

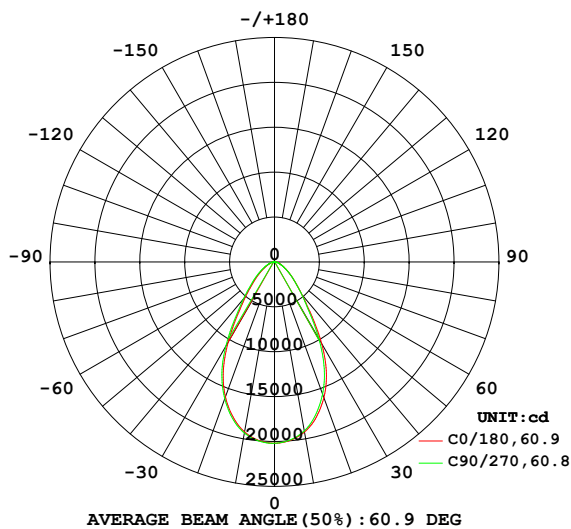
EVERFINE GONIOPHOTOMETERS SYSTEM TEST REPORT

LUMINAIRE PHOTOMETRIC TEST REPORT

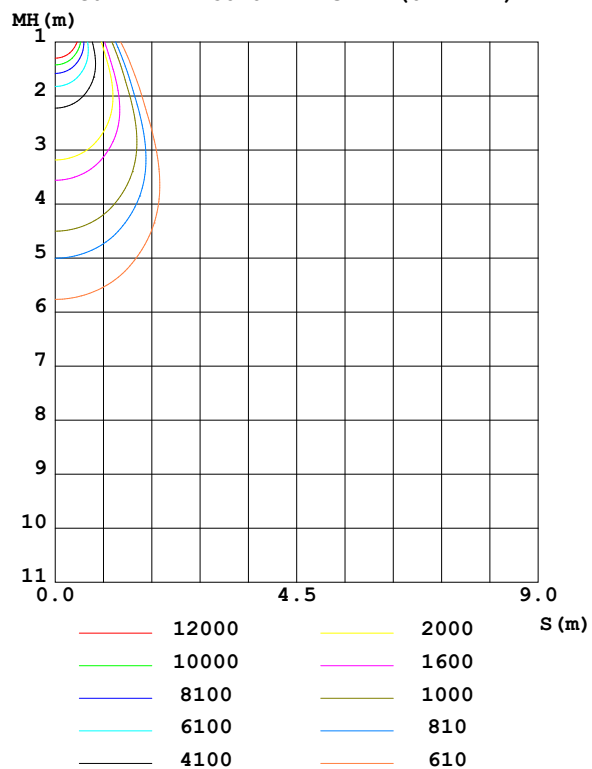
Test:U:219.8V I:0.545A P:117.5W PF:0.980 Freq:50.01Hz		
UTHDi:0.00% ITHDi:0.00% KDisp:0 Lamp Flux:23398.6x1 lm		
NAME: HB68-120H-5070-H00196	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 199.07 lm/W			
MODEL	/	Imax (cd)	20199	S/MH (C0/180)	0.91
NOMINAL POWER (W)	/	LOR (%)	100.0	S/MH (C90/270)	0.93
RATED VOLTAGE (V)	/	TOTAL FLUX (lm)	23399	η UP,DN (C0-180)	0.0,48.6
NOMINAL FLUX (lm)	23398.6	CIE CLASS	DIRECT	η UP,DN (C180-360)	0.0,51.4
LAMPS INSIDE	1	η up (%)	0.0	CIBSE SHR NOM	0.75
TEST VOLTAGE (V)	/	η down (%)	100.0	CIBSE SHR MAX	0.95

LUMINOUS INTENSITY DISTRIBUTION DIAGRAM



C0 PLANE ISOLUX DIAGRAM (UNIT:lx)



C Range: 0 - 360DEG
C Interval: 10.0DEG
Test Speed: HIGH
Temperature:25.3°C
Operators:ZZX
Test Date:2023-06-21

γ Range: 0 - 90DEG
 γ Interval: 0.5DEG
Test System:EVERFINE GO-R5000_V2 SYSTEM V2.00.465
Humidity:65.0%
Test Distance:26.000m [K=0.4556]
Remarks:

EVERFINE GONIOPHOTOMETERS SYSTEM TEST REPORT

ZONAL FLUX DIAGRAM

ZONAL FLUX DIAGRAM:

γ	C0	C45	C90	C135	C180	C225	C270	C315	γ	Φ zone	Φ total	%lum, lamp
10	1923	1914	1911	1914	1922	1931	1934	1931	0- 10	1882	1882	8.04,8.04
20	1608	1579	1566	1572	1598	1615	1621	1619	10- 20	4989	6871	29.4,29.4
30	1051	996.1	990.0	984.9	1033	1068	1084	1076	20- 30	6120	12992	55.5,55.5
40	478.3	450.7	472.5	444.7	497.8	507.7	538.1	493.1	30- 40	4495	17486	74.7,74.7
50	248.5	236.8	245.8	232.6	256.0	265.3	283.5	258.6	40- 50	2699	20185	86.3,86.3
60	126.1	120.4	124.0	118.5	129.4	135.2	145.5	132.4	50- 60	1640	21826	93.3,93.3
70	62.14	57.92	58.35	57.32	62.46	65.83	69.95	65.01	60- 70	911.4	22737	97.2,97.2
80	32.31	29.32	28.37	29.61	33.08	35.90	38.32	35.43	70- 80	491.8	23229	99.3,99.3
90	0.3742	0.1498	0.1338	0.1509	0.4171	2.016	3.003	1.721	80- 90	169.5	23399	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:X10cd									UNIT:lm		

Conical surface Flux(90deg): 18997 lm

%lum = 81.2%

%lamp = 81.2%

Conical surface Flux(120deg): 21826 lm

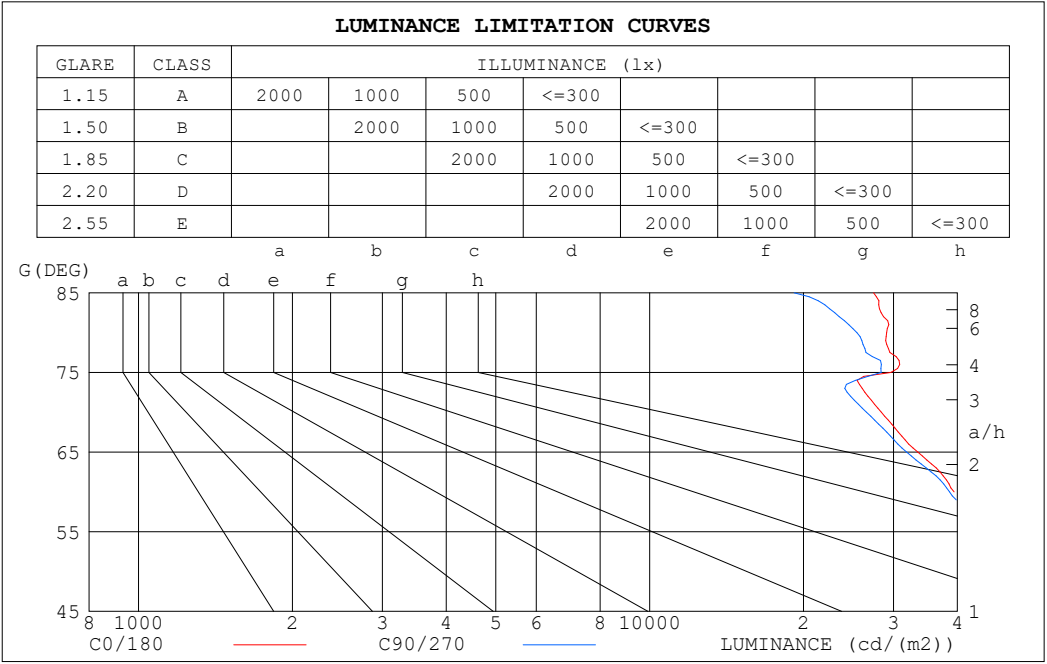
%lum = 93.3%

%lamp = 93.3%

C Range: 0 - 360DEG
C Interval: 10.0DEG
Test Speed: HIGH
Temperature:25.3°C
Operators:ZZX
Test Date:2023-06-21

γ Range: 0 - 90DEG
 γ Interval: 0.5DEG
Test System:EVERFINE GO-R5000_V2 SYSTEM V2.00.465
Humidity:65.0%
Test Distance:26.000m [K=0.4556]
Remarks:

LUMINANCE LIMITATION CURVES



LUMINANCE cd/(m2)		
G (DEG)	C0/180	C90/270
85	27423	19179
80	29091	25438
75	29642	28375
70	28403	26561
65	33479	31836
60	39417	38615
55	48674	47842
50	60440	59542
45	74729	73712

C Range: 0 - 360DEG

C Interval: 10.0DEG

Test Speed: HIGH

Temperature:25.3℃

Operators:ZZX

Test Date:2023-06-21

γ Range: 0 - 90DEG

γ Interval: 0.5DEG

Test System:EVERFINE GO-R5000_V2 SYSTEM V2.00.465

Humidity:65.0%

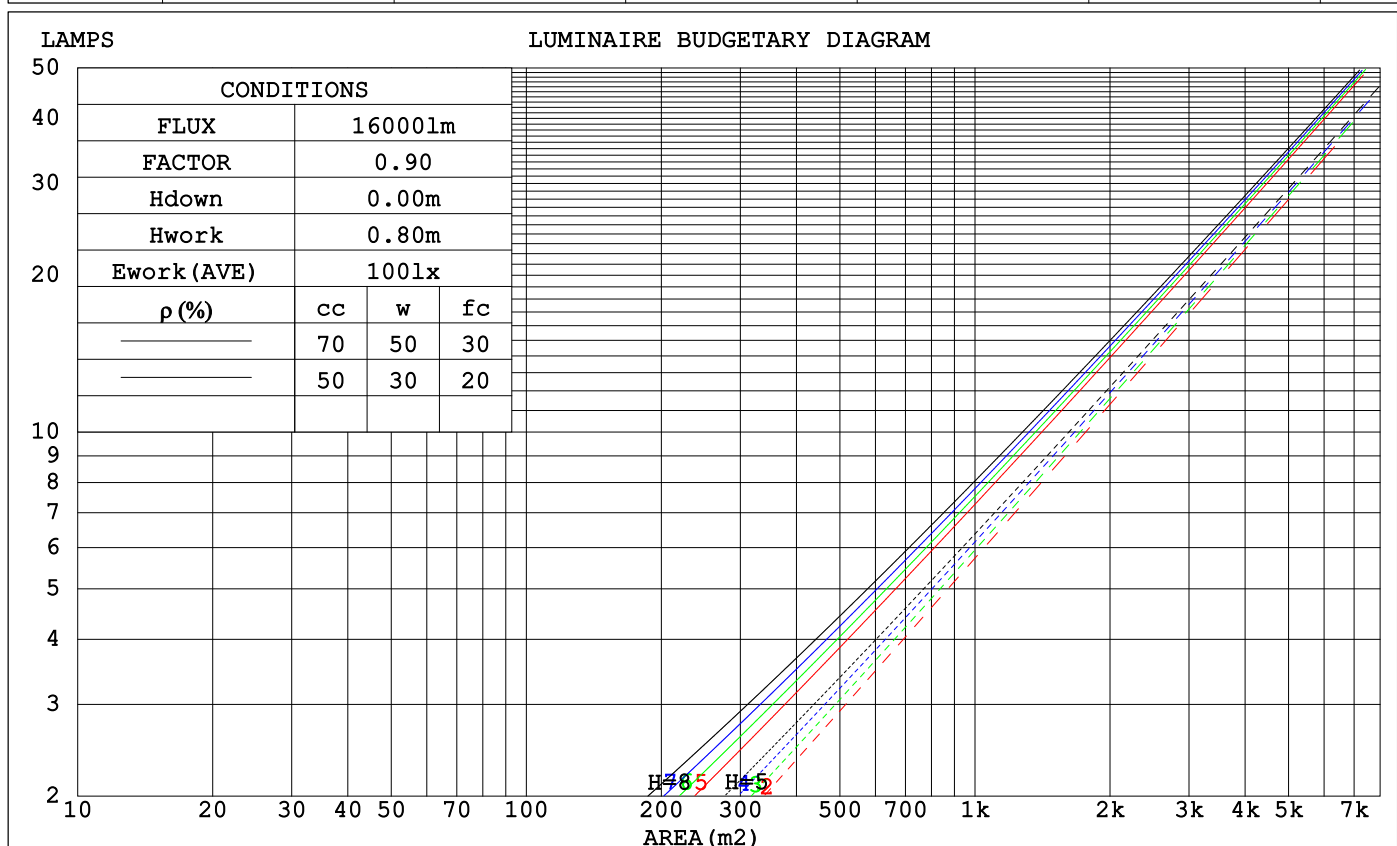
Test Distance:26.000m [K=0.4556]

Remarks:

EVERFINE GONIOPHOTOMETERS SYSTEM TEST REPORT

CU AND LUMINAIRE BUDGETARY ESTIMATE DIAGRAM

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			Coefficients of Utilization(CU)												
0.0	1.19	1.19	1.19	1.16	1.16	1.16	1.11	1.11	1.11	1.06	1.06	1.06	1.02	1.02	1.02	1.00
1.0	1.08	1.05	1.03	1.06	1.03	1.01	1.02	.00	.98	.98	.97	.95	.95	.93	.92	.90
2.0	.99	.94	.90	.97	.92	.89	.94	.90	.87	.91	.87	.85	.88	.85	.83	.81
3.0	.90	.84	.79	.89	.83	.79	.86	.81	.77	.84	.80	.76	.81	.78	.75	.73
4.0	.83	.76	.71	.82	.76	.71	.80	.74	.70	.77	.73	.69	.75	.72	.68	.67
5.0	.77	.70	.65	.76	.69	.64	.74	.68	.64	.72	.67	.63	.70	.66	.62	.61
6.0	.71	.64	.59	.70	.64	.59	.69	.63	.58	.67	.62	.58	.66	.61	.57	.56
7.0	.66	.59	.54	.65	.59	.54	.64	.58	.54	.63	.57	.53	.61	.57	.53	.51
8.0	.62	.55	.50	.61	.55	.50	.60	.54	.50	.59	.53	.49	.58	.53	.49	.48
9.0	.58	.51	.46	.57	.51	.46	.56	.50	.46	.55	.50	.46	.54	.49	.46	.44
10.0	.54	.48	.43	.54	.48	.43	.53	.47	.43	.52	.47	.43	.51	.46	.43	.41



C Range: 0 - 360DEG
 C Interval: 10.0DEG
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 Test Date:2023-06-21

γ Range: 0 - 90DEG
 γ Interval: 0.5DEG
 Test System:EVERFINE GO-R5000_V2 SYSTEM V2.00.465
 Humidity:65.0%
 Test Distance:26.000m [K=0.4556]
 Remarks:

EVERFINE GONIOPHOTOMETERS SYSTEM TEST REPORT

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	.222	.126	.040	.215	.123	.039	.203	.116	.037	.191	.110	.035	.180	.104	.034	
2.0	.212	.116	.036	.206	.113	.035	.195	.108	.034	.185	.104	.032	.175	.099	.031	
3.0	.199	.106	.032	.194	.104	.031	.185	.100	.030	.176	.096	.030	.168	.093	.029	
4.0	.188	.098	.029	.183	.096	.028	.175	.093	.028	.167	.090	.027	.160	.087	.026	
5.0	.177	.090	.026	.173	.089	.026	.166	.086	.025	.159	.084	.025	.152	.081	.024	
6.0	.167	.084	.024	.163	.083	.024	.157	.080	.023	.151	.078	.023	.145	.076	.023	
7.0	.158	.078	.022	.155	.077	.022	.149	.075	.022	.144	.074	.021	.139	.072	.021	
8.0	.149	.073	.021	.147	.072	.020	.142	.071	.020	.137	.069	.020	.132	.068	.020	
9.0	.142	.069	.019	.139	.068	.019	.135	.067	.019	.131	.065	.019	.126	.064	.019	
10.0	.135	.065	.018	.133	.064	.018	.129	.063	.018	.125	.062	.018	.121	.061	.017	

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	.174	.157	.141	.149	.135	.122	.102	.093	.084	.059	.054	.049	.019	.017	.016	
2.0	.162	.132	.108	.138	.114	.093	.095	.079	.065	.055	.046	.038	.018	.015	.012	
3.0	.151	.114	.084	.129	.098	.073	.089	.068	.051	.051	.040	.030	.016	.013	.010	
4.0	.142	.100	.067	.122	.086	.059	.084	.060	.041	.048	.035	.024	.016	.011	.008	
5.0	.134	.088	.055	.115	.077	.048	.079	.053	.034	.046	.031	.020	.015	.010	.007	
6.0	.126	.080	.046	.109	.069	.040	.075	.048	.028	.043	.028	.017	.014	.009	.006	
7.0	.120	.072	.039	.103	.063	.034	.071	.044	.024	.041	.026	.014	.013	.008	.005	
8.0	.114	.066	.033	.098	.057	.029	.068	.040	.021	.040	.024	.012	.013	.008	.004	
9.0	.109	.061	.029	.094	.053	.025	.065	.037	.018	.038	.022	.011	.012	.007	.004	
10.0	.104	.057	.026	.089	.049	.022	.062	.035	.016	.036	.021	.009	.012	.007	.003	

C Range: 0 - 360DEG
 C Interval: 10.0DEG
 Test Speed: HIGH
 Temperature:25.3°C
 Operators:ZZX
 Test Date:2023-06-21

γ Range: 0 - 90DEG
 γ Interval: 0.5DEG
 Test System:EVERFINE GO-R5000_V2 SYSTEM V2.00.465
 Humidity:65.0%
 Test Distance:26.000m [K=0.4556]
 Remarks:

EVERFINE GONIOPHOTOMETERS SYSTEM TEST REPORT

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	22.4	23.7	22.8	24.0	24.3	22.1	23.4	22.5	23.7	24.0
3H	23.5	24.6	23.9	24.9	25.3	23.2	24.3	23.6	24.6	25.0
4H	23.9	24.9	24.3	25.2	25.6	23.6	24.7	24.0	25.0	25.4
6H	24.3	25.3	24.7	25.6	26.0	24.0	25.0	24.5	25.4	25.7
8H	24.5	25.4	24.9	25.8	26.2	24.2	25.0	24.6	25.4	25.8
12H	24.6	25.5	25.1	25.9	26.3	24.2	25.1	24.6	25.4	25.9
4H 2H	22.7	23.7	23.1	24.1	24.5	22.4	23.5	22.8	23.8	24.2
3H	23.9	24.8	24.3	25.2	25.6	23.6	24.5	24.0	24.9	25.3
4H	24.5	25.2	24.9	25.7	26.1	24.3	25.0	24.7	25.4	25.9
6H	25.1	25.8	25.6	26.2	26.7	24.8	25.5	25.3	25.9	26.4
8H	25.4	26.0	25.8	26.4	26.9	25.0	25.6	25.5	26.0	26.5
12H	25.5	26.1	26.0	26.6	27.0	25.1	25.6	25.6	26.1	26.6
8H 4H	24.7	25.3	25.2	25.7	26.2	24.5	25.1	24.9	25.5	26.0
6H	25.5	25.9	26.0	26.4	26.9	25.2	25.7	25.7	26.2	26.6
8H	25.8	26.2	26.3	26.7	27.2	25.4	25.9	25.9	26.4	26.9
12H	26.0	26.4	26.5	26.9	27.5	25.6	26.0	26.1	26.5	27.0
12H 4H	24.7	25.2	25.2	25.7	26.2	24.5	25.0	25.0	25.5	26.0
6H	25.5	25.9	26.0	26.4	26.9	25.2	25.7	25.7	26.1	26.7
8H	25.9	26.2	26.4	26.7	27.3	25.5	25.9	26.0	26.4	27.0
CIE190: 2010										

CIE190: 2010
Area: 0.0642 m2

C Range: 0 - 360DEG
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Test Speed: HIGH
Temperature:25.3°C
Operators:ZZX
Test Date:2023-06-21

γ Range: 0 - 90DEG
 γ Interval: 0.5DEG
Test System:EVERFINE GO-R5000_V2 SYSTEM V2.00.465
Humidity:65.0%
Test Distance:26.000m [K=0.4556]
Remarks:

EVERFINE GONIOPHOTOMETERS SYSTEM TEST REPORT

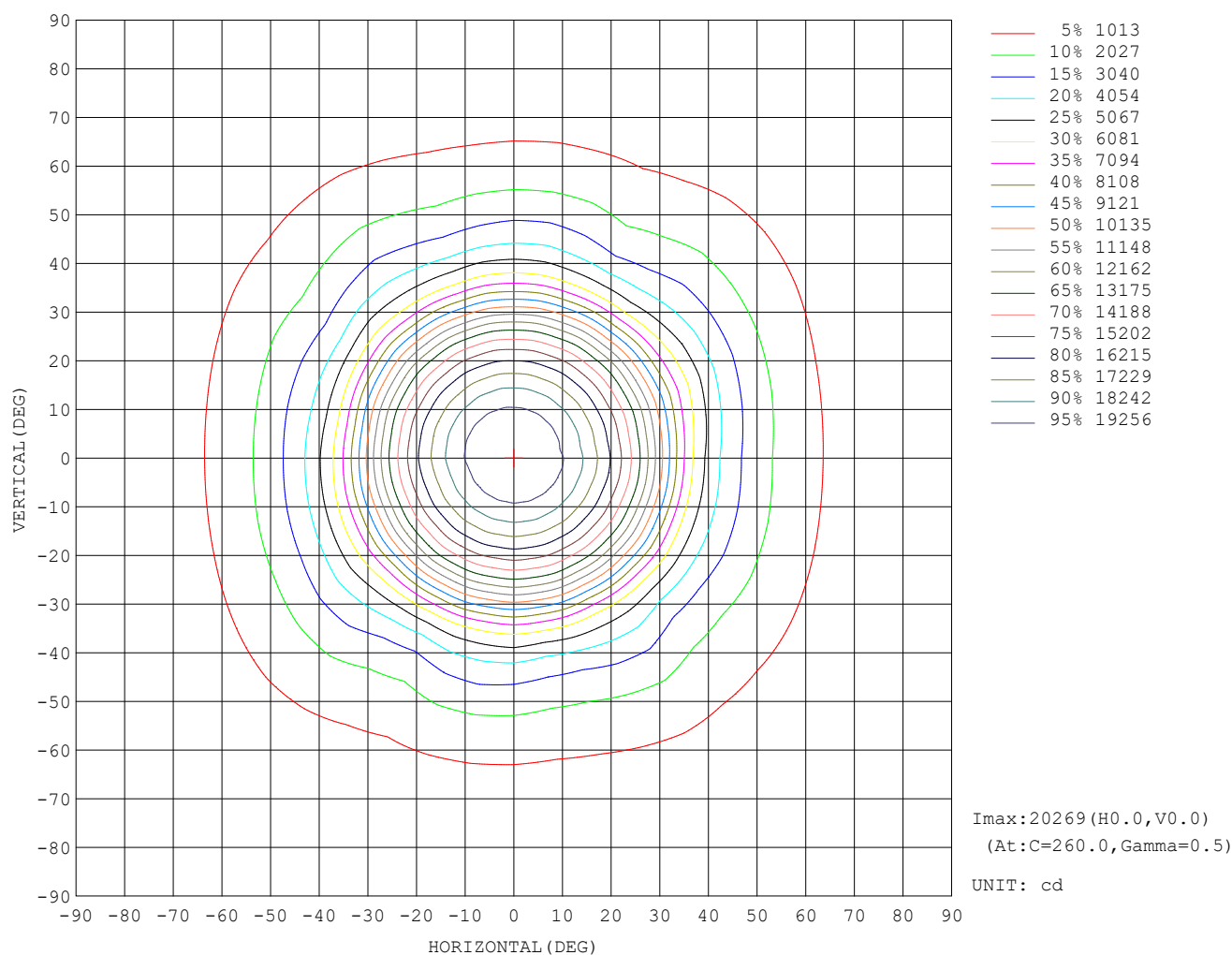
UTILIZATION FACTORS TABLE

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) $k(RI) \times RCR = 5$									
$k = 0.60$	76	67	62	75	67	62	74	67	62	57
0.80	84	76	71	84	76	71	82	75	71	66
1.00	91	83	78	90	83	78	88	83	77	72
1.25	96	89	84	95	88	84	93	87	83	78
1.50	100	93	88	98	92	88	96	91	87	81
2.00	104	98	94	102	97	93	99	95	92	85
2.50	106	101	97	104	100	96	101	97	94	87
3.00	108	104	100	107	102	99	103	100	97	90
4.00	111	107	104	109	106	103	105	102	100	92
5.00	113	109	107	110	108	105	106	104	102	94
ROOM INDEX	UF (total)									Direct
According to DIN EN 13032-2 2004						Suspended			SHRNOM = 1.25	

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 Test Date: 2023-06-21

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 γ Interval: 0.5DEG
 Test System: EVERFINE GO-R5000_V2 SYSTEM V2.00.465
 Humidity: 65.0%
 Test Distance: 26.000m [K=0.4556]
 Remarks:

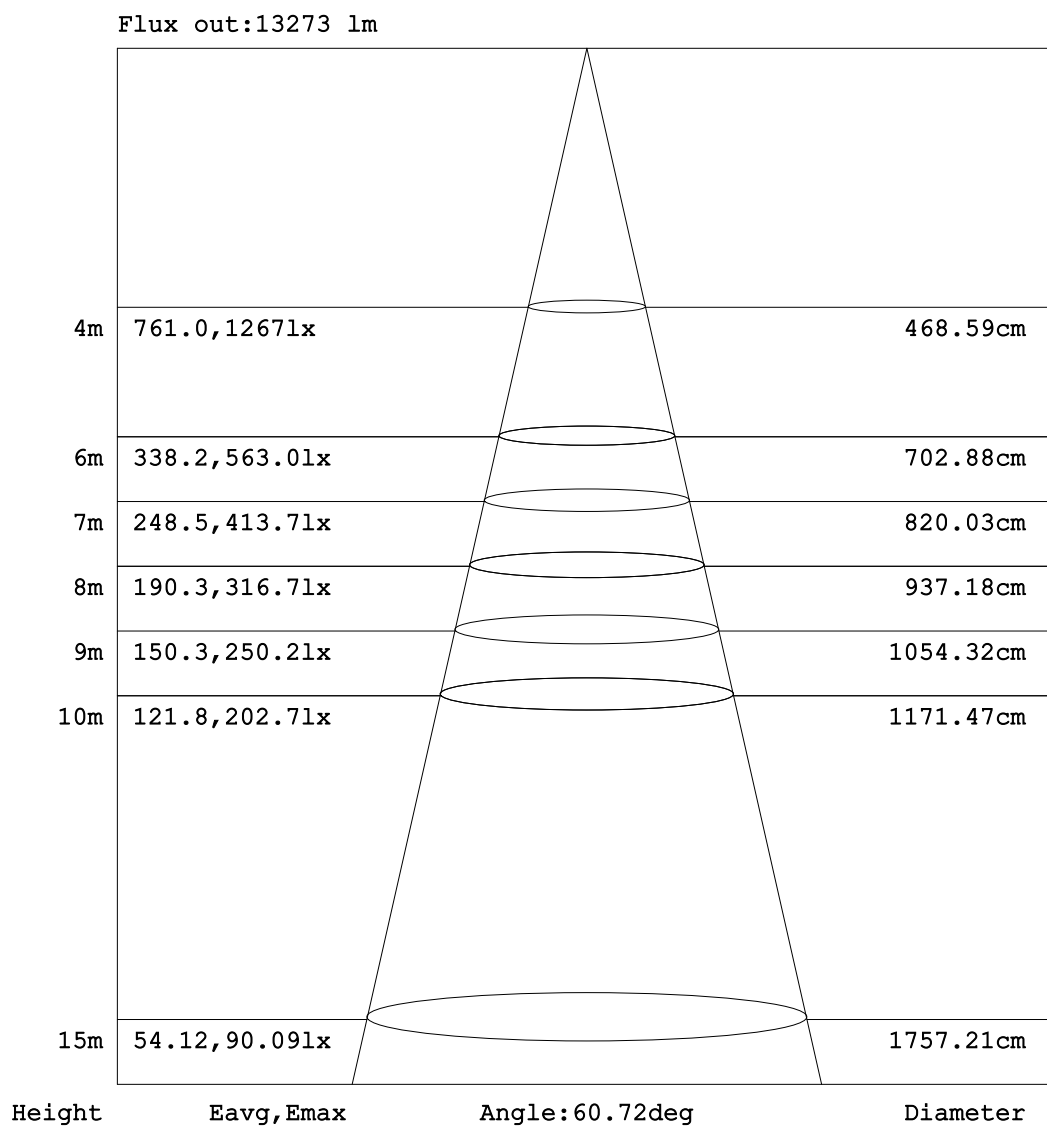
ISOCANDELA DIAGRAM



C Range: 0 - 360DEG
C Interval: 10.0DEG
Test Speed: HIGH
Temperature:25.3°C
Operators:ZZX
Test Date:2023-06-21

γ Range: 0 - 90DEG
 γ Interval: 0.5DEG
Test System:EVERFINE GO-R5000_V2 SYSTEM V2.00.465
Humidity:65.0%
Test Distance:26.000m [K=0.4556]
Remarks:

AAI Figure



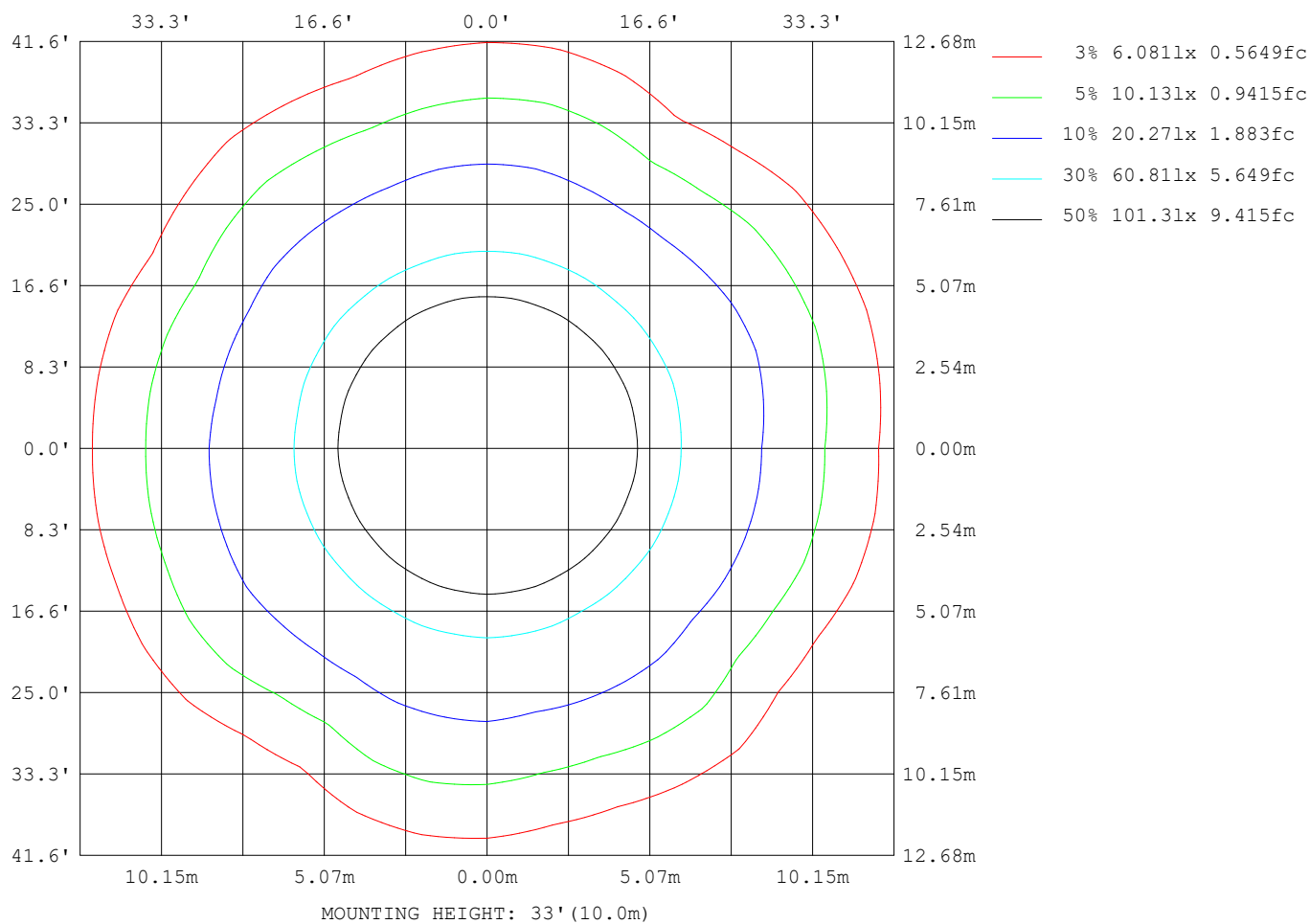
Note: The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG
C Interval: 10.0DEG
Test Speed: HIGH
Temperature: 25.3°C
Operators: ZZX
Test Date: 2023-06-21

γ Range: 0 - 90DEG
 γ Interval: 0.5DEG
Test System: EVERFINE GO-R5000_V2 SYSTEM V2.00.465
Humidity: 65.0%
Test Distance: 26.000m [K=0.4556]
Remarks:

EVERFINE GONIOPHOTOMETERS SYSTEM TEST REPORT

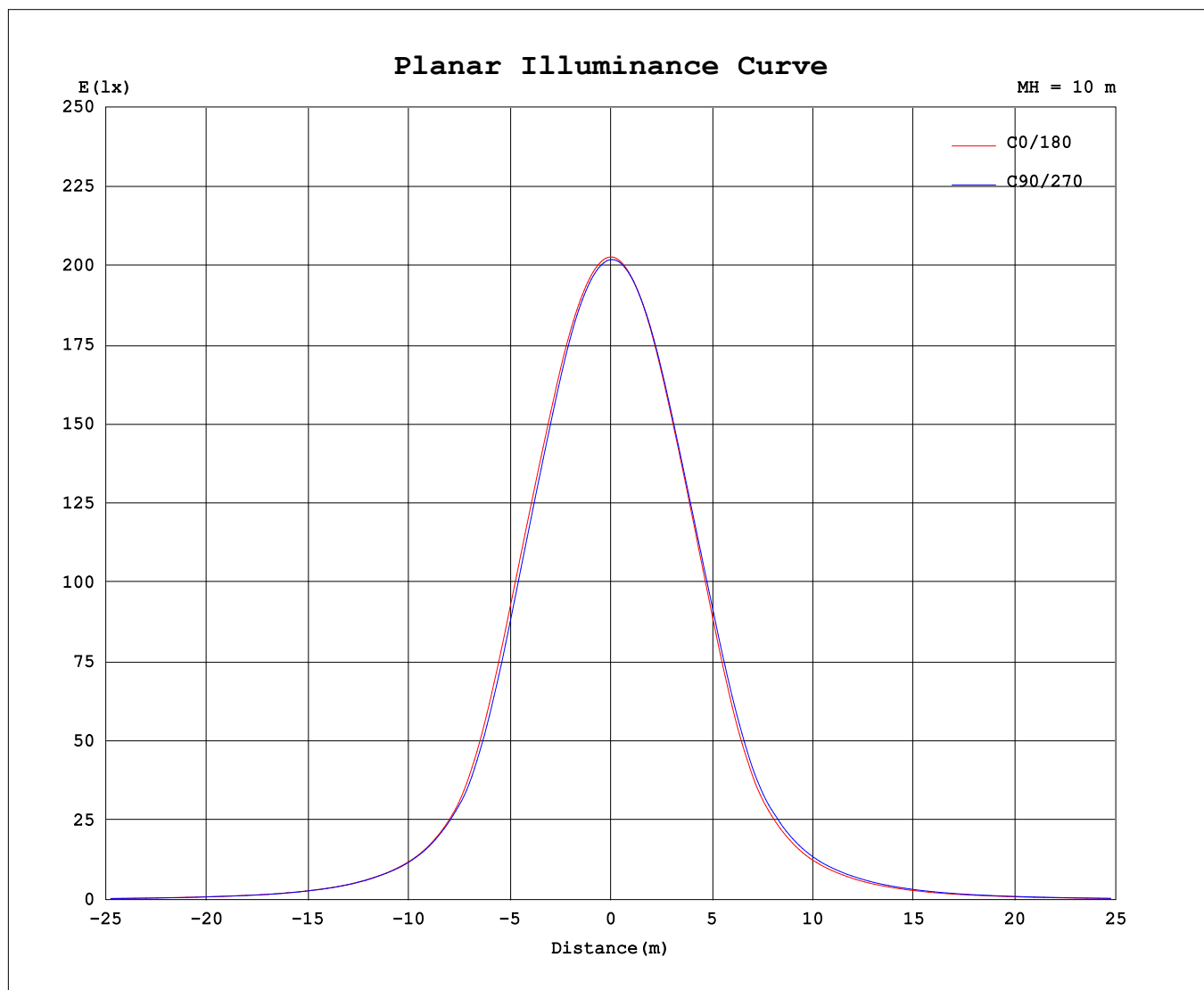
ISOLUX DIAGRAM



C Range: 0 - 360DEG
C Interval: 10.0DEG
Test Speed: HIGH
Temperature: 25.3°C
Operators: ZZX
Test Date: 2023-06-21

γ Range: 0 - 90DEG
 γ Interval: 0.5DEG
Test System: EVERFINE GO-R5000_V2 SYSTEM V2.00.465
Humidity: 65.0%
Test Distance: 26.000m [K=0.4556]
Remarks:

Planar Illuminance Curve



C Range: 0 - 360DEG
C Interval: 10.0DEG
Test Speed: HIGH
Temperature: 25.3°C
Operators: ZZX
Test Date: 2023-06-21

γ Range: 0 - 90DEG
 γ Interval: 0.5DEG
Test System: EVERFINE GO-R5000_V2 SYSTEM V2.00.465
Humidity: 65.0%
Test Distance: 26.000m [K=0.4556]
Remarks: