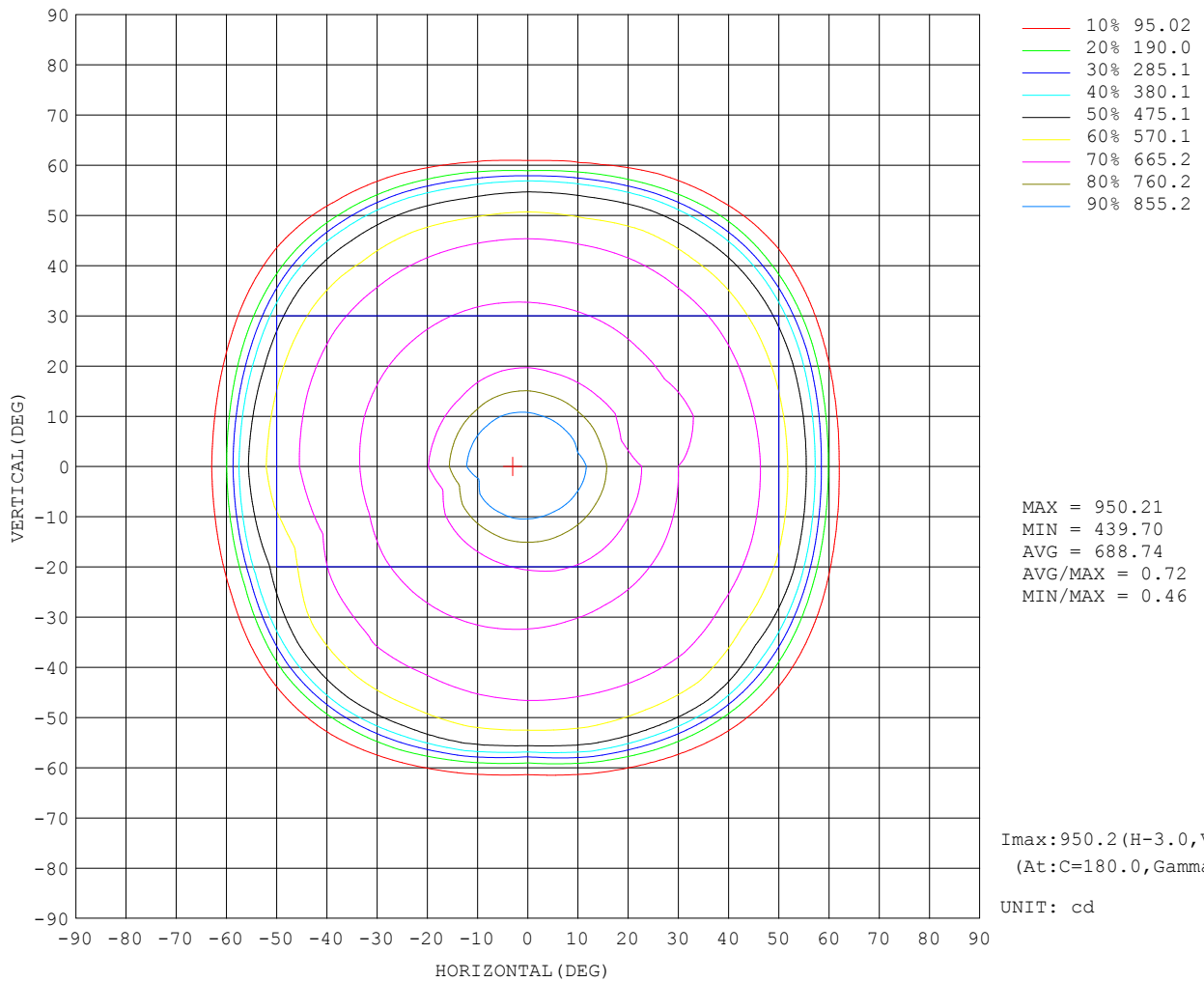
UTILIZATION FACTORS TABLE

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) $k(RI) \times RCR = 5$									
$k = 0.60$	59	47	40	58	47	40	57	47	40	34
0.80	70	59	52	69	59	52	68	58	52	45
1.00	80	70	64	79	70	64	77	71	63	56
1.25	88	79	73	87	78	72	84	77	71	65
1.50	93	84	78	91	84	78	89	82	77	70
2.00	99	92	87	98	91	86	94	89	85	78
2.50	102	96	91	101	95	90	97	92	88	81
3.00	105	100	95	103	98	94	99	95	92	84
4.00	108	104	100	106	102	98	102	99	96	87
5.00	110	106	102	108	104	101	103	100	98	89
ROOM INDEX	UF (total)									Direct
According to DIN EN 13032-2 2004			Suspended				SHRNOM = 1.25			

C Range: 0 - 360DEG
 C Interval: 15.0DEG
 Test Speed: 10.0deg/s
 Temperature: 25.3°C
 Operators: DAMIN
 Test Date: 2023-08-15

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
 Test System: EVERFINE GO-3000H_V1 SYSTEM V2.00.463
 Humidity: 65.0%
 Test Distance: 9.000m [K=1.0000]
 Remarks:

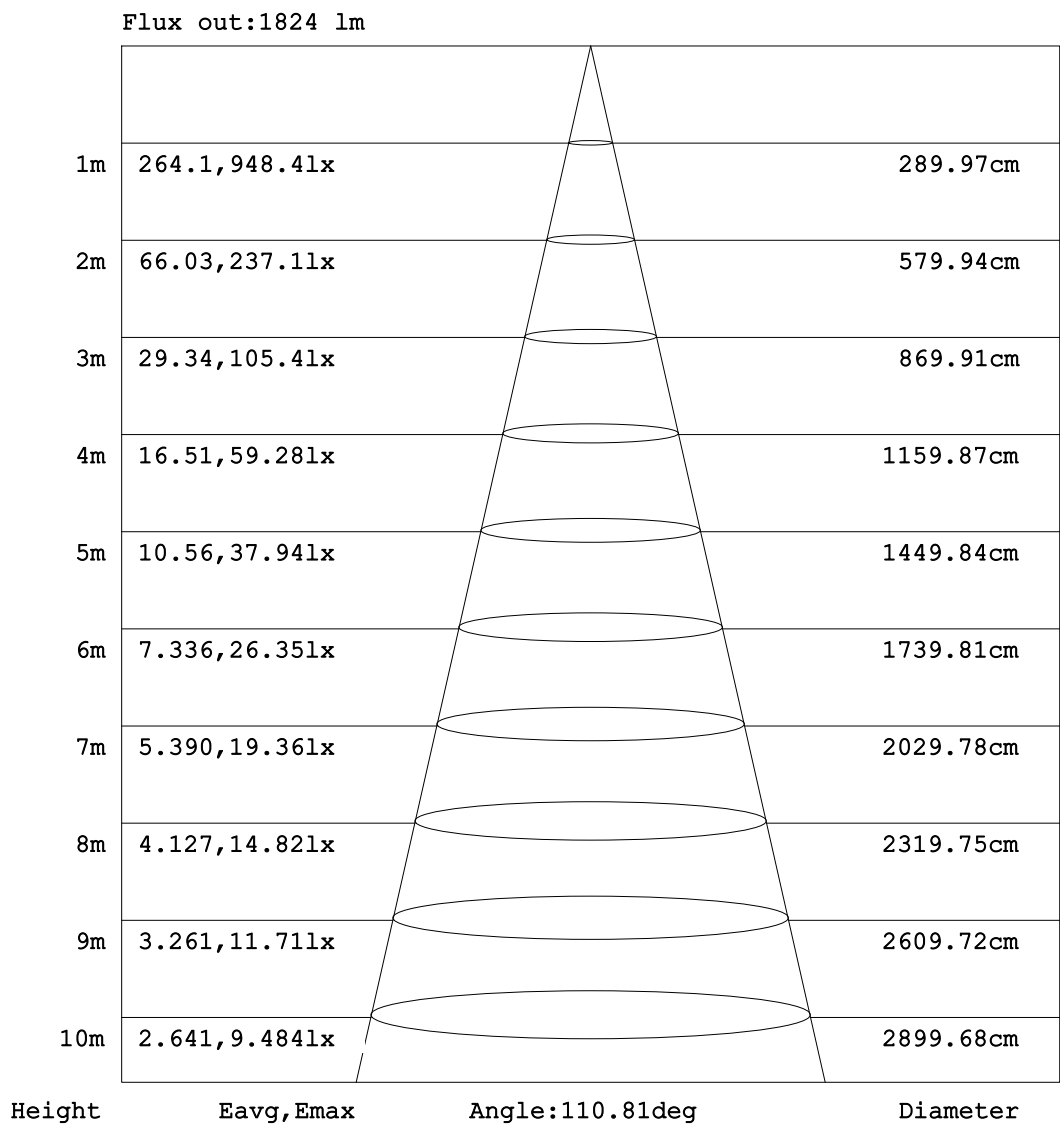
ISOCANDELA DIAGRAM



C Range: 0 - 360DEG
 C Interval: 15.0DEG
 Test Speed: 10.0deg/s
 Temperature: 25.3°C
 Operators: DAMIN
 Test Date: 2023-08-15

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
 Test System: EVERFINE GO-3000H_V1 SYSTEM V2.00.463
 Humidity: 65.0%
 Test Distance: 9.000m [K=1.0000]
 Remarks:

AAI Figure

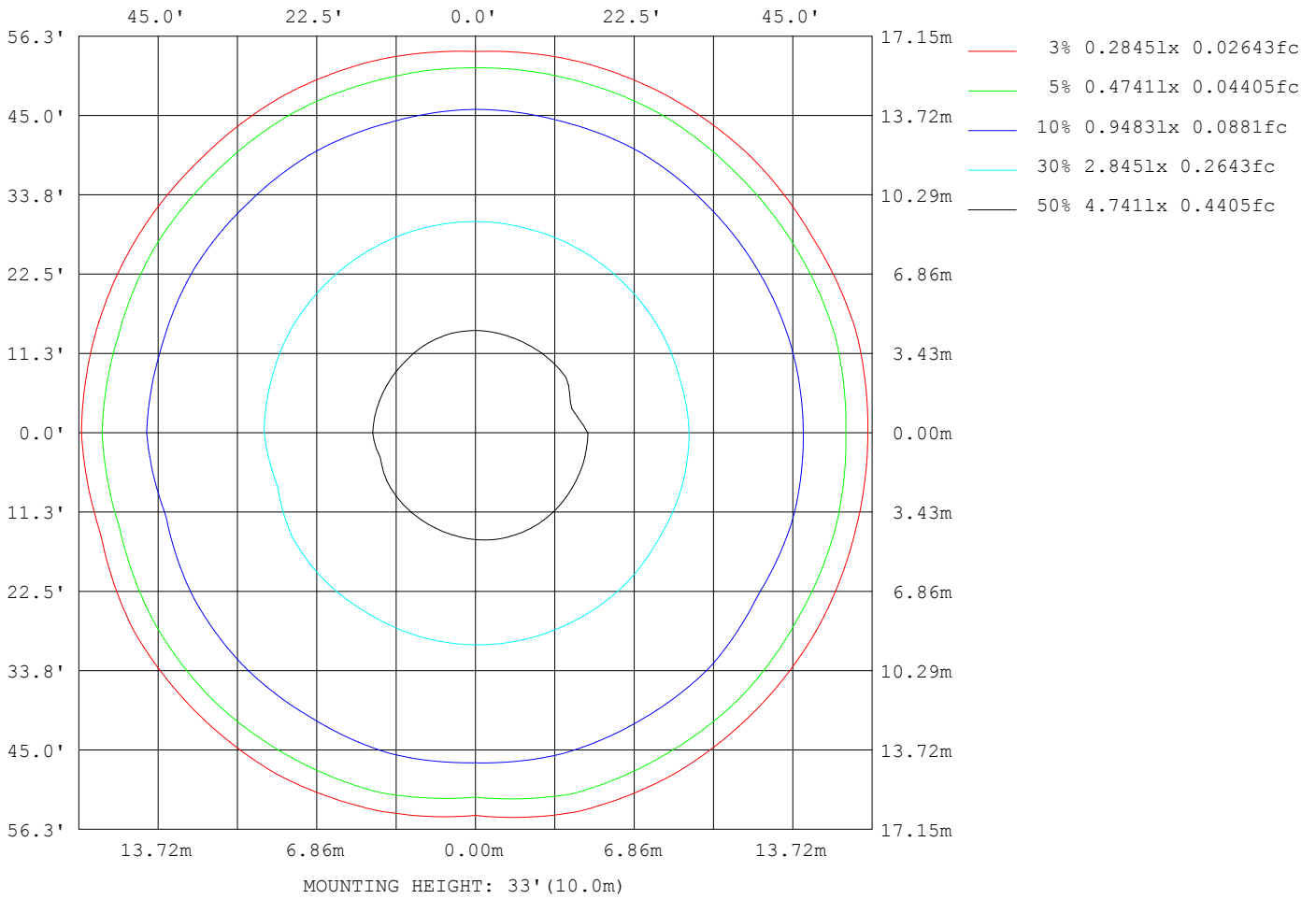


Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG
 C Interval: 15.0DEG
 Test Speed: 10.0deg/s
 Temperature:25.3°C
 Operators:DAMIN
 Test Date:2023-08-15

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-3000H_V1 SYSTEM V2.00.463
 Humidity:65.0%
 Test Distance:9.000m [K=1.0000]
 Remarks:

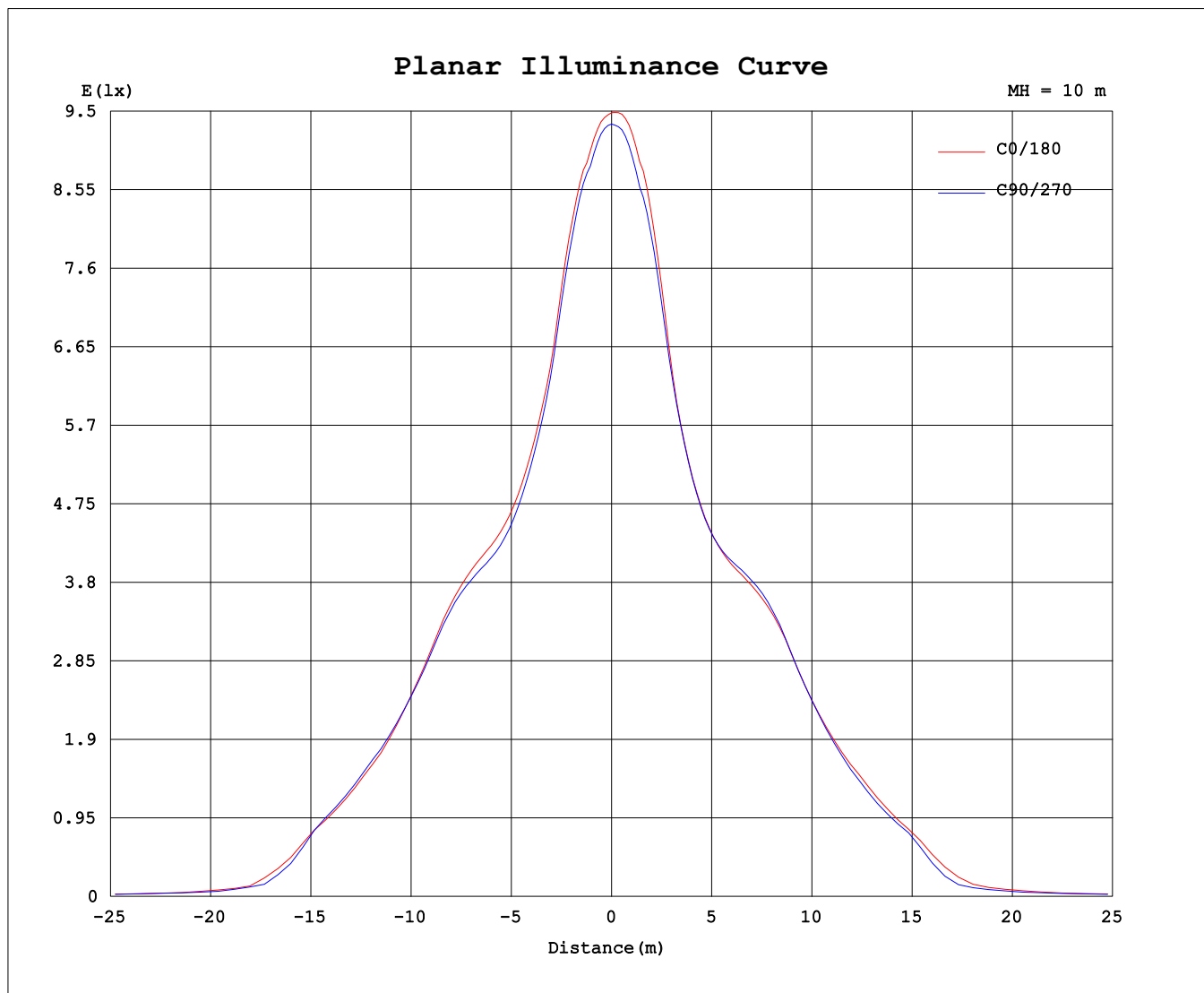
ISOLUX DIAGRAM



C Range: 0 - 360DEG
 C Interval: 15.0DEG
 Test Speed: 10.0deg/s
 Temperature: 25.3°C
 Operators: DAMIN
 Test Date: 2023-08-15

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
 Test System: EVERFINE GO-3000H_V1 SYSTEM V2.00.463
 Humidity: 65.0%
 Test Distance: 9.000m [K=1.0000]
 Remarks:

Planar Illuminance Curve



C Range: 0 - 360DEG
C Interval: 15.0DEG
Test Speed: 10.0deg/s
Temperature: 25.3°C
Operators: DAMIN
Test Date: 2023-08-15

γ Range: 0 - 90DEG
γ Interval: 1.0DEG
Test System: EVERFINE GO-3000H_V1 SYSTEM V2.00.463
Humidity: 65.0%
Test Distance: 9.000m [K=1.0000]
Remarks:

