

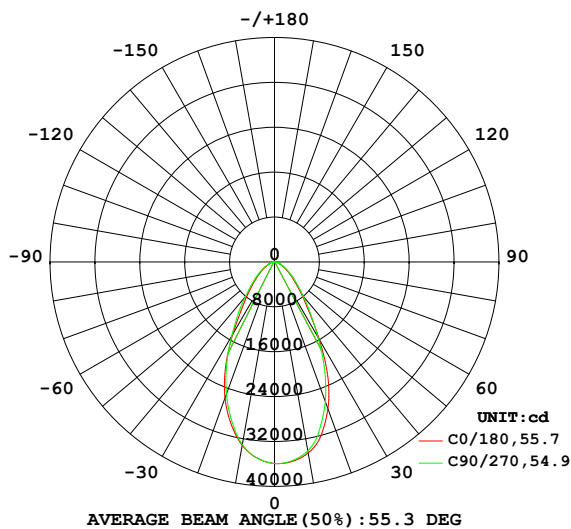
EVERFINE GONIOPHOTOMETERS SYSTEM TEST REPORT

LUMINAIRE PHOTOMETRIC TEST REPORT

Test:U:219.6V I:0.919A P:198.2W PF:0.982 Freq:50.00Hz		
UTHDi:0.00% ITHDi:0.00% KDisp:0 Lamp Flux:37666.1lx1 lm		
NAME: HB68-200H-5070-H00193	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:	Shielding Angle:

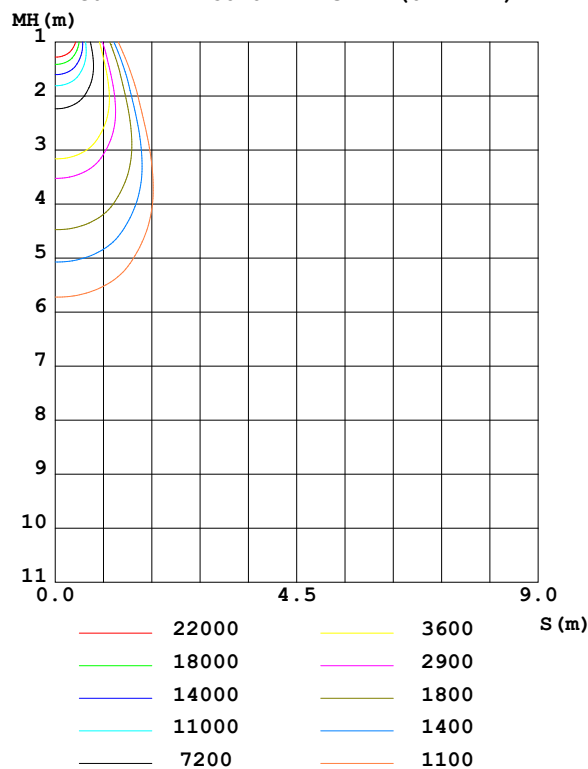
DATA OF LAMP		PHOTOMETRIC DATA Eff: 189.99 lm/W			
MODEL	/	Imax (cd)	35992	S/MH (C0/180)	0.84
NOMINAL POWER (W)	/	LOR (%)	100.0	S/MH (C90/270)	0.83
RATED VOLTAGE (V)	/	TOTAL FLUX (lm)	37666	η UP,DN (C0-180)	0.0,50.5
NOMINAL FLUX (lm)	37666.1	CIE CLASS	DIRECT	η UP,DN (C180-360)	0.0,49.5
LAMPS INSIDE	1	η up (%)	0.0	CIBSE SHR NOM	0.75
TEST VOLTAGE (V)	/	η down (%)	100.0	CIBSE SHR MAX	0.90

LUMINOUS INTENSITY DISTRIBUTION DIAGRAM



AVERAGE BEAM ANGLE (50%): 55.3 DEG

C0 PLANE ISOLUX DIAGRAM (UNIT:lx)



C Range: 0 - 360DEG
C Interval: 15.0DEG
Test Speed: HIGH
Temperature: 25.3°C
Operators: ZZX
Test Date: 2023-06-29

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	3457	3460	3416	3375	3317	3273	3304	3384	0- 10	3327	3327	8.83,8.83
20	2782	2763	2649	2626	2580	2475	2507	2650	10- 20	8501	11827	31.4,31.4
30	1596	1603	1551	1544	1489	1420	1522	1580	20- 30	9559	21386	56.8,56.8
40	751.1	794.0	795.4	760.3	729.2	710.5	813.2	777.7	30- 40	6799	28185	74.8,74.8
50	391.1	409.9	426.6	407.3	392.1	387.3	431.1	406.9	40- 50	4254	32439	86.1,86.1
60	200.6	206.1	218.6	210.9	206.3	205.5	223.5	210.1	50- 60	2648	35087	93.2,93.2
70	98.27	100.5	102.7	101.9	100.5	101.0	105.6	100.9	60- 70	1473	36560	97.1,97.1
80	50.72	49.64	51.80	52.85	55.45	54.01	56.01	51.17	70- 80	824.5	37384	99.3,99.3
90	0.3864	0.3338	0.5981	0.8591	1.305	1.854	1.690	0.9092	80- 90	281.9	37666	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): 30559 lm

%lum = 81.1%

%lamp = 81.1%

Conical surface Flux(120deg): 35087 lm

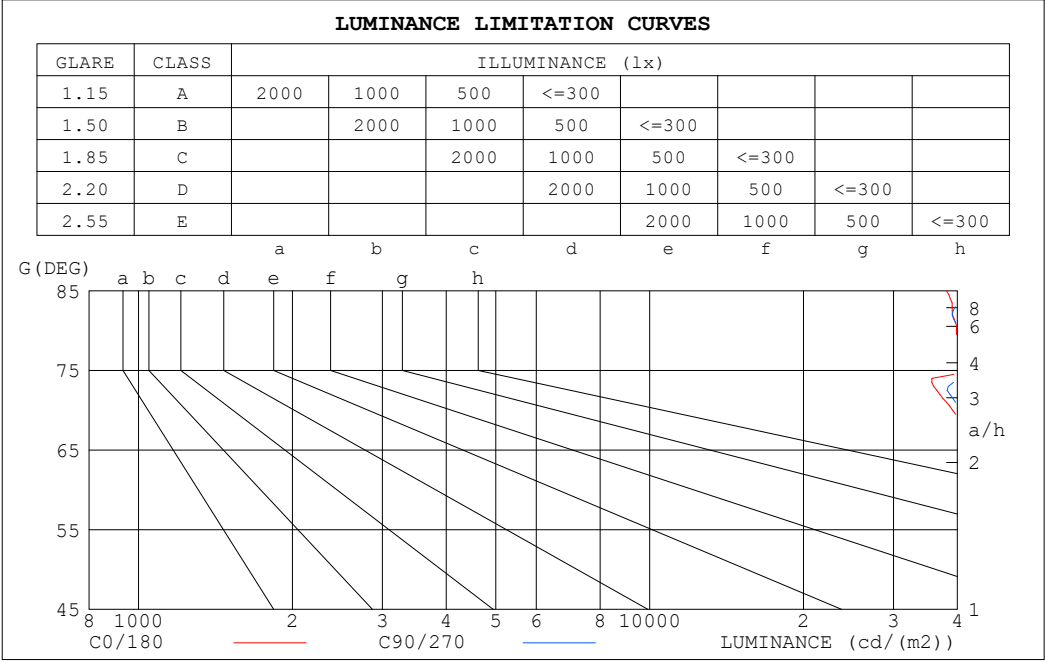
%lum = 93.2%

%lamp = 93.2%

C Range: 0 - 360DEG
C Interval: 15.0DEG
Test Speed: HIGH
Temperature:25.3°C
Operators:ZZX
Test Date:2023-06-29

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	38066	41606
80	39800	40558
75	41606	45367
70	39151	40827
65	45207	48569
60	54677	59449
55	67170	73692
50	82902	90226
45	102816	110870

C Range: 0 - 360DEG

C Interval: 15.0DEG

Test Speed: HIGH

Temperature:25.3°C

Operators:ZZX

Test Date:2023-06-29

γ Range: 0 - 90DEG

γ Interval: 0.5DEG

Test System:EVERFINE GO-R5000_V2 SYSTEM V2.00.465

Humidity:65.0%

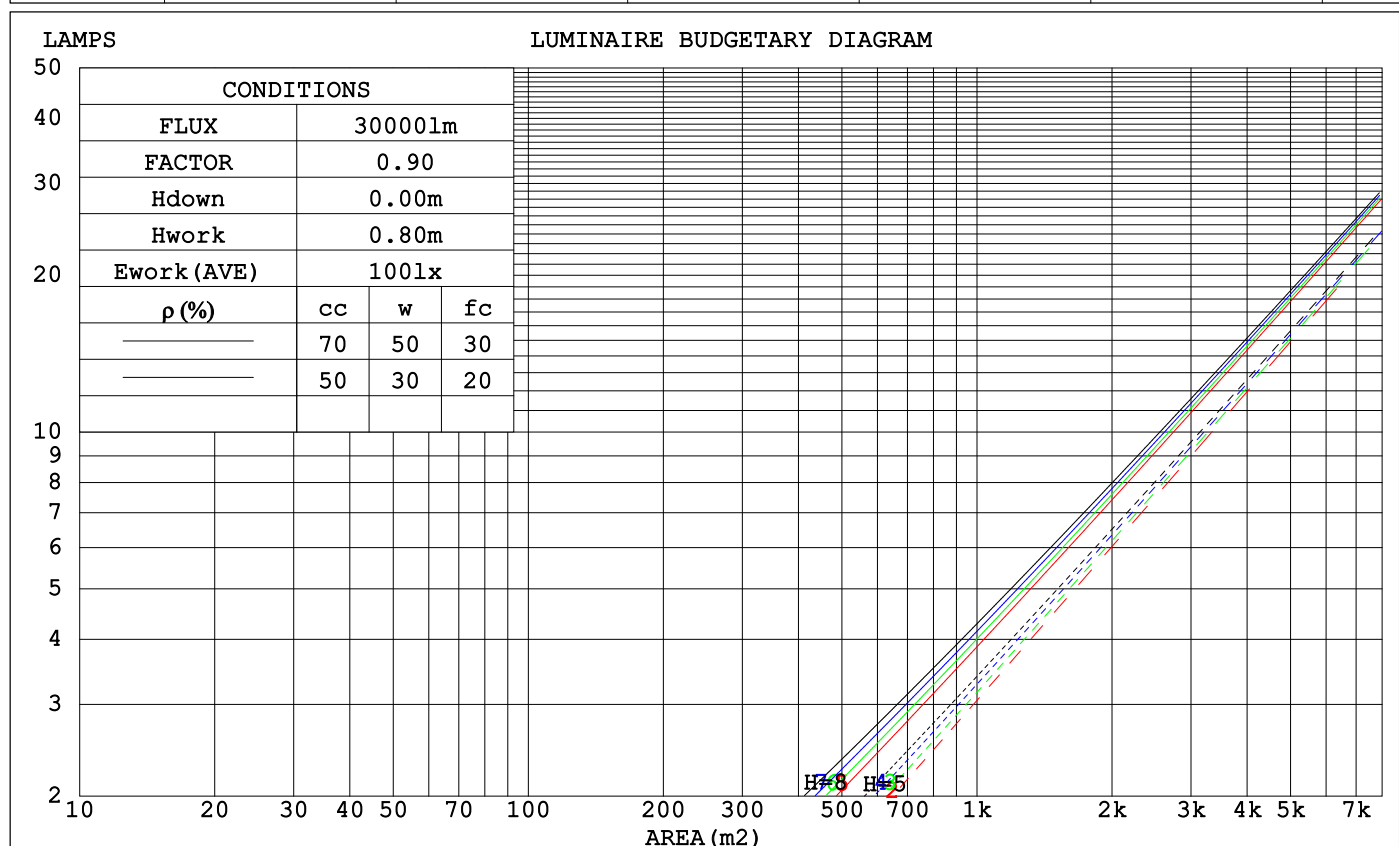
Test Distance:26.000m [K=0.4556]

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	1.04	1.01	1.02	.00	.98	.98	.97	.95	.95	.93	.92	.90
2.0	.99	.94	.90	.97	.93	.89	.94	.90	.87	.91	.88	.85	.88	.85	.83	.81
3.0	.91	.85	.80	.89	.84	.79	.86	.82	.78	.84	.80	.77	.82	.78	.75	.74
4.0	.83	.77	.72	.82	.76	.71	.80	.75	.70	.78	.73	.70	.76	.72	.69	.67
5.0	.77	.70	.65	.76	.70	.65	.74	.69	.64	.72	.67	.64	.71	.66	.63	.61
6.0	.72	.65	.60	.71	.64	.59	.69	.63	.59	.68	.62	.59	.66	.62	.58	.56
7.0	.67	.60	.55	.66	.59	.55	.65	.59	.54	.63	.58	.54	.62	.57	.54	.52
8.0	.62	.56	.51	.62	.55	.51	.61	.55	.51	.59	.54	.50	.58	.54	.50	.48
9.0	.58	.52	.47	.58	.52	.47	.57	.51	.47	.56	.51	.47	.55	.50	.47	.45
10.0	.55	.49	.44	.55	.48	.44	.54	.48	.44	.53	.48	.44	.52	.47	.44	.42



C Range: 0 - 360DEG
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 Test Date:2023-06-29

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	.221	.126	.040	.214	.122	.039	.202	.116	.037	.190	.110	.035	.179	.104	.033	
2.0	.210	.115	.035	.204	.113	.035	.193	.108	.033	.183	.103	.032	.174	.098	.031	
3.0	.198	.105	.032	.193	.103	.031	.183	.099	.030	.175	.096	.029	.166	.092	.029	
4.0	.186	.097	.028	.182	.095	.028	.173	.092	.027	.166	.089	.027	.159	.086	.026	
5.0	.175	.089	.026	.171	.088	.026	.164	.085	.025	.157	.083	.025	.151	.081	.024	
6.0	.165	.083	.024	.162	.082	.024	.155	.080	.023	.149	.078	.023	.144	.076	.022	
7.0	.156	.077	.022	.153	.076	.022	.147	.074	.021	.142	.073	.021	.137	.071	.021	
8.0	.148	.072	.020	.145	.071	.020	.140	.070	.020	.135	.069	.020	.131	.067	.020	
9.0	.140	.068	.019	.138	.067	.019	.133	.066	.019	.129	.065	.019	.125	.063	.018	
10.0	.133	.064	.018	.131	.063	.018	.127	.062	.018	.123	.061	.017	.120	.060	.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	.161	.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	.141	.100	.068	.121	.086	.059	.083	.060	.041	.048	.035	.025	.016	.011	.008	
5.0	.133	.088	.055	.114	.076	.048	.079	.053	.034	.046	.031	.020	.015	.010	.007	
6.0	.126	.079	.046	.108	.069	.040	.075	.048	.028	.043	.028	.017	.014	.009	.006	
7.0	.119	.072	.039	.103	.062	.034	.071	.044	.024	.041	.026	.014	.013	.008	.005	
8.0	.113	.066	.034	.098	.057	.029	.067	.040	.021	.039	.024	.012	.013	.008	.004	
9.0	.108	.061	.029	.093	.053	.025	.064	.037	.018	.038	.022	.011	.012	.007	.004	
10.0	.103	.057	.026	.089	.049	.022	.062	.035	.016	.036	.020	.010	.012	.007	.003	

C Range: 0 - 360DEG
 C Interval: 15.0DEG
 Test Speed: HIGH
 Temperature:25.3°C
 Operators:ZZX
 Test Date:2023-06-29

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	23.7	24.9	24.0	25.2	25.5	23.6	24.8	23.9	25.1	25.5
3H	24.7	25.8	25.1	26.1	26.5	24.7	25.8	25.0	26.1	26.5
4H	25.1	26.1	25.5	26.5	26.9	25.2	26.2	25.6	26.6	27.0
6H	25.6	26.5	26.0	26.9	27.3	25.7	26.7	26.1	27.0	27.4
8H	25.7	26.6	26.2	27.0	27.4	25.9	26.8	26.3	27.1	27.6
12H	25.8	26.7	26.3	27.1	27.5	26.0	26.8	26.4	27.2	27.7
4H 2H	24.0	25.0	24.4	25.4	25.8	23.9	25.0	24.3	25.3	25.7
3H	25.2	26.0	25.6	26.5	26.9	25.2	26.0	25.6	26.4	26.8
4H	25.8	26.5	26.2	27.0	27.4	26.0	26.7	26.4	27.1	27.6
6H	26.4	27.1	26.9	27.5	28.0	26.6	27.2	27.1	27.7	28.2
8H	26.6	27.2	27.1	27.7	28.2	26.8	27.4	27.3	27.9	28.3
12H	26.8	27.3	27.3	27.8	28.3	27.0	27.5	27.5	28.0	28.5
8H 4H	26.0	26.6	26.5	27.1	27.6	26.2	26.8	26.7	27.3	27.8
6H	26.8	27.3	27.3	27.8	28.3	27.0	27.5	27.5	28.0	28.5
8H	27.1	27.5	27.6	28.1	28.5	27.3	27.7	27.8	28.2	28.7
12H	27.3	27.7	27.9	28.2	28.8	27.6	28.0	28.1	28.5	29.0
12H 4H	26.1	26.6	26.5	27.1	27.5	26.2	26.8	26.7	27.3	27.7
6H	26.9	27.3	27.4	27.8	28.3	27.0	27.5	27.6	27.9	28.5
8H	27.2	27.6	27.7	28.1	28.7	27.4	27.8	27.9	28.3	28.8
CIE190: 2010										

CIE190: 2010
Area: 0.07354 m2

C Range: 0 - 360DEG
C Interval: 15.0DEG
Test Speed: HIGH
Temperature:25.3°C
Operators:ZZX
Test Date:2023-06-29

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

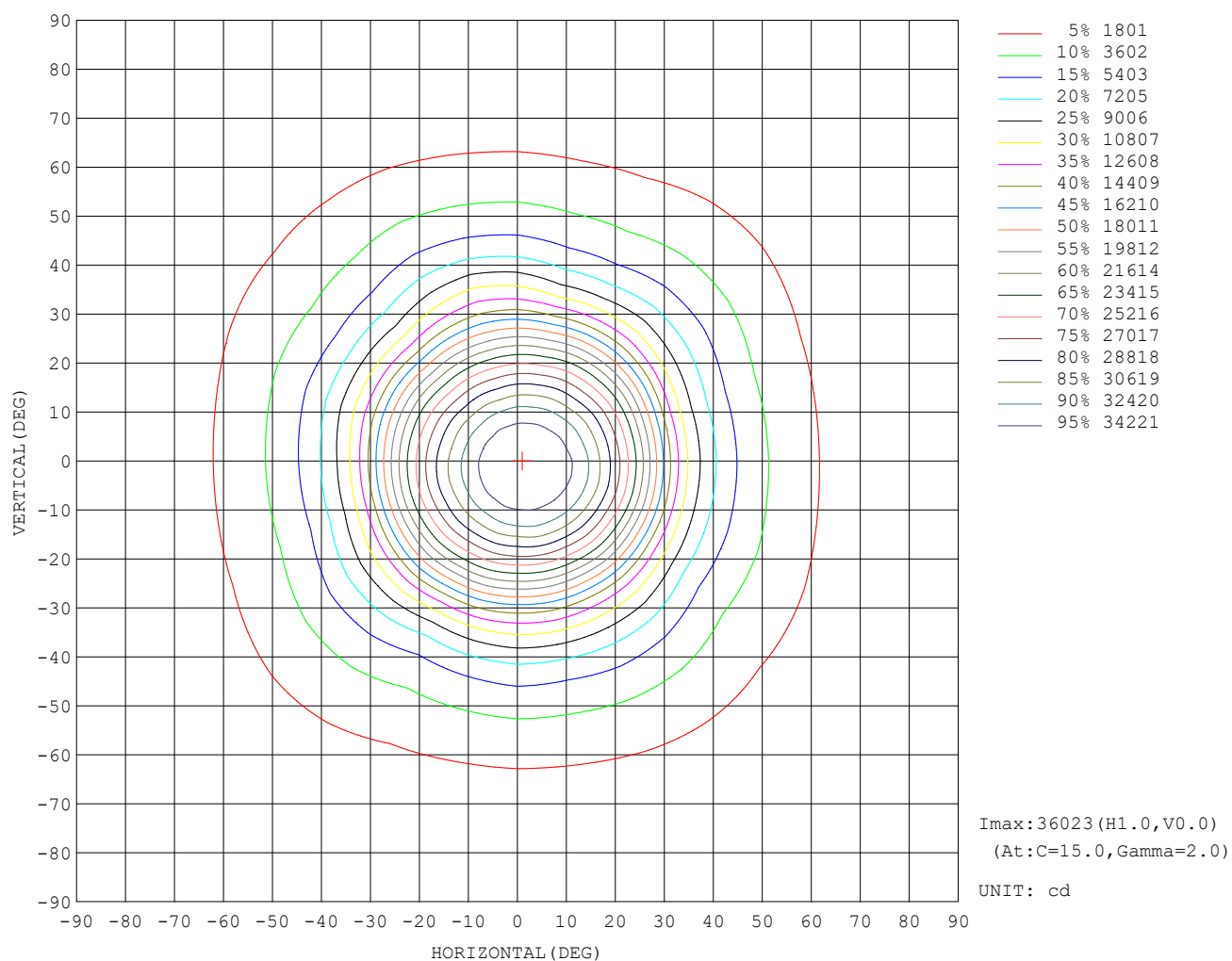
UTILIZATION FACTORS TABLE

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

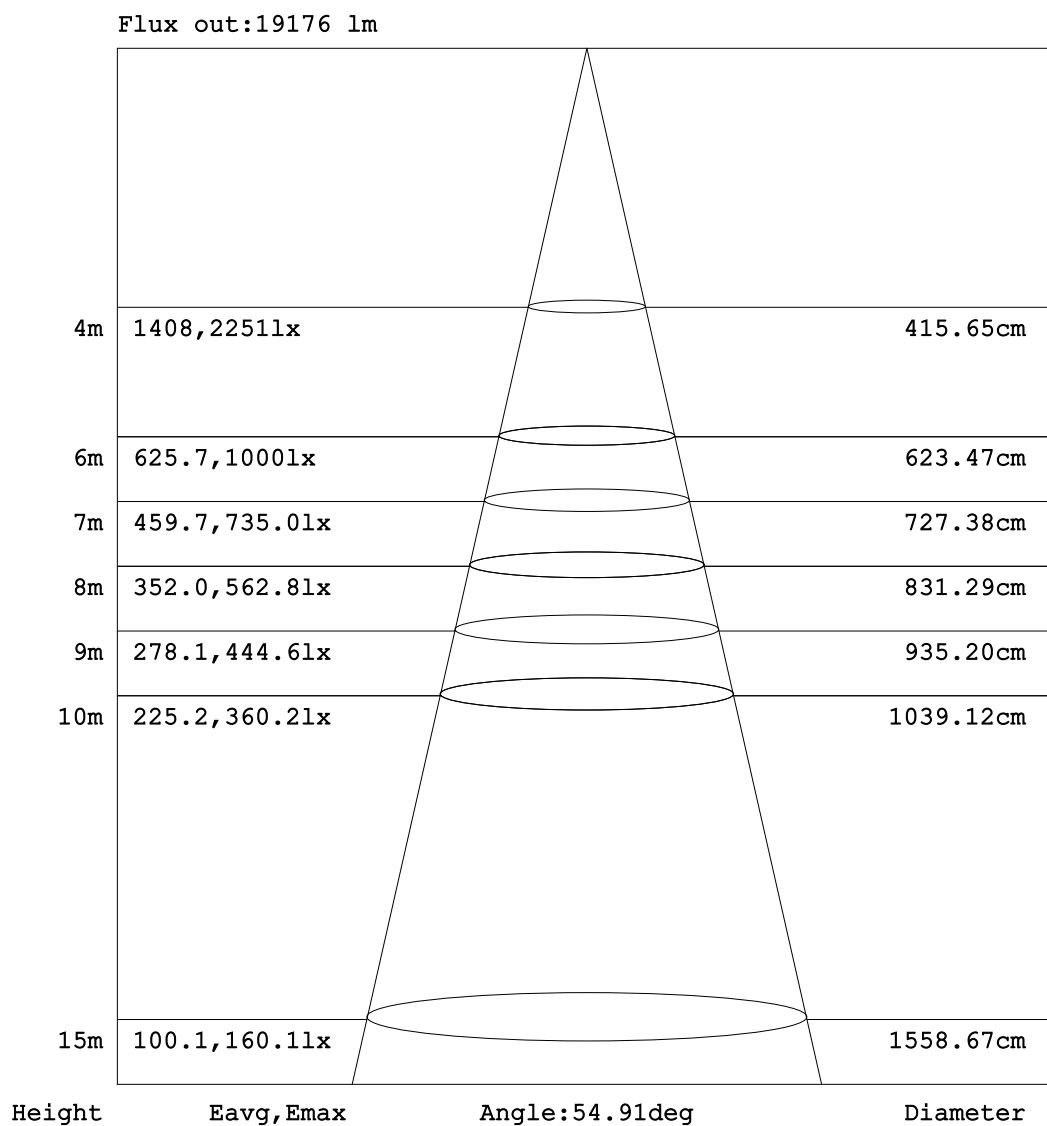
ISOCANDELA DIAGRAM



C Range: 0 - 360DEG
C Interval: 15.0DEG
Test Speed: HIGH
Temperature: 25.3°C
Operators: ZZK
Test Date: 2023-06-29

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



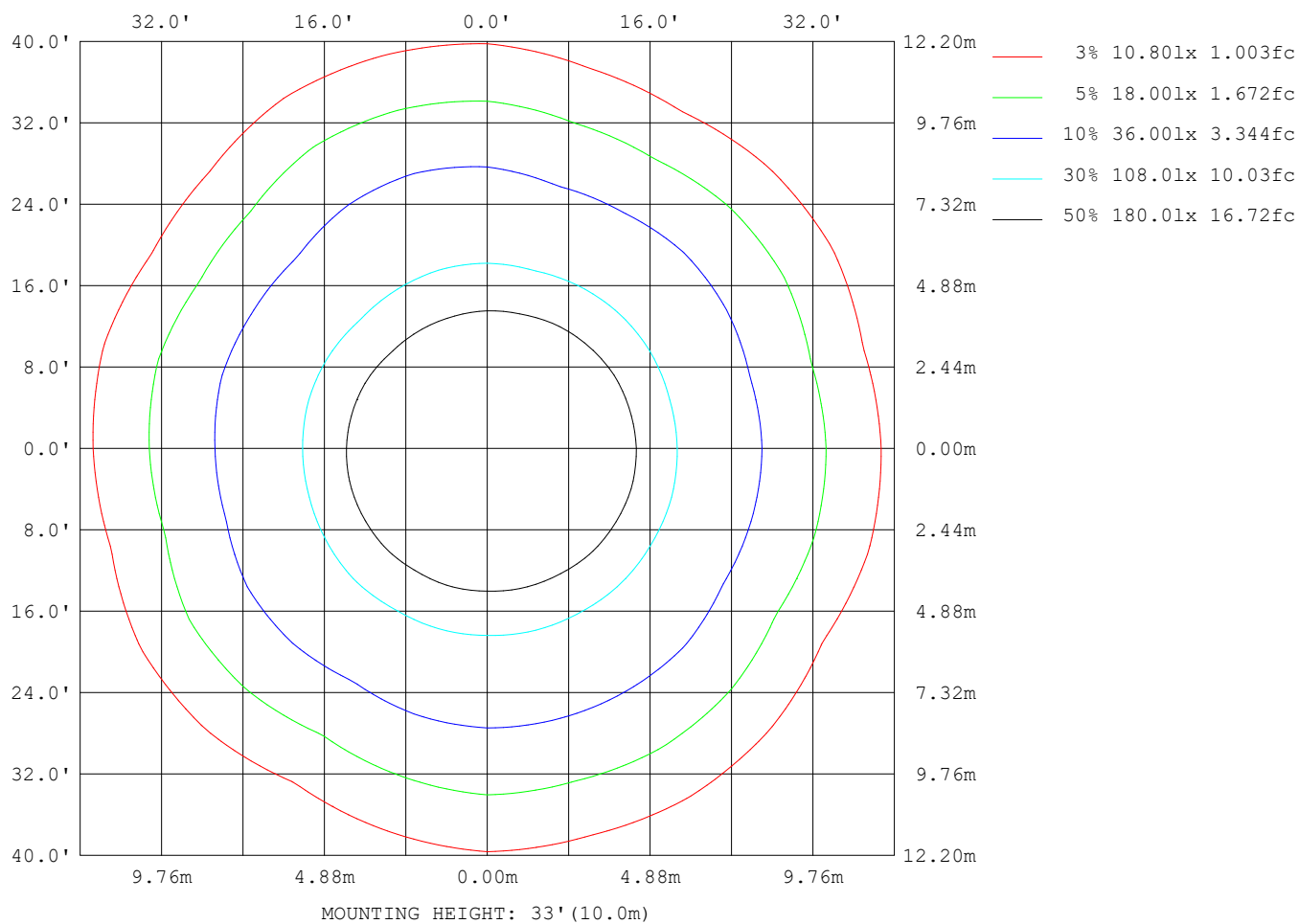
Note: The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

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C Interval: 15.0DEG
Test Speed: HIGH
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Operators: ZZX
Test Date: 2023-06-29

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Remarks:

EVERFINE GONIOPHOTOMETERS SYSTEM TEST REPORT

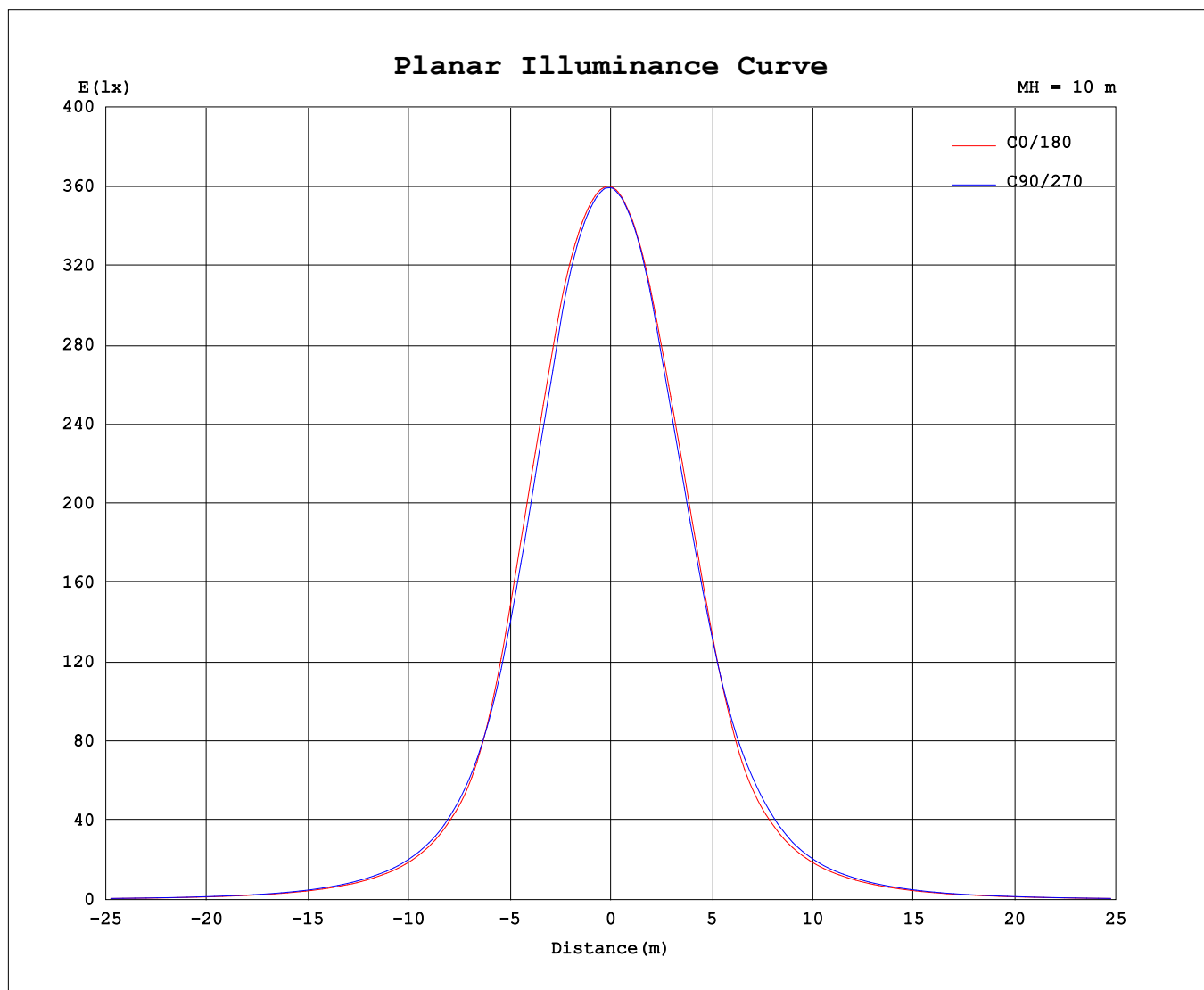
ISOLUX DIAGRAM



C Range: 0 - 360DEG
C Interval: 15.0DEG
Test Speed: HIGH
Temperature: 25.3°C
Operators: ZZX
Test Date: 2023-06-29

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: 15.0DEG
Test Speed: HIGH
Temperature: 25.3°C
Operators: ZZX
Test Date: 2023-06-29

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: