

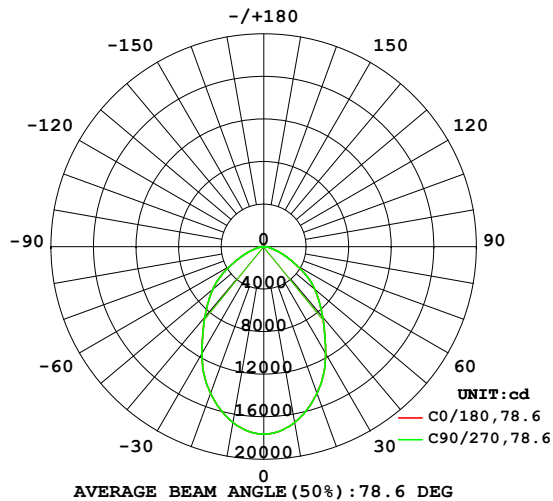
EVERFINE GONIOPHOTOMETERS SYSTEM TEST REPORT

LUMINAIRE PHOTOMETRIC TEST REPORT

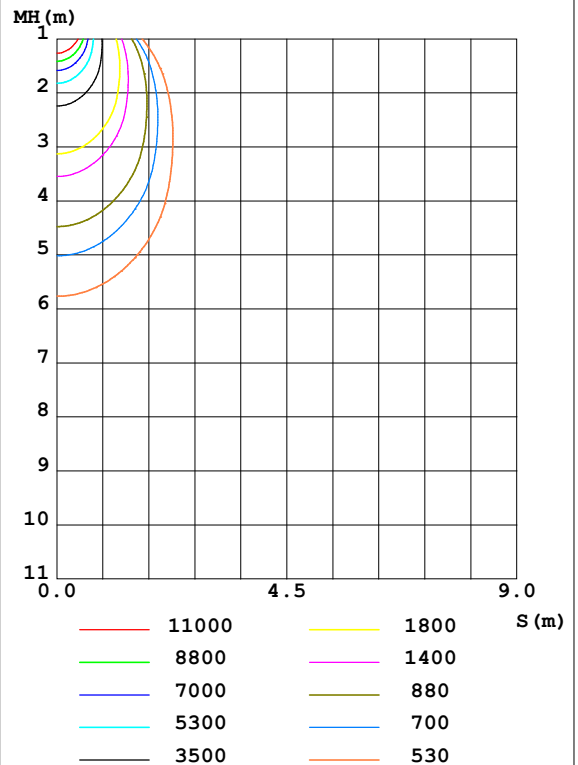
Test:U:229.5V I:0.8916A P:202.5W PF:0.9895 Freq:50.01Hz UTHDi:0.00% ITHDi:0.00% KDisp:0 Lamp Flux:32403.2x1 lm		
NAME: HB38-200-5080-H00138M	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 160.02 lm/W			
MODEL	/	I _{max} (cd)	17616	S/MH(C0/180)	1.04
NOMINAL POWER(W)	/	LOR(%)	100.0	S/MH(C90/270)	1.04
RATED VOLTAGE(V)	/	TOTAL FLUX(lm)	32403	η UP,DN(C0-180)	0.0,50.0
NOMINAL FLUX(lm)	32403.2	CIE CLASS	DIRECT	η UP,DN(C180-360)	0.0,50.0
LAMPS INSIDE	1	η up(%)	0.0	CIBSE SHR NOM	1.00
TEST VOLTAGE(V)	230	η down(%)	100.0	CIBSE SHR MAX	1.15

LUMINOUS INTENSITY DISTRIBUTION DIAGRAM



C0 PLANE ISOLUX DIAGRAM (UNIT:lx)



C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:LYJ
Test Date:2021-06-28

γ Range: 0 - 90DEG
γ Interval: 0.5DEG
Test System:EVERFINE GO-R5000_V2 SYSTEM V2.00.446
Humidity:65.0%
Test Distance:26.000m [K=0.4551]
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	1678	1678	1678	1678	1678	1678	1678	1678	0- 10	1641	1641	5.07,5.07
20	1467	1467	1467	1467	1467	1467	1467	1467	10- 20	4445	6086	18.8,18.8
30	1164	1164	1164	1164	1164	1164	1164	1164	20- 30	6086	12172	37.6,37.6
40	863.1	863.1	863.1	863.1	863.1	863.1	863.1	863.1	30- 40	6276	18448	56.9,56.9
50	627.9	627.9	627.9	627.9	627.9	627.9	627.9	627.9	40- 50	5720	24168	74.6,74.6
60	367.3	367.3	367.3	367.3	367.3	367.3	367.3	367.3	50- 60	4494	28662	88.5,88.5
70	160.1	160.1	160.1	160.1	160.1	160.1	160.1	160.1	60- 70	2505	31168	96.2,96.2
80	53.77	53.77	53.77	53.77	53.77	53.77	53.77	53.77	70- 80	999.8	32167	99.3,99.3
90	1.935	1.935	1.935	1.935	1.935	1.935	1.935	1.935	80- 90	235.9	32403	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): 21409 lm

%lum = 66.1%

%lamp = 66.1%

Conical surface Flux(120deg): 28662 lm

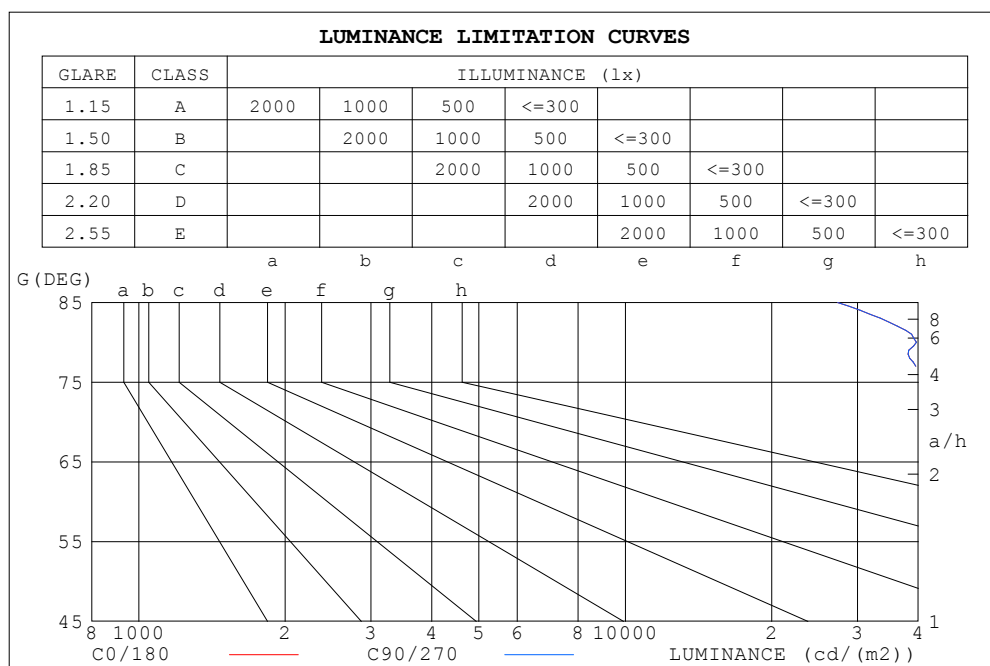
%lum = 88.5%

%lamp = 88.5%

C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:LYJ
Test Date:2021-06-28

γ Range: 0 - 90DEG
 γ Interval: 0.5DEG
Test System:EVERFINE GO-R5000_V2 SYSTEM V2.00.446
Humidity:65.0%
Test Distance:26.000m [K=0.4551]
Remarks:

LUMINANCE LIMITATION CURVES



LUMINANCE cd/(m2)		
G (DEG)	C0/180	C90/270
85	27320	27320
80	39696	39696
75	43965	43965
70	60014	60014
65	75313	75313
60	94191	94191
55	113435	113435
50	125232	125232
45	134169	134169

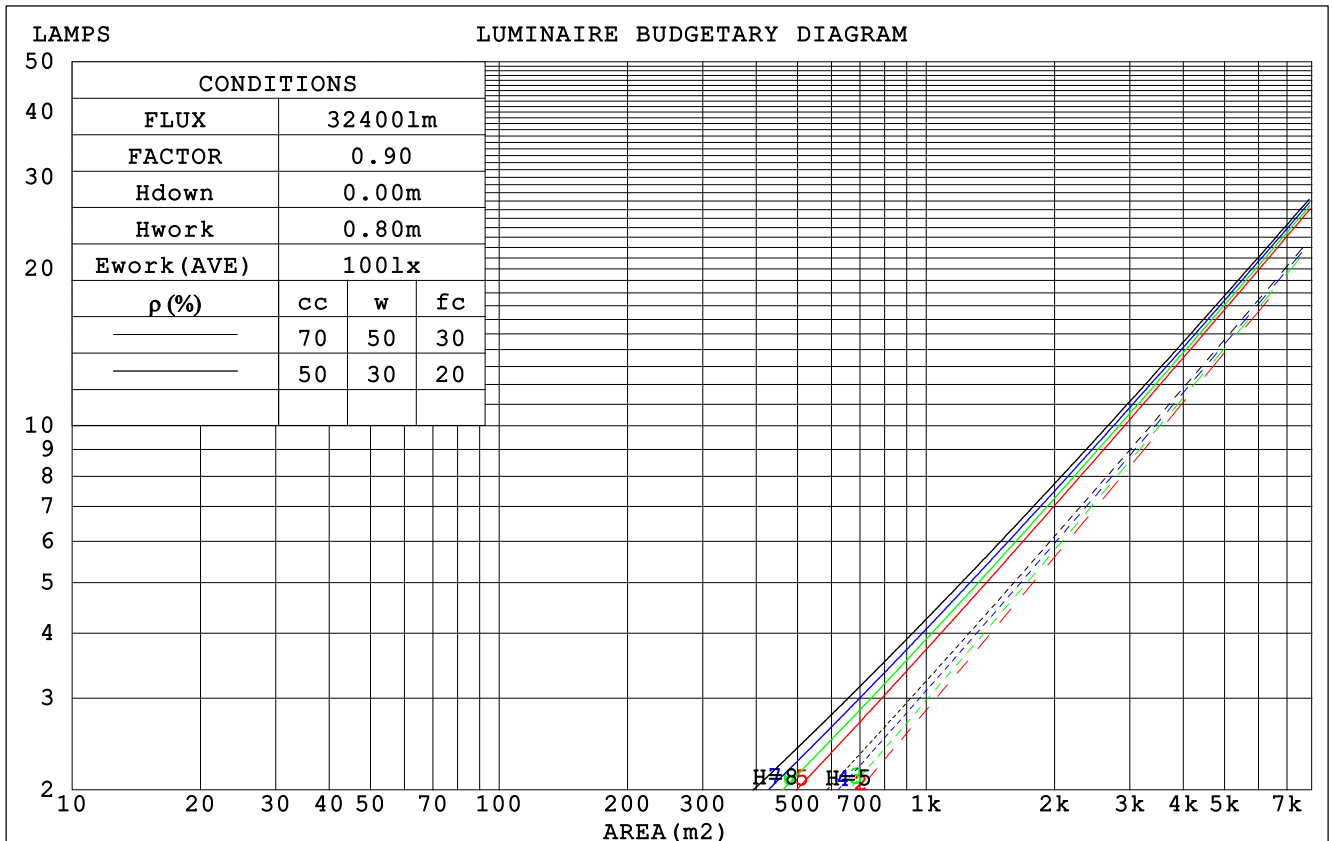
C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators: LYJ
Test Date: 2021-06-28

γ Range: 0 - 90DEG
 γ Interval: 0.5DEG
Test System: EVERFINE GO-R5000_V2 SYSTEM V2.00.446
Humidity: 65.0%
Test Distance: 26.000m [K=0.4551]
Remarks:

EVERFINE GONIOPHOTOMETERS SYSTEM TEST REPORT

CU AND LUMINAIRE BUDGETARY ESTIMATE DIAGRAM

pcc	80%			70%			50%			30%			10%			0
p _w	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
p _{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	1.07	1.03	.00	1.04	1.01	.98	1.00	.98	.95	.96	.94	.92	.93	.91	.89	.88
2.0	.95	.89	.84	.93	.88	.83	.90	.85	.81	.86	.83	.79	.84	.80	.78	.76
3.0	.85	.78	.72	.83	.77	.71	.81	.75	.70	.78	.73	.69	.75	.71	.68	.66
4.0	.76	.69	.63	.75	.68	.62	.73	.66	.61	.70	.65	.61	.68	.64	.60	.58
5.0	.69	.61	.55	.68	.60	.55	.66	.59	.54	.64	.58	.54	.62	.57	.53	.51
6.0	.63	.55	.49	.62	.54	.49	.60	.53	.48	.59	.53	.48	.57	.52	.48	.46
7.0	.58	.50	.44	.57	.49	.44	.55	.48	.43	.54	.48	.43	.53	.47	.43	.41
8.0	.53	.45	.40	.52	.45	.40	.51	.44	.39	.50	.44	.39	.49	.43	.39	.37
9.0	.49	.41	.36	.48	.41	.36	.47	.41	.36	.46	.40	.36	.45	.40	.36	.34
10.0	.45	.38	.33	.45	.38	.33	.44	.37	.33	.43	.37	.33	.42	.37	.33	.31



C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators: LYJ
Test Date: 2021-06-28

γ Range: 0 - 90DEG
γ Interval: 0.5DEG
Test System: EVERFINE GO-R5000_V2 SYSTEM V2.00.446
Humidity: 65.0%
Test Distance: 26.000m [K=0.4551]
Remarks:

EVERFINE GONIOPHOTOMETERS SYSTEM TEST REPORT

WEC AND CCEC

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	.258	.147	.046	.251	.143	.045	.238	.137	.044	.226	.130	.042	.215	.125	.040		
2.0	.249	.136	.042	.243	.134	.041	.231	.129	.040	.221	.124	.039	.211	.119	.038		
3.0	.234	.125	.037	.229	.123	.037	.219	.119	.036	.210	.115	.035	.202	.112	.035		
4.0	.220	.114	.034	.215	.113	.033	.206	.109	.033	.198	.106	.032	.191	.104	.032		
5.0	.206	.105	.030	.202	.104	.030	.194	.101	.030	.187	.099	.029	.180	.096	.029		
6.0	.193	.097	.028	.189	.096	.028	.182	.093	.027	.176	.091	.027	.170	.089	.027		
7.0	.181	.090	.025	.178	.089	.025	.172	.087	.025	.166	.085	.025	.161	.083	.025		
8.0	.171	.083	.023	.168	.083	.023	.162	.081	.023	.157	.080	.023	.152	.078	.023		
9.0	.161	.078	.022	.158	.077	.022	.153	.076	.021	.149	.075	.021	.144	.073	.021		
10.0	.152	.073	.020	.150	.072	.020	.145	.071	.020	.141	.070	.020	.137	.069	.020		

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	.190	.190	.190	.163	.163	.163	.111	.111	.111	.064	.064	.064	.020	.020	.020		
1.0	.177	.157	.138	.151	.134	.119	.103	.092	.082	.060	.054	.048	.019	.017	.015		
2.0	.166	.132	.103	.143	.114	.089	.098	.079	.062	.056	.046	.036	.018	.015	.012		
3.0	.158	.114	.079	.135	.098	.069	.093	.068	.048	.054	.040	.028	.017	.013	.009		
4.0	.150	.100	.063	.128	.087	.054	.088	.060	.038	.051	.035	.023	.016	.012	.007		
5.0	.142	.090	.051	.122	.078	.044	.084	.054	.031	.049	.032	.019	.016	.010	.006		
6.0	.135	.081	.042	.116	.070	.037	.080	.049	.026	.047	.029	.015	.015	.009	.005		
7.0	.129	.074	.036	.111	.064	.031	.077	.045	.022	.044	.026	.013	.014	.009	.004		
8.0	.123	.068	.031	.106	.059	.027	.073	.041	.019	.043	.024	.011	.014	.008	.004		
9.0	.117	.063	.027	.101	.055	.023	.070	.039	.017	.041	.023	.010	.013	.007	.003		
10.0	.112	.059	.024	.096	.051	.021	.067	.036	.015	.039	.021	.009	.013	.007	.003		

C Range: 0 - 360DEG
 C Interval: 22.5DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:LYJ
 Test Date:2021-06-28

γ Range: 0 - 90DEG
 γ Interval: 0.5DEG
 Test System:EVERFINE GO-R5000_V2 SYSTEM V2.00.446
 Humidity:65.0%
 Test Distance:26.000m [K=0.4551]
 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	27.8	29.3	28.2	29.6	29.9	27.8	29.3	28.2	29.6	29.9
3H	28.7	30.0	29.1	30.3	30.7	28.7	30.0	29.1	30.3	30.7
4H	28.9	30.1	29.3	30.5	30.9	28.9	30.1	29.3	30.5	30.9
6H	29.0	30.2	29.5	30.5	30.9	29.0	30.2	29.5	30.5	30.9
8H	29.1	30.2	29.5	30.6	31.0	29.1	30.2	29.5	30.6	31.0
12H	29.1	30.1	29.5	30.5	30.9	29.1	30.1	29.5	30.5	30.9
4H 2H	28.1	29.3	28.5	29.7	30.1	28.1	29.3	28.5	29.7	30.1
3H	29.2	30.2	29.6	30.6	31.0	29.2	30.2	29.6	30.6	31.0
4H	29.5	30.4	29.9	30.8	31.2	29.5	30.4	29.9	30.8	31.2
6H	29.7	30.5	30.1	30.9	31.4	29.7	30.5	30.1	30.9	31.4
8H	29.7	30.5	30.2	30.9	31.4	29.7	30.5	30.2	30.9	31.4
12H	29.8	30.4	30.3	30.9	31.4	29.8	30.4	30.3	30.9	31.4
8H 4H	29.5	30.3	30.0	30.7	31.2	29.5	30.3	30.0	30.7	31.2
6H	29.8	30.4	30.3	30.9	31.4	29.8	30.4	30.3	30.9	31.4
8H	29.9	30.5	30.4	31.0	31.5	29.9	30.5	30.4	31.0	31.5
12H	30.0	30.5	30.5	31.0	31.5	30.0	30.5	30.5	31.0	31.5
12H 4H	29.5	30.2	30.0	30.7	31.1	29.5	30.2	30.0	30.7	31.1
6H	29.8	30.4	30.3	30.8	31.4	29.8	30.4	30.3	30.8	31.4
8H	30.0	30.4	30.5	30.9	31.5	30.0	30.4	30.5	30.9	31.5
CIE190: 2010										

CIE190: 2010
Area: 0.078 m2

C Range: 0 - 360DEG
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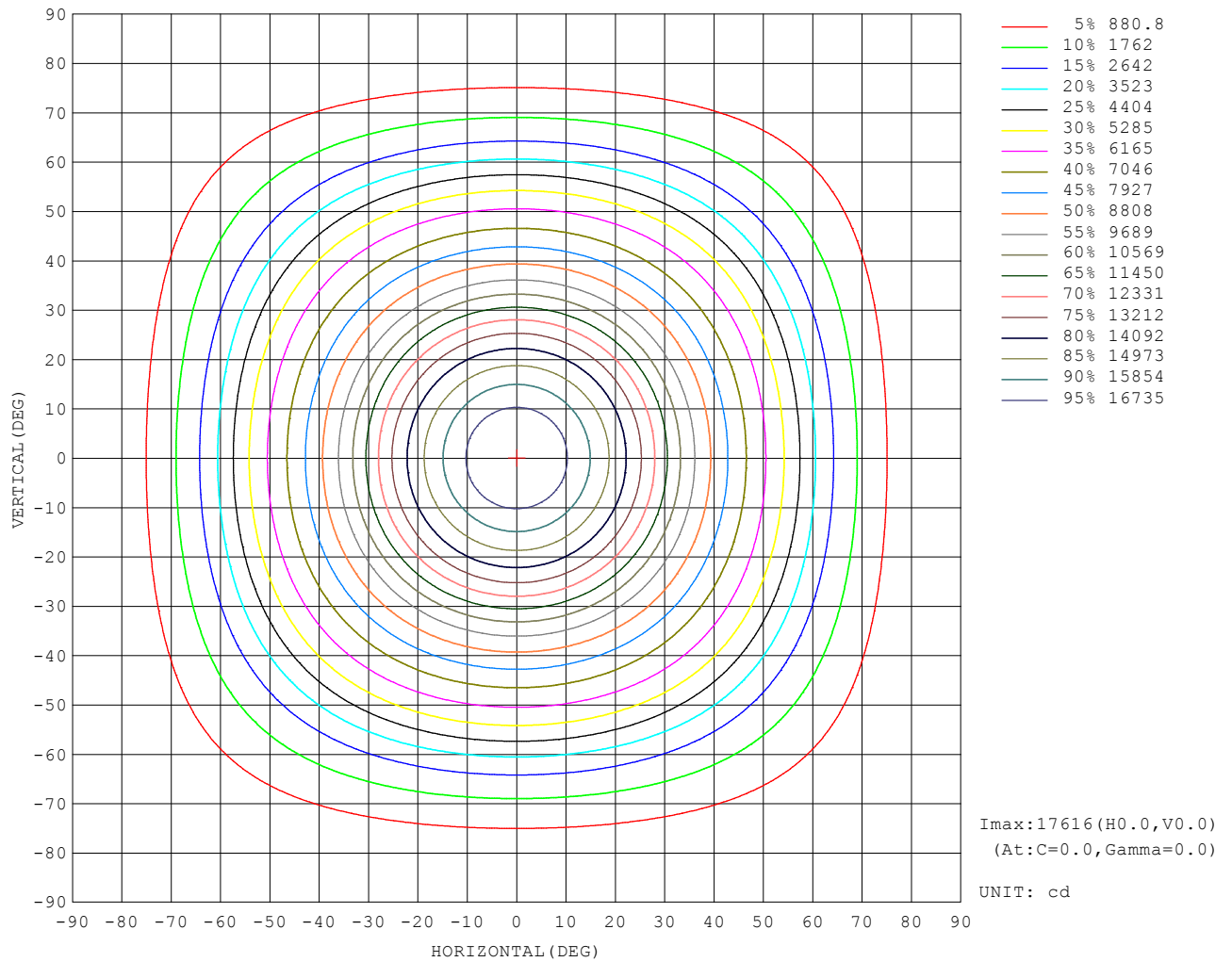
UTILIZATION FACTORS TABLE

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) $k(RI) \times RCR = 5$									
$k = 0.60$	64	54	48	64	54	48	63	53	48	42
0.80	74	64	58	74	64	58	72	63	57	51
1.00	83	73	67	81	72	66	79	73	66	60
1.25	89	80	74	88	80	74	85	78	73	67
1.50	94	85	80	92	85	79	89	83	78	71
2.00	100	92	87	98	91	86	95	89	85	78
2.50	103	96	91	101	95	90	97	92	88	81
3.00	106	100	95	104	98	94	100	96	92	84
4.00	109	104	100	107	102	99	103	99	96	88
5.00	111	107	103	108	105	102	104	101	99	90
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: 25.3DEG
 Operators: LYJ
 Test Date: 2021-06-28

γ Range: 0 - 90DEG
 γ Interval: 0.5DEG
 Test System: EVERFINE GO-R5000_V2 SYSTEM V2.00.446
 Humidity: 65.0%
 Test Distance: 26.000m [K=0.4551]
 Remarks:

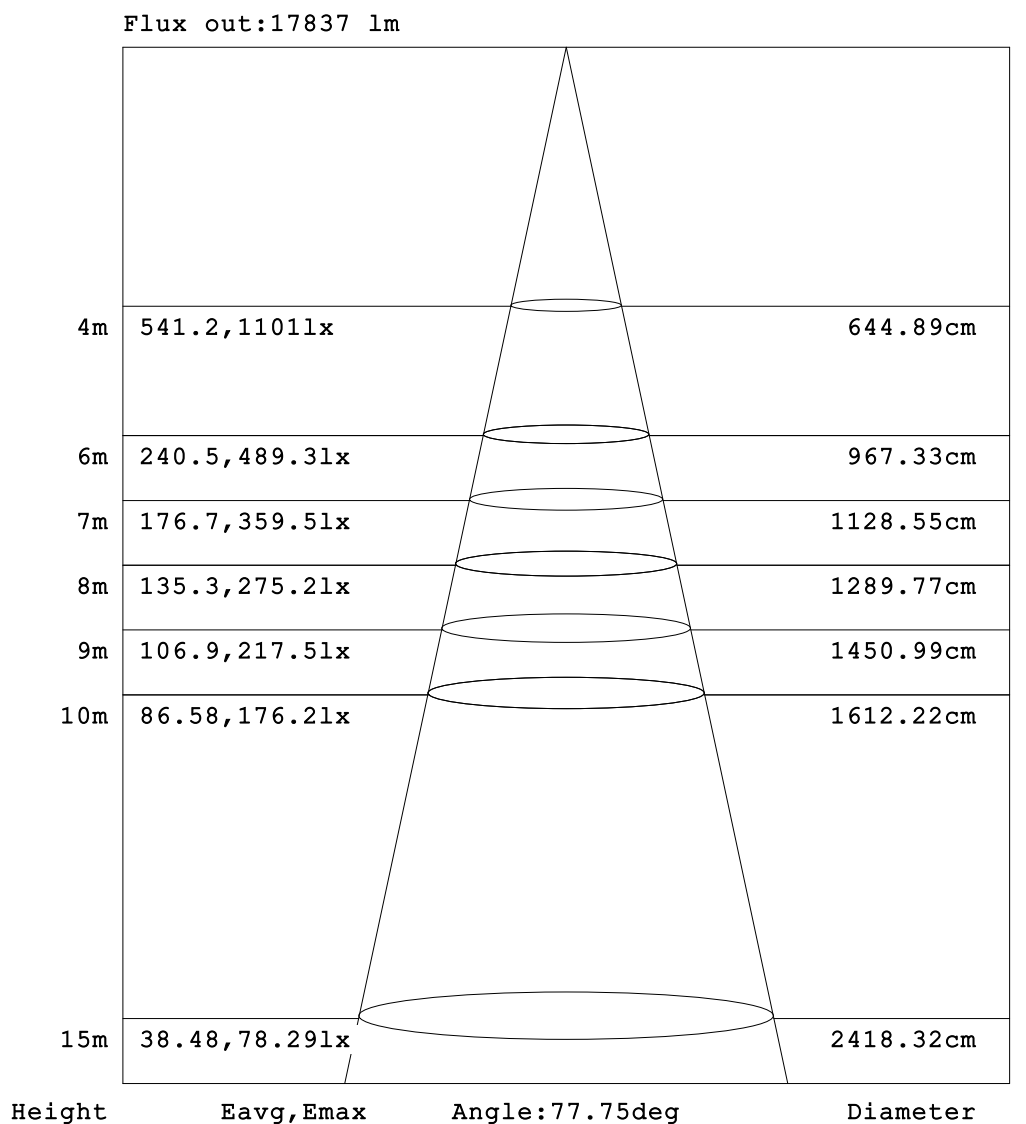
ISOCANDELA DIAGRAM



C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:LYJ
Test Date:2021-06-28

γ Range: 0 - 90DEG
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Test System:EVERFINE GO-R5000_V2 SYSTEM V2.00.446
Humidity:65.0%
Test Distance:26.000m [K=0.4551]
Remarks:

AAI Figure



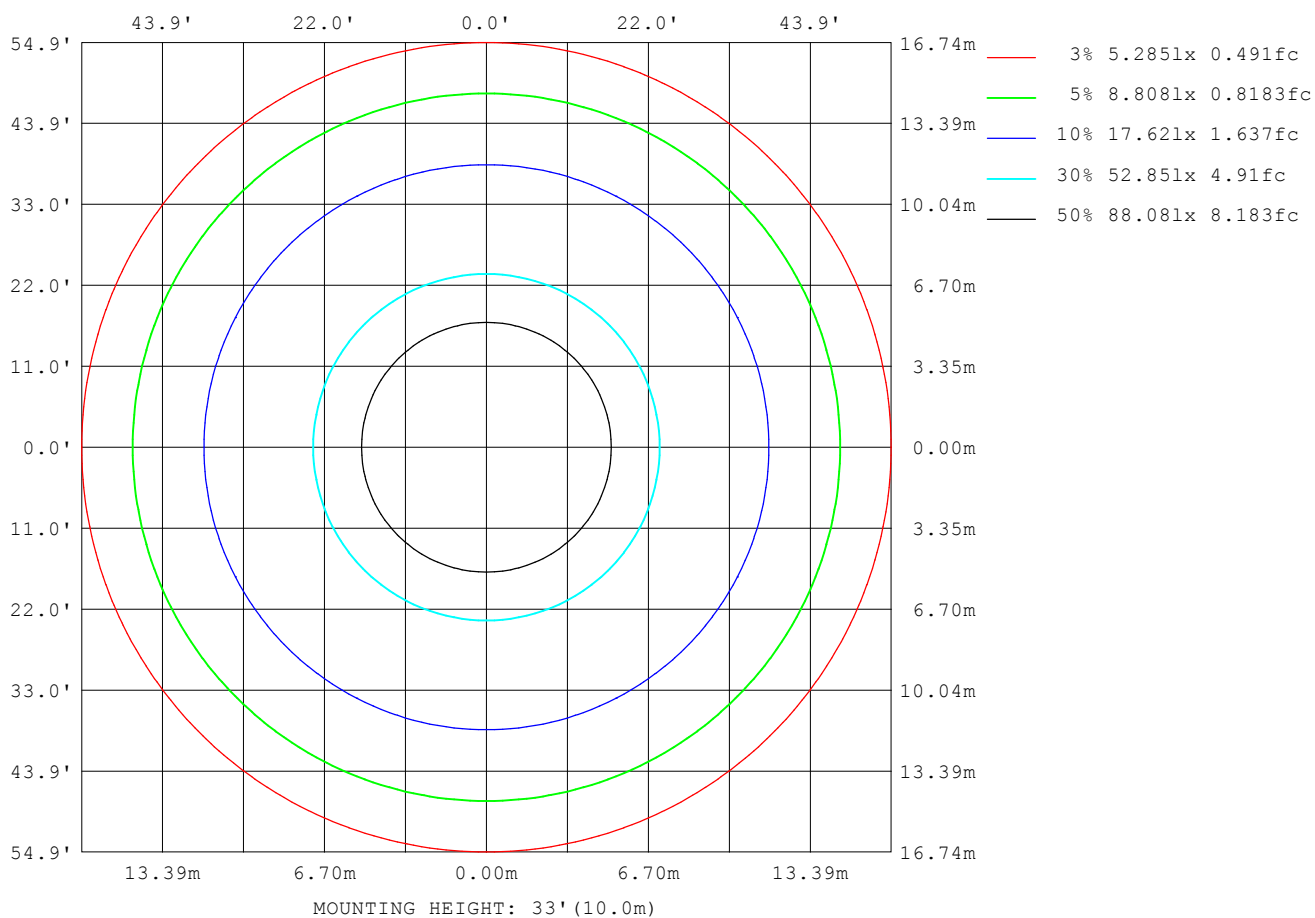
Note: The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

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C Interval: 22.5DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators: LYJ
Test Date: 2021-06-28

γ Range: 0 - 90DEG
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Test System: EVERFINE GO-R5000_V2 SYSTEM V2.00.446
Humidity: 65.0%
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Remarks:

EVERFINE GONIOPHOTOMETERS SYSTEM TEST REPORT

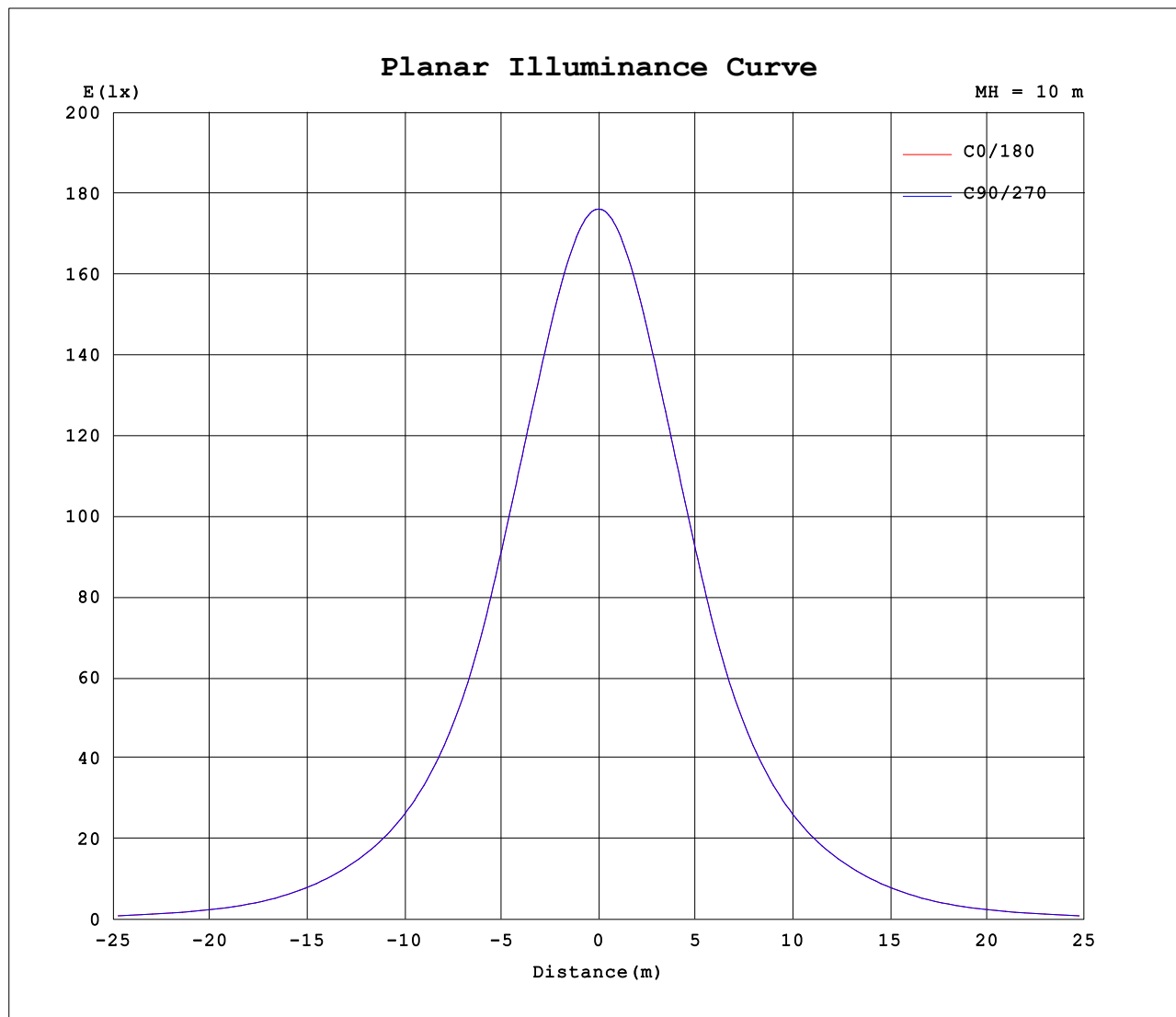
ISOLUX DIAGRAM



C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators: LYJ
Test Date: 2021-06-28

γ Range: 0 - 90DEG
 γ Interval: 0.5DEG
Test System: EVERFINE GO-R5000_V2 SYSTEM V2.00.446
Humidity: 65.0%
Test Distance: 26.000m [K=0.4551]
Remarks:

Planar Illuminance Curve



C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators: LYJ
Test Date: 2021-06-28

γ Range: 0 - 90DEG
 γ Interval: 0.5DEG
Test System: EVERFINE GO-R5000_V2 SYSTEM V2.00.446
Humidity: 65.0%
Test Distance: 26.000m [K=0.4551]
Remarks: