

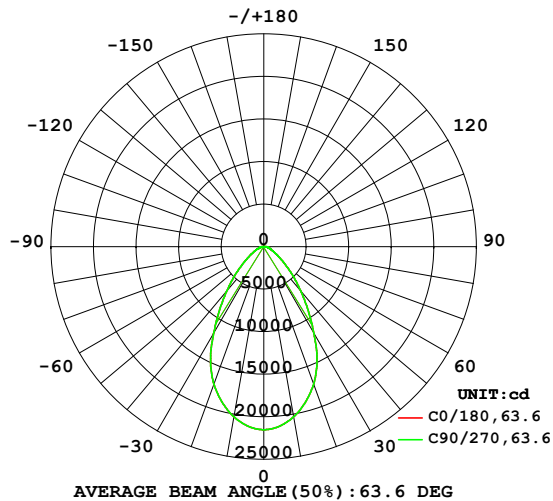
EVERFINE GONIOPHOTOMETERS SYSTEM TEST REPORT

LUMINAIRE PHOTOMETRIC TEST REPORT

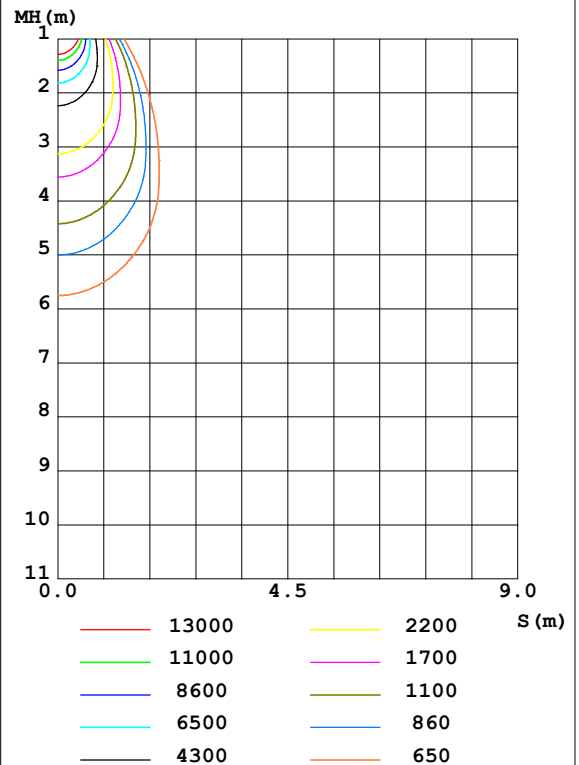
Test:U:229.8V I:0.8744A P:197.95W PF:0.9851 Freq:50.00Hz Lamp Flux:27529.8x1 lm		
NAME: HB44-200-3080-H00111	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 139.08 lm/W			
MODEL	/	I _{max} (cd)	21513	S/MH(C0/180)	0.95
NOMINAL POWER(W)	/	LOR(%)	100.0	S/MH(C90/270)	0.95
RATED VOLTAGE(V)	/	TOTAL FLUX(lm)	27530	η UP,DN(C0-180)	0.0,50.0
NOMINAL FLUX(lm)	27529.8	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)	/	η down(%)	100.0	CIBSE SHR MAX	1.00

LUMINOUS INTENSITY DISTRIBUTION DIAGRAM



C0 PLANE ISOLUX DIAGRAM (UNIT:lx)



C Range: 0 - 360DEG
C Interval: 15.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:LTF
Test Date:2020-06-21

γ Range: 0 - 90DEG
γ Interval: 0.5DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.295
Humidity:65.0%
Test Distance:9.432m [K=1.0000]
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	2031	2031	2031	2031	2031	2031	2031	2031	0- 10	1994	1994	7.24,7.24
20	1717	1717	1717	1717	1717	1717	1717	1717	10- 20	5301	7294	26.5,26.5
30	1182	1182	1182	1182	1182	1182	1182	1182	20- 30	6732	14027	51,51
40	674.4	674.4	674.4	674.4	674.4	674.4	674.4	674.4	30- 40	5675	19702	71.6,71.6
50	337.4	337.4	337.4	337.4	337.4	337.4	337.4	337.4	40- 50	3779	23481	85.3,85.3
60	159.2	159.2	159.2	159.2	159.2	159.2	159.2	159.2	50- 60	2113	25595	93,93
70	78.13	78.13	78.13	78.13	78.13	78.13	78.13	78.13	60- 70	1114	26709	97,97
80	44.20	44.20	44.20	44.20	44.20	44.20	44.20	44.20	70- 80	598.2	27307	99.2,99.2
90	0.8589	0.8589	0.8589	0.8589	0.8589	0.8589	0.8589	0.8589	80- 90	223.0	27530	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): 21836 lm

%lum = 79.3%

%lamp = 79.3%

Conical surface Flux(120deg): 25595 lm

%lum = 93.0%

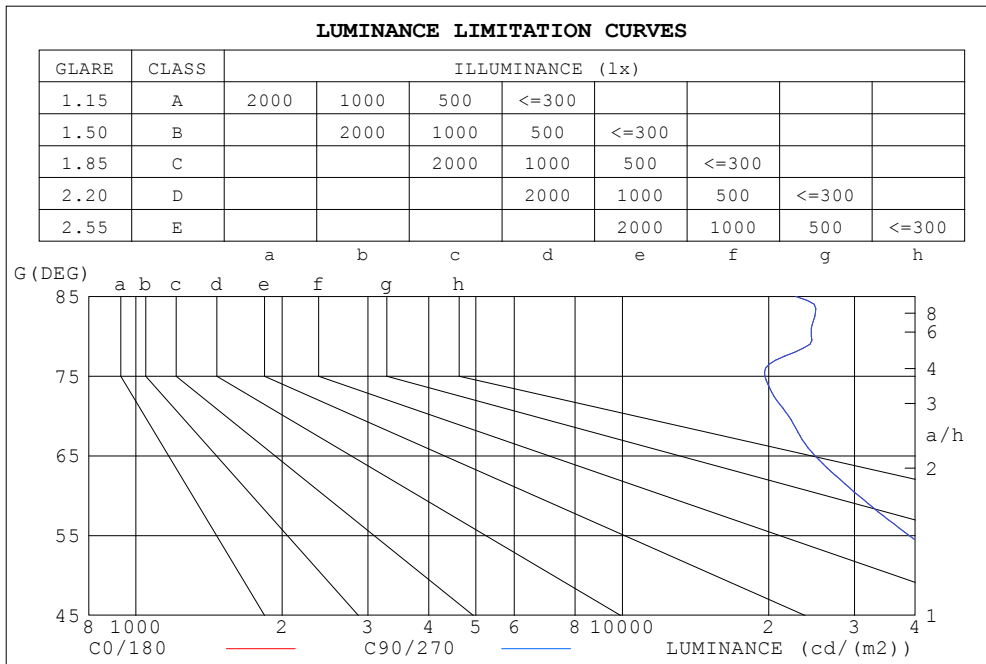
%lamp = 93.0%

C Range: 0 - 360DEG
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Operators:LTF
Test Date:2020-06-21

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LUMINANCE LIMITATION CURVES



LUMINANCE cd/(m2)		
G (DEG)	C0/180	C90/270
85	22763	22763
80	24476	24476
75	19633	19633
70	21964	21964
65	24930	24930
60	30610	30610
55	38901	38901
50	50477	50477
45	66302	66302

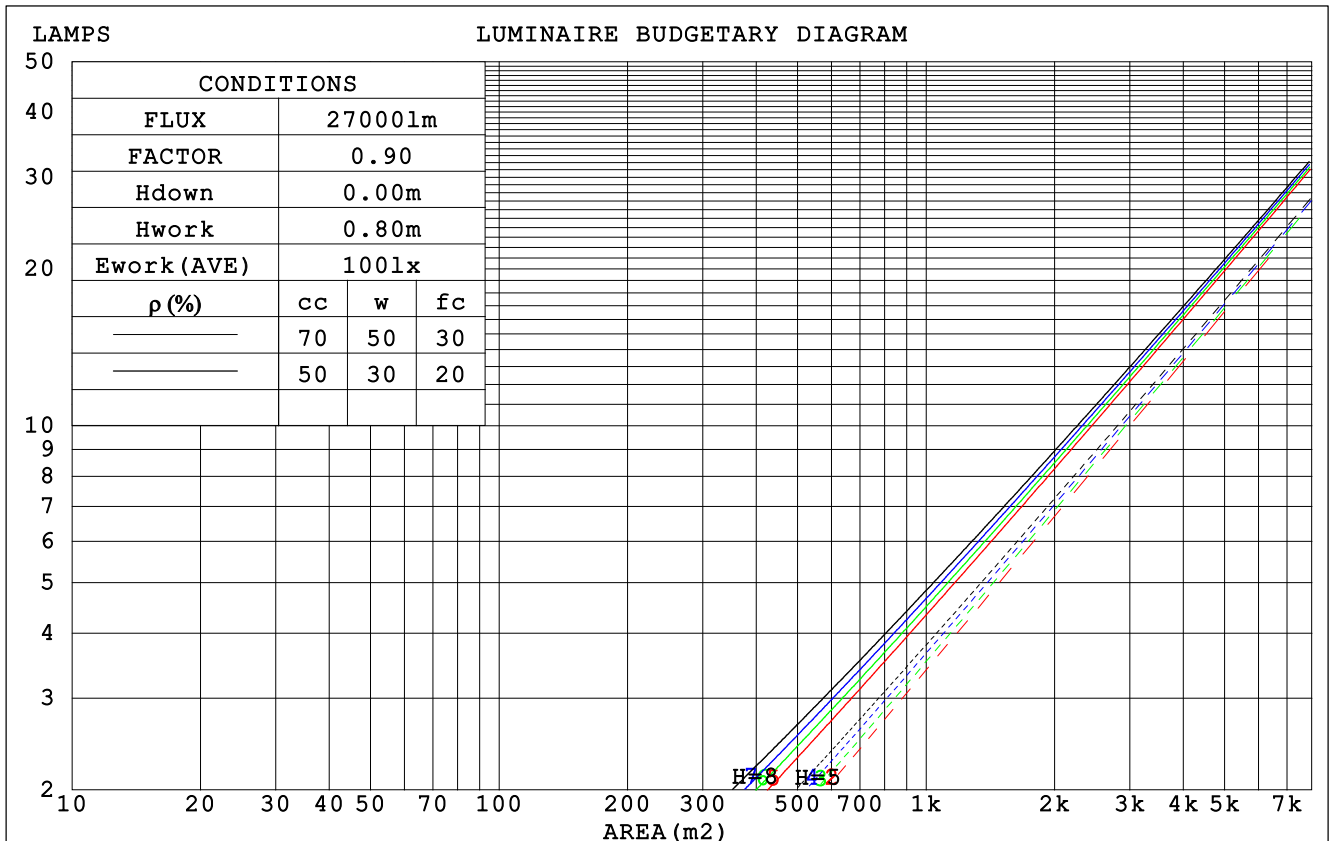
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 Test Speed: HIGH
 Temperature: 25.3DEG
 Operators: LTF
 Test Date: 2020-06-21

γ Range: 0 - 90DEG
 γ Interval: 0.5DEG
 Test System: EVERFINE GO-2000A_V1 SYSTEM V2.0.295
 Humidity: 65.0%
 Test Distance: 9.432m [K=1.0000]
 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	1.08	1.05	1.02	1.06	1.03	1.00	1.02	.99	.97	.98	.96	.94	.94	.93	.92	.90
2.0	.98	.93	.89	.96	.92	.88	.93	.89	.86	.90	.87	.84	.87	.84	.82	.80
3.0	.89	.83	.78	.88	.82	.77	.85	.80	.76	.83	.78	.75	.80	.77	.74	.72
4.0	.82	.75	.70	.81	.74	.69	.78	.73	.68	.76	.71	.68	.74	.70	.67	.65
5.0	.75	.68	.63	.74	.67	.62	.72	.66	.62	.70	.65	.61	.69	.64	.61	.59
6.0	.69	.62	.57	.69	.62	.57	.67	.61	.56	.65	.60	.56	.64	.59	.56	.54
7.0	.64	.57	.52	.64	.57	.52	.62	.56	.52	.61	.55	.51	.60	.55	.51	.49
8.0	.60	.53	.48	.59	.52	.48	.58	.52	.48	.57	.51	.47	.56	.51	.47	.45
9.0	.56	.49	.44	.55	.49	.44	.54	.48	.44	.53	.48	.44	.52	.47	.44	.42
10.0	.52	.46	.41	.52	.45	.41	.51	.45	.41	.50	.45	.41	.49	.44	.41	.39



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γ Interval: 0.5DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.295
Humidity:65.0%
Test Distance:9.432m [K=1.0000]
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	.229	.130	.041	.222	.127	.040	.209	.120	.038	.197	.114	.036	.186	.108	.035															
2.0	.218	.119	.037	.212	.117	.036	.201	.112	.035	.191	.107	.034	.181	.103	.032															
3.0	.206	.109	.033	.200	.107	.032	.191	.103	.031	.182	.100	.031	.174	.096	.030															
4.0	.193	.101	.030	.189	.099	.029	.181	.096	.029	.173	.093	.028	.166	.090	.027															
5.0	.182	.093	.027	.178	.092	.027	.171	.089	.026	.164	.087	.026	.158	.084	.025															
6.0	.172	.086	.025	.168	.085	.024	.162	.083	.024	.156	.081	.024	.150	.079	.023															
7.0	.162	.080	.023	.159	.079	.023	.154	.078	.022	.148	.076	.022	.143	.074	.022															
8.0	.154	.075	.021	.151	.074	.021	.146	.073	.021	.141	.071	.021	.136	.070	.020															
9.0	.146	.071	.020	.143	.070	.020	.139	.069	.019	.134	.067	.019	.130	.066	.019															
10.0	.139	.067	.018	.137	.066	.018	.132	.065	.018	.128	.064	.018	.125	.063	.018															

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	.175	.157	.141	.149	.135	.121	.102	.093	.084	.059	.054	.049	.019	.017	.016		
2.0	.162	.132	.107	.139	.114	.092	.095	.079	.064	.055	.046	.038	.018	.015	.012		
3.0	.152	.114	.083	.130	.098	.072	.090	.068	.051	.052	.040	.030	.017	.013	.010		
4.0	.143	.100	.067	.123	.086	.058	.084	.060	.041	.049	.035	.024	.016	.011	.008		
5.0	.135	.089	.054	.116	.077	.047	.080	.054	.033	.046	.031	.020	.015	.010	.007		
6.0	.128	.080	.045	.110	.069	.039	.076	.048	.028	.044	.028	.017	.014	.009	.005		
7.0	.122	.073	.038	.105	.063	.033	.072	.044	.024	.042	.026	.014	.014	.009	.005		
8.0	.116	.067	.033	.100	.058	.029	.069	.041	.020	.040	.024	.012	.013	.008	.004		
9.0	.110	.062	.029	.095	.053	.025	.066	.038	.018	.038	.022	.011	.012	.007	.003		
10.0	.105	.057	.025	.091	.050	.022	.063	.035	.016	.037	.021	.009	.012	.007	.003		

C Range: 0 - 360DEG
 C Interval: 15.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:LTF
 Test Date:2020-06-21

γ Range: 0 - 90DEG
 γ Interval: 0.5DEG
 Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.295
 Humidity:65.0%
 Test Distance:9.432m [K=1.0000]
 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	21.9	23.1	22.2	23.5	23.8	21.9	23.1	22.2	23.5	23.8
3H	22.9	24.0	23.2	24.3	24.7	22.9	24.0	23.2	24.3	24.7
4H	23.2	24.3	23.6	24.7	25.0	23.2	24.3	23.6	24.7	25.0
6H	23.7	24.7	24.1	25.1	25.5	23.7	24.7	24.1	25.1	25.5
8H	23.9	24.9	24.4	25.3	25.7	23.9	24.9	24.4	25.3	25.7
12H	24.1	25.0	24.5	25.4	25.8	24.1	25.0	24.5	25.4	25.8
4H 2H	22.1	23.2	22.5	23.6	23.9	22.1	23.2	22.5	23.6	23.9
3H	23.4	24.2	23.8	24.6	25.0	23.4	24.2	23.8	24.6	25.0
4H	23.9	24.6	24.3	25.1	25.5	23.9	24.6	24.3	25.1	25.5
6H	24.5	25.2	25.0	25.7	26.1	24.5	25.2	25.0	25.7	26.1
8H	24.8	25.5	25.3	25.9	26.4	24.8	25.5	25.3	25.9	26.4
12H	25.1	25.6	25.6	26.1	26.6	25.1	25.6	25.6	26.1	26.6
8H 4H	24.1	24.7	24.5	25.1	25.6	24.1	24.7	24.5	25.1	25.6
6H	24.9	25.4	25.4	25.9	26.4	24.9	25.4	25.4	25.9	26.4
8H	25.3	25.8	25.9	26.3	26.8	25.3	25.8	25.9	26.3	26.8
12H	25.7	26.1	26.2	26.6	27.2	25.7	26.1	26.2	26.6	27.2
12H 4H	24.1	24.6	24.6	25.1	25.6	24.1	24.6	24.6	25.1	25.6
6H	25.0	25.5	25.5	25.9	26.5	25.0	25.5	25.5	25.9	26.5
8H	25.5	25.9	26.0	26.4	27.0	25.5	25.9	26.0	26.4	27.0
CIE190: 2010										

CIE190: 2010
Area: 0.104 m2

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γ Range: 0 - 90DEG
 γ Interval: 0.5DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.295
Humidity:65.0%
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UTILIZATION FACTORS TABLE

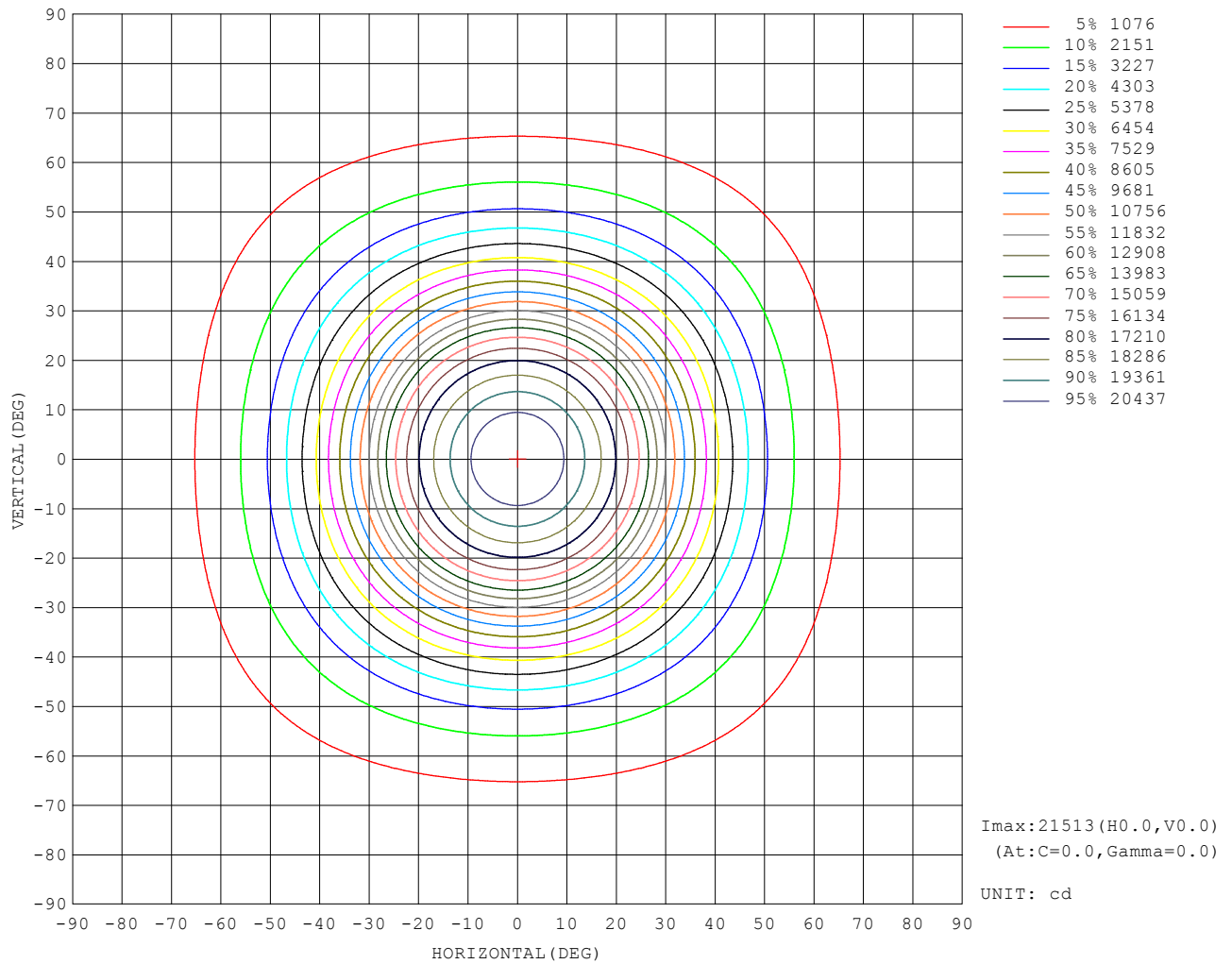
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS (PERCENT) $k(RI) \times RCR = 5$									
$k = 0.60$	74	65	60	73	65	60	72	64	59	55
0.80	83	74	69	82	74	69	80	73	68	63
1.00	89	81	76	88	81	76	87	81	75	70
1.25	95	88	83	94	87	82	91	86	81	76
1.50	99	92	87	97	91	87	95	89	85	80
2.00	103	97	93	102	96	92	99	94	91	84
2.50	106	100	96	104	99	95	101	97	93	86
3.00	108	103	99	106	102	98	102	99	96	89
4.00	111	107	104	109	105	102	105	102	99	92
5.00	112	109	106	110	107	105	106	104	102	93
ROOM INDEX	UF (total)									Direct
According to DIN EN 13032-2 2004			Suspended					SHRNOM = 1.25		

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 γ Interval: 0.5DEG
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 Humidity: 65.0%
 Test Distance: 9.432m [K=1.0000]
 Remarks:

EVERFINE GONIOPHOTOMETERS SYSTEM TEST REPORT

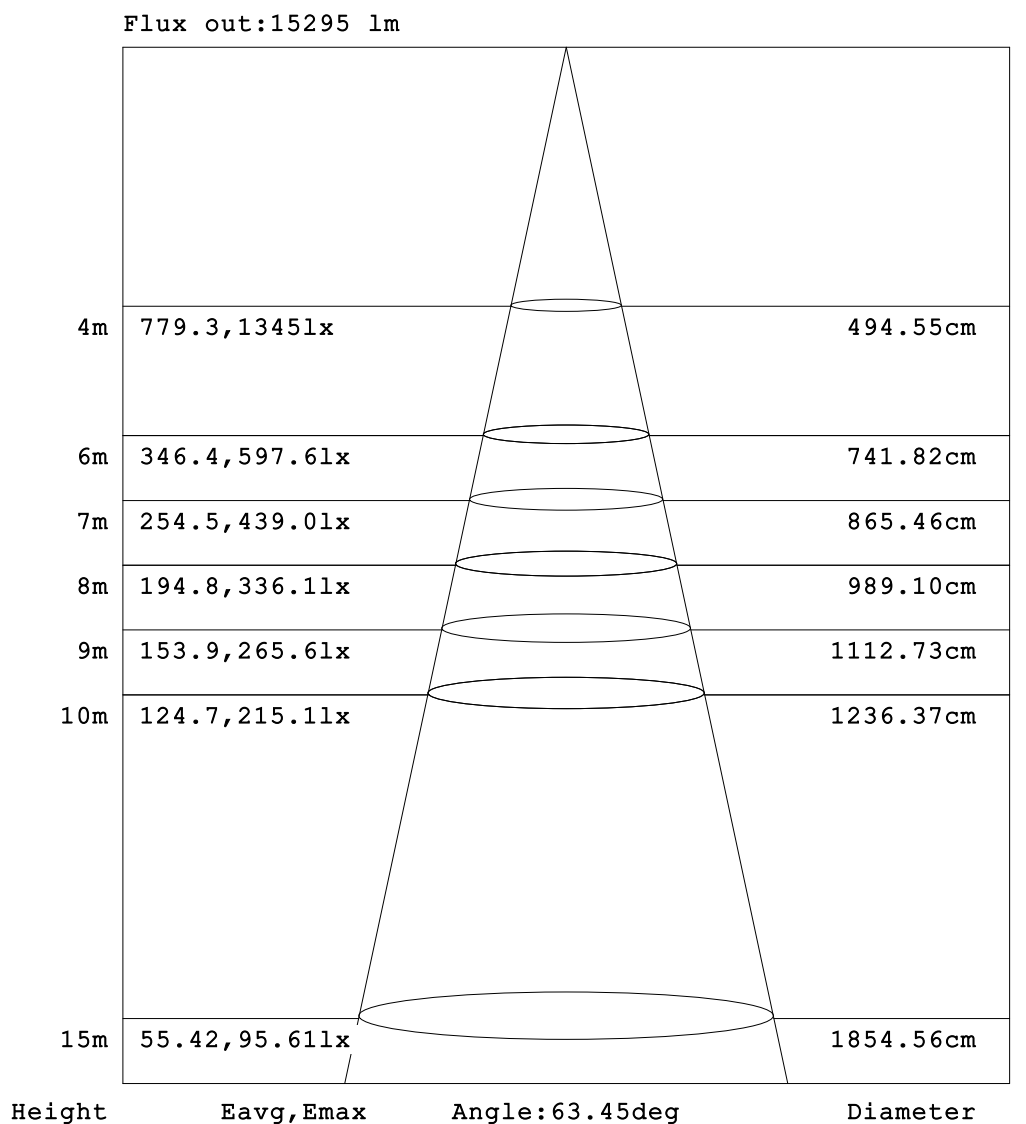
ISOCANDELA DIAGRAM



C Range: 0 - 360DEG
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Test Speed: HIGH
Temperature:25.3DEG
Operators:LTF
Test Date:2020-06-21

γ Range: 0 - 90DEG
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Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.295
Humidity:65.0%
Test Distance:9.432m [K=1.0000]
Remarks:

AAI Figure



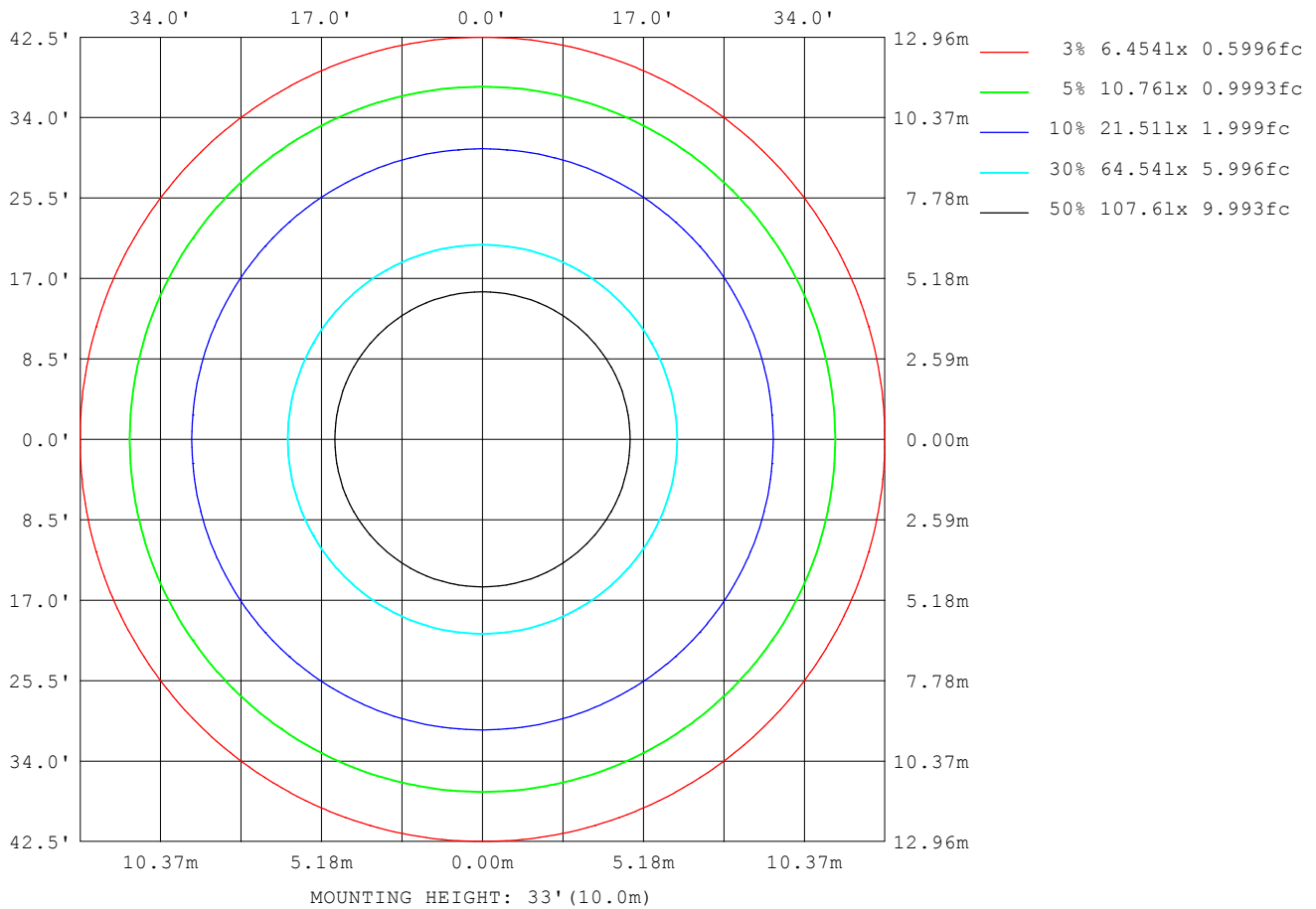
Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

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γ Range: 0 - 90DEG
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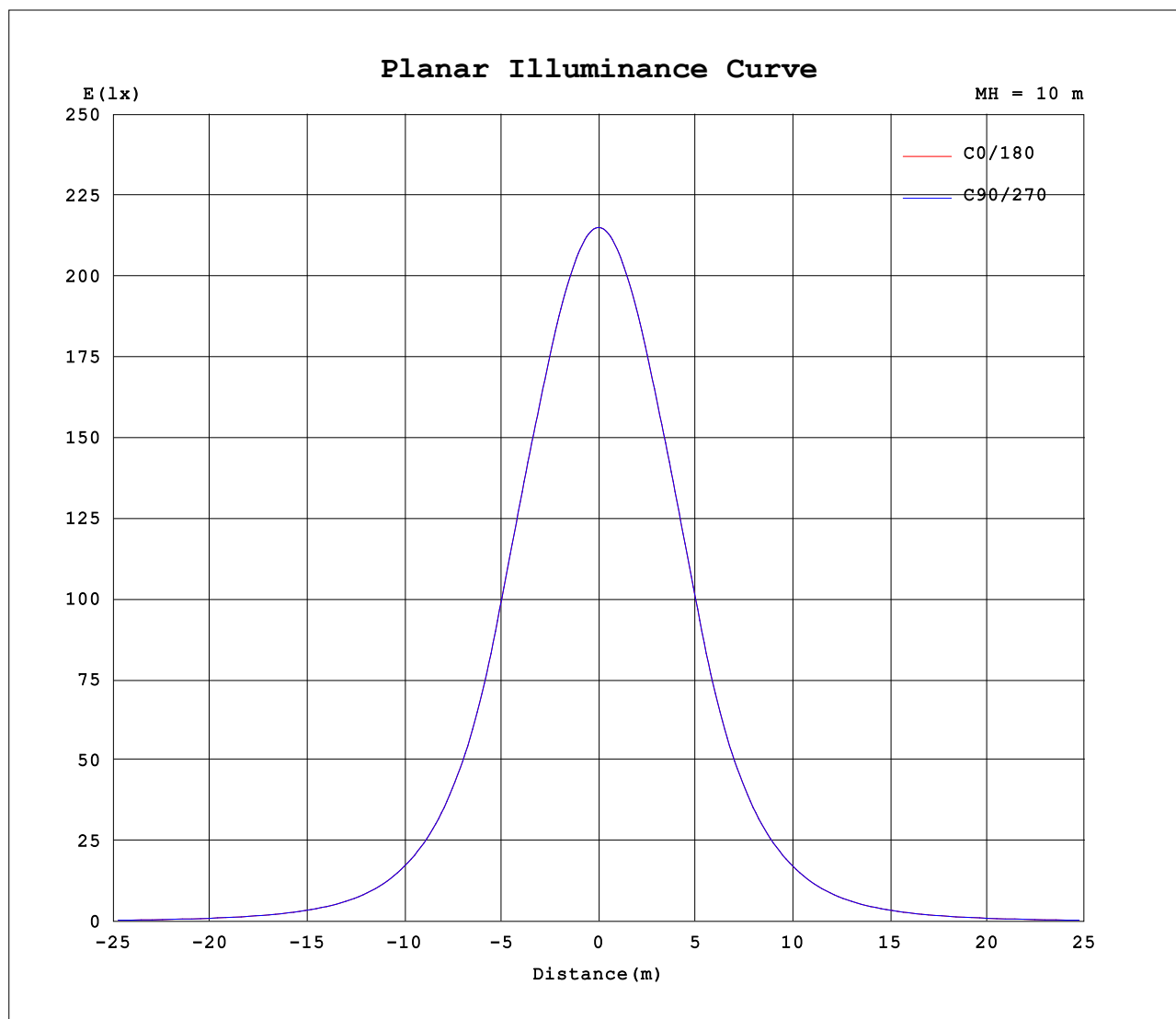
ISOLUX DIAGRAM



C Range: 0 - 360DEG
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Test Speed: HIGH
Temperature: 25.3DEG
Operators: LTF
Test Date: 2020-06-21

γ Range: 0 - 90DEG
 γ Interval: 0.5DEG
Test System: EVERFINE GO-2000A_V1 SYSTEM V2.0.295
Humidity: 65.0%
Test Distance: 9.432m [K=1.0000]
Remarks:

Planar Illuminance Curve



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Test Speed: HIGH
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Operators: LTF
Test Date: 2020-06-21

γ Range: 0 - 90DEG
 γ Interval: 0.5DEG
Test System: EVERFINE GO-2000A_V1 SYSTEM V2.0.295
Humidity: 65.0%
Test Distance: 9.432m [K=1.0000]
Remarks: