

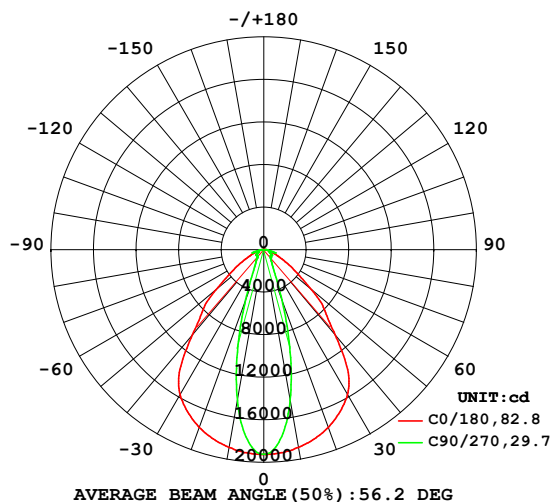
EVERFINE GONIOPHOTOMETERS SYSTEM TEST REPORT

LUMINAIRE PHOTOMETRIC TEST REPORT

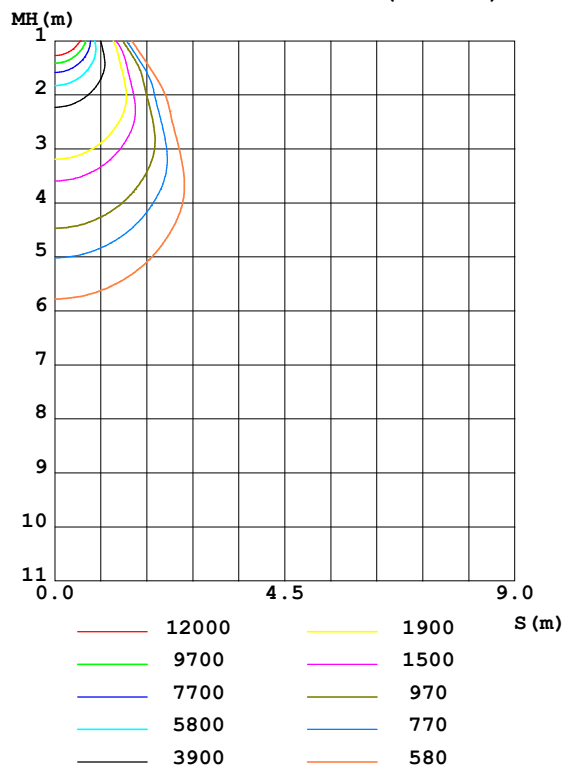
Test:U:230.0V I:0.5430A P:120.8W PF:0.9675 Freq:50.00Hz UTHDi:0% ITHDi:0% Lamp Flux:16430.1x1 lm		
NAME: HB38-120-5080-H08401	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 135.99 lm/W			
MODEL	/	Imax(cd)	19263	S/MH(C0/180)	1.18
NOMINAL POWER(W)	120	LOR(%)	100.0	S/MH(C90/270)	0.49
RATED VOLTAGE(V)	230	TOTAL FLUX(lm)	16430	η UP,DN(C0-180)	0.0,50.0
NOMINAL FLUX(lm)	16430.1	CIE CLASS	DIRECT	η UP,DN(C180-360)	0.0,50.0
LAMPS INSIDE	1	η up(%)	0.0	CIBSE SHR NOM	0.50
TEST VOLTAGE(V)	230	η down(%)	100.0	CIBSE SHR MAX	0.55

LUMINOUS INTENSITY DISTRIBUTION DIAGRAM



C0 PLANE ISOLUX DIAGRAM (UNIT:lx)



C Range: 0 - 360DEG
C Interval: 10.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:LI
Test Date:2020-06-12

γ Range: 0 - 90DEG
 γ Interval: 0.5DEG
Test System:EVERFINE GO-R5000_V2 SYSTEM V2.00.426
Humidity:65.0%
Test Distance:26.000m [K=0.4589]
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	1888	1646	1436	1646	1888	1646	1436	1646	0- 10	1705	1705	10.4,10.4
20	1777	955.6	504.1	955.6	1777	955.6	504.1	955.6	10- 20	3756	5460	33.2,33.2
30	1575	355.1	160.6	355.1	1575	355.1	160.6	355.1	20- 30	3635	9095	55.4,55.4
40	1045	139.9	100.4	139.9	1045	139.9	100.4	139.9	30- 40	2844	11939	72.7,72.7
50	585.4	88.24	86.42	88.24	585.4	88.24	86.42	88.24	40- 50	1839	13778	83.9,83.9
60	246.6	68.98	74.07	68.98	246.6	68.98	74.07	68.98	50- 60	1184	14962	91.1,91.1
70	96.65	48.36	55.07	48.36	96.65	48.36	55.07	48.36	60- 70	745.7	15707	95.6,95.6
80	30.13	31.77	47.91	31.77	30.13	31.77	47.91	31.77	70- 80	530.3	16238	98.8,98.8
90	0.3825	0.5237	1.699	0.5237	0.3825	0.5237	1.699	0.5237	80- 90	192.4	16430	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:×10cd									UNIT:lm		

Conical surface Flux(90deg): 12950 lm

%lum = 78.8%

%lamp = 78.8%

Conical surface Flux(120deg): 14962 lm

%lum = 91.1%

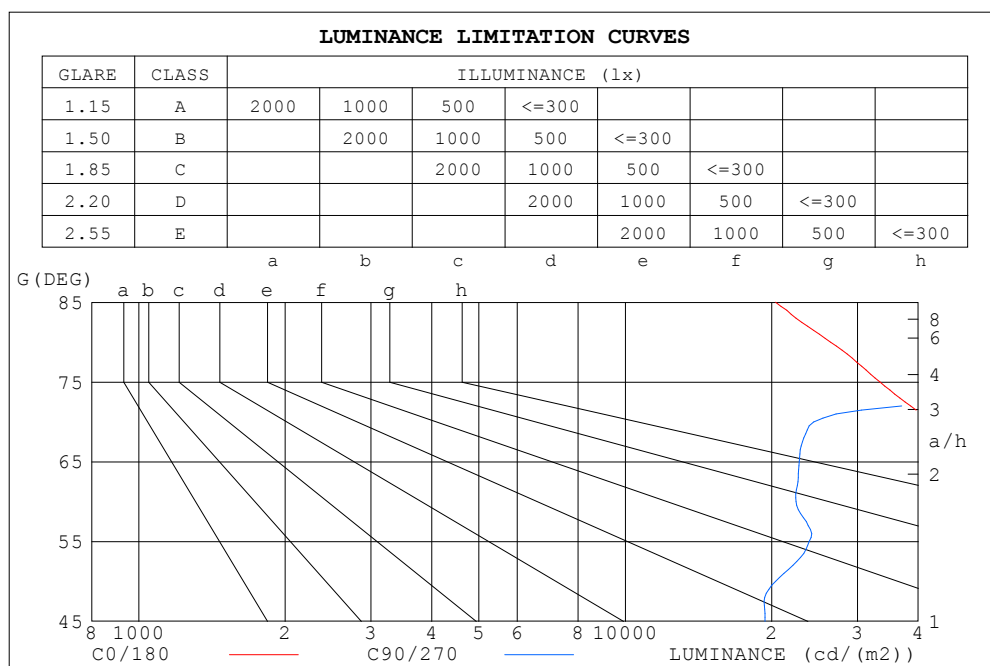
%lamp = 91.1%

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Test Speed: HIGH
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Operators:LI
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γ Range: 0 - 90DEG
 γ Interval: 0.5DEG
Test System:EVERFINE GO-R5000_V2 SYSTEM V2.00.426
Humidity:65.0%
Test Distance:26.000m [K=0.4589]
Remarks:

EVERFINE GONIOPHOTOMETERS SYSTEM TEST REPORT

LUMINANCE LIMITATION CURVES



LUMINANCE cd/(m2)		
G (DEG)	C0/180	C90/270
85	20353	46525
80	26439	41767
75	33377	64337
70	43061	24374
65	55988	22770
60	75141	22427
55	100542	23892
50	138781	20352
45	175359	19384

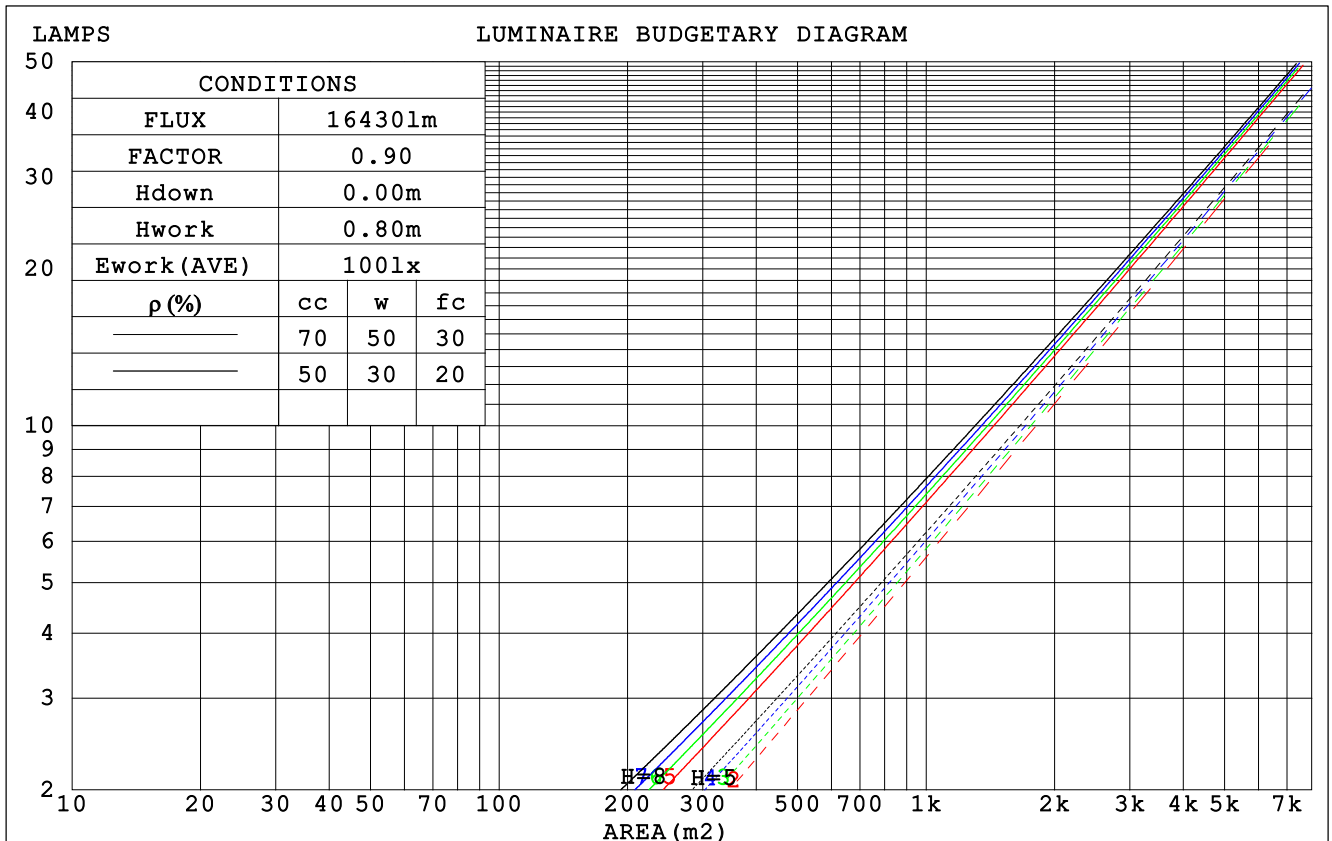
C Range: 0 - 360DEG
 C Interval: 10.0DEG
 Test Speed: HIGH
 Temperature: 25.3DEG
 Operators: LI
 Test Date: 2020-06-12

γ Range: 0 - 90DEG
 γ Interval: 0.5DEG
 Test System: EVERFINE GO-R5000_V2 SYSTEM V2.00.426
 Humidity: 65.0%
 Test Distance: 26.000m [K=0.4589]
 Remarks:

EVERFINE GONIOPHOTOMETERS SYSTEM TEST REPORT

CU AND LUMINAIRE BUDGETARY ESTIMATE DIAGRAM

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			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	.00
1.0	1.08	1.05	1.02	1.06	1.03	1.00	1.02	.99	.97	.98	.96	.94	.94	.93	.91	.89
2.0	.98	.93	.89	.96	.92	.88	.93	.89	.86	.90	.87	.84	.87	.84	.82	.80
3.0	.90	.84	.79	.88	.83	.78	.86	.81	.77	.83	.79	.76	.81	.77	.74	.73
4.0	.83	.76	.71	.81	.75	.70	.79	.74	.69	.77	.72	.69	.75	.71	.68	.66
5.0	.76	.69	.64	.75	.69	.64	.74	.68	.63	.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	.66	.59	.54	.64	.58	.54	.63	.58	.54	.62	.57	.53	.52
8.0	.62	.55	.51	.62	.55	.50	.60	.54	.50	.59	.54	.50	.58	.53	.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
C Interval: 10.0DEG
Test Speed: HIGH
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Operators: LI
Test Date: 2020-06-12

γ Range: 0 - 90DEG
γ Interval: 0.5DEG
Test System: EVERFINE GO-R5000_V2 SYSTEM V2.00.426
Humidity: 65.0%
Test Distance: 26.000m [K=0.4589]
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	.232	.132	.042	.225	.128	.041	.212	.122	.039	.200	.115	.037	.189	.110	.035		
2.0	.217	.119	.037	.212	.117	.036	.200	.111	.035	.190	.107	.033	.181	.102	.032		
3.0	.203	.108	.032	.198	.106	.032	.188	.102	.031	.179	.098	.030	.171	.095	.029		
4.0	.189	.098	.029	.185	.097	.029	.177	.094	.028	.169	.091	.027	.162	.088	.027		
5.0	.177	.090	.026	.174	.089	.026	.166	.087	.025	.159	.084	.025	.153	.082	.025		
6.0	.167	.084	.024	.163	.082	.024	.157	.080	.023	.151	.078	.023	.145	.076	.023		
7.0	.157	.078	.022	.154	.077	.022	.148	.075	.022	.143	.073	.021	.138	.072	.021		
8.0	.148	.072	.020	.146	.072	.020	.141	.070	.020	.136	.069	.020	.131	.067	.020		
9.0	.140	.068	.019	.138	.067	.019	.133	.066	.019	.129	.065	.019	.125	.064	.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	.175	.157	.141	.150	.135	.121	.102	.093	.084	.059	.054	.049	.019	.017	.016	
2.0	.162	.132	.107	.139	.114	.093	.095	.079	.065	.055	.046	.038	.018	.015	.012	
3.0	.152	.114	.084	.130	.098	.073	.089	.068	.051	.052	.040	.030	.017	.013	.010	
4.0	.142	.100	.067	.122	.086	.058	.084	.060	.041	.049	.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	.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: 10.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:LI
 Test Date:2020-06-12

γ Range: 0 - 90DEG
 γ Interval: 0.5DEG
 Test System:EVERFINE GO-R5000_V2 SYSTEM V2.00.426
 Humidity:65.0%
 Test Distance:26.000m [K=0.4589]
 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	22.9	24.2	23.3	24.5	24.8	19.6	20.8	19.9	21.2	21.5
3H	24.5	25.7	24.9	26.0	26.4	21.5	22.7	21.9	23.0	23.4
4H	25.1	26.1	25.5	26.5	26.9	25.2	26.3	25.6	26.6	27.0
6H	25.4	26.4	25.9	26.8	27.2	26.4	27.4	26.8	27.8	28.2
8H	25.5	26.5	26.0	26.9	27.3	26.7	27.6	27.1	28.0	28.4
12H	25.6	26.5	26.0	26.9	27.3	27.0	27.9	27.4	28.2	28.7
4H 2H	23.0	24.0	23.4	24.4	24.8	20.1	21.1	20.5	21.5	21.9
3H	24.7	25.6	25.1	26.0	26.4	22.3	23.2	22.7	23.6	24.0
4H	25.3	26.1	25.8	26.5	27.0	26.0	26.8	26.4	27.2	27.7
6H	25.8	26.5	26.2	26.9	27.4	27.5	28.2	28.0	28.7	29.1
8H	25.9	26.6	26.4	27.0	27.5	27.9	28.5	28.4	29.0	29.4
12H	26.0	26.6	26.5	27.1	27.5	28.2	28.8	28.7	29.3	29.7
8H 4H	25.5	26.1	25.9	26.6	27.0	26.1	26.8	26.6	27.2	27.7
6H	26.0	26.5	26.5	27.0	27.5	27.9	28.5	28.4	28.9	29.4
8H	26.2	26.7	26.7	27.2	27.7	28.4	28.9	28.9	29.4	29.9
12H	26.3	26.8	26.9	27.3	27.8	28.9	29.3	29.4	29.8	30.4
12H 4H	25.6	26.2	26.1	26.6	27.1	26.1	26.7	26.6	27.2	27.6
6H	26.2	26.6	26.7	27.1	27.7	27.9	28.4	28.5	28.9	29.4
8H	26.4	26.8	26.9	27.3	27.9	28.5	28.9	29.0	29.4	30.0
CIE190: 2010										

CIE190: 2010
Area: 0.066 m2

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γ Range: 0 - 90DEG
 γ Interval: 0.5DEG
Test System:EVERFINE GO-R5000_V2 SYSTEM V2.00.426
Humidity:65.0%
Test Distance:26.000m [K=0.4589]
Remarks:

EVERFINE GONIOPHOTOMETERS SYSTEM TEST REPORT

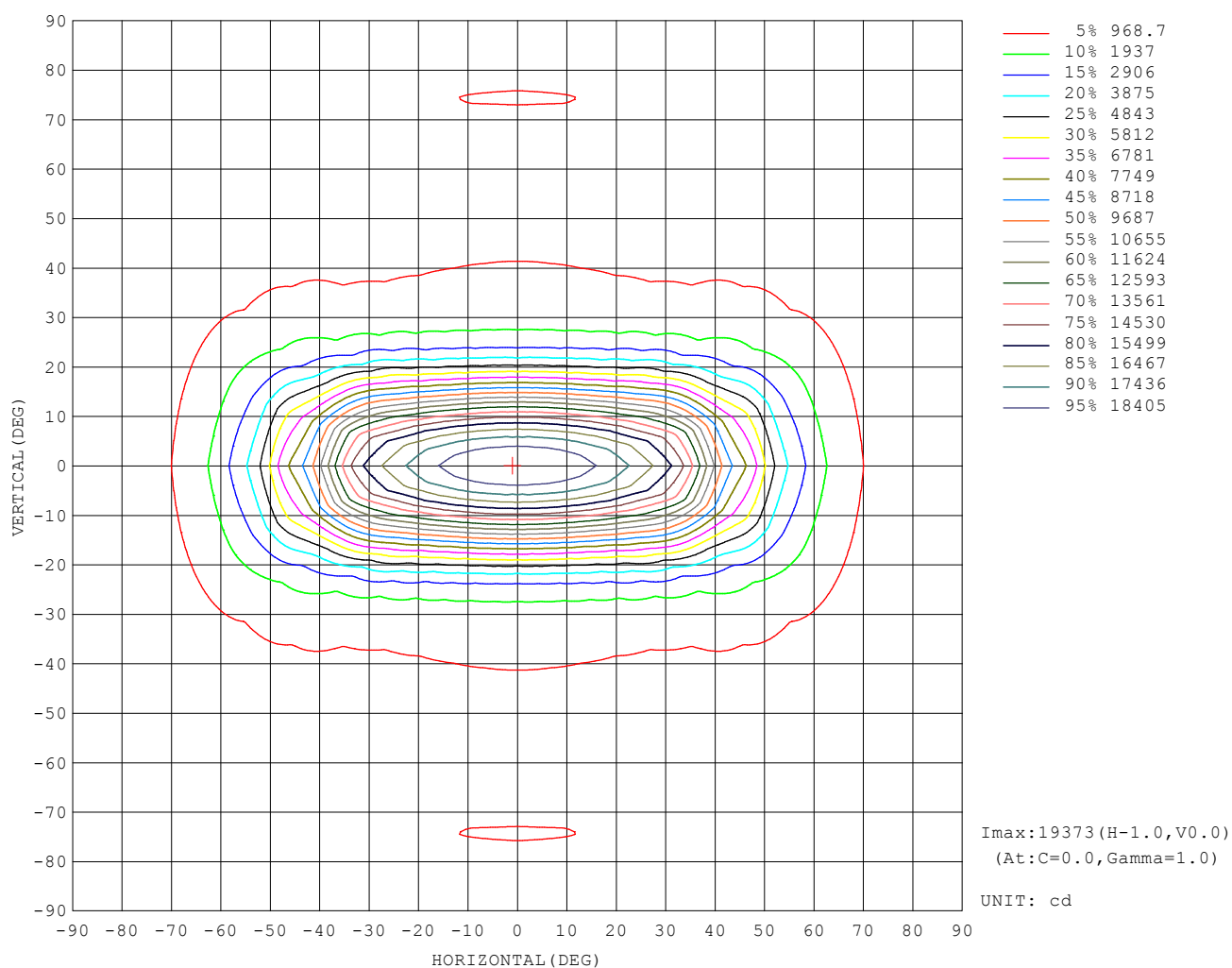
UTILIZATION FACTORS TABLE

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) $k(RI) \times RCR = 5$									
$k = 0.60$	75	66	61	74	66	61	73	65	61	56
0.80	83	75	70	82	75	70	81	74	69	64
1.00	89	82	76	88	81	76	87	82	76	70
1.25	95	87	82	94	87	82	91	85	81	76
1.50	98	92	87	97	91	86	94	89	85	79
2.00	103	97	92	101	96	92	98	94	90	84
2.50	105	100	96	104	99	95	100	96	93	86
3.00	108	103	99	106	101	98	102	99	96	88
4.00	110	106	103	108	105	102	104	102	99	91
5.00	112	109	106	110	107	104	106	103	101	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
 Test System: EVERFINE GO-R5000_V2 SYSTEM V2.00.426
 Humidity: 65.0%
 Test Distance: 26.000m [K=0.4589]
 Remarks:

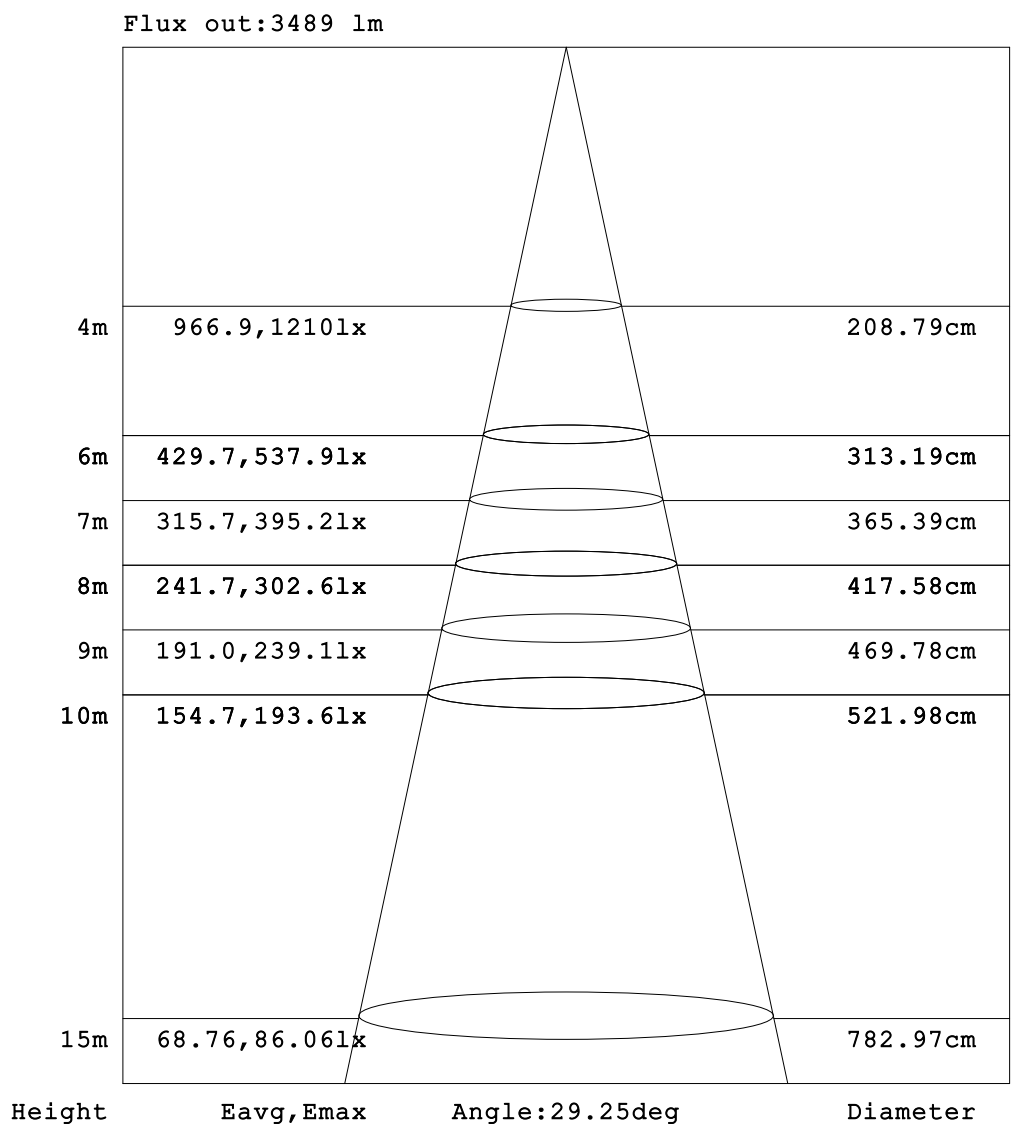
ISOCANDELA DIAGRAM



C Range: 0 - 360DEG
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Test System:EVERFINE GO-R5000_V2 SYSTEM V2.00.426
Humidity:65.0%
Test Distance:26.000m [K=0.4589]
Remarks:

AAI Figure



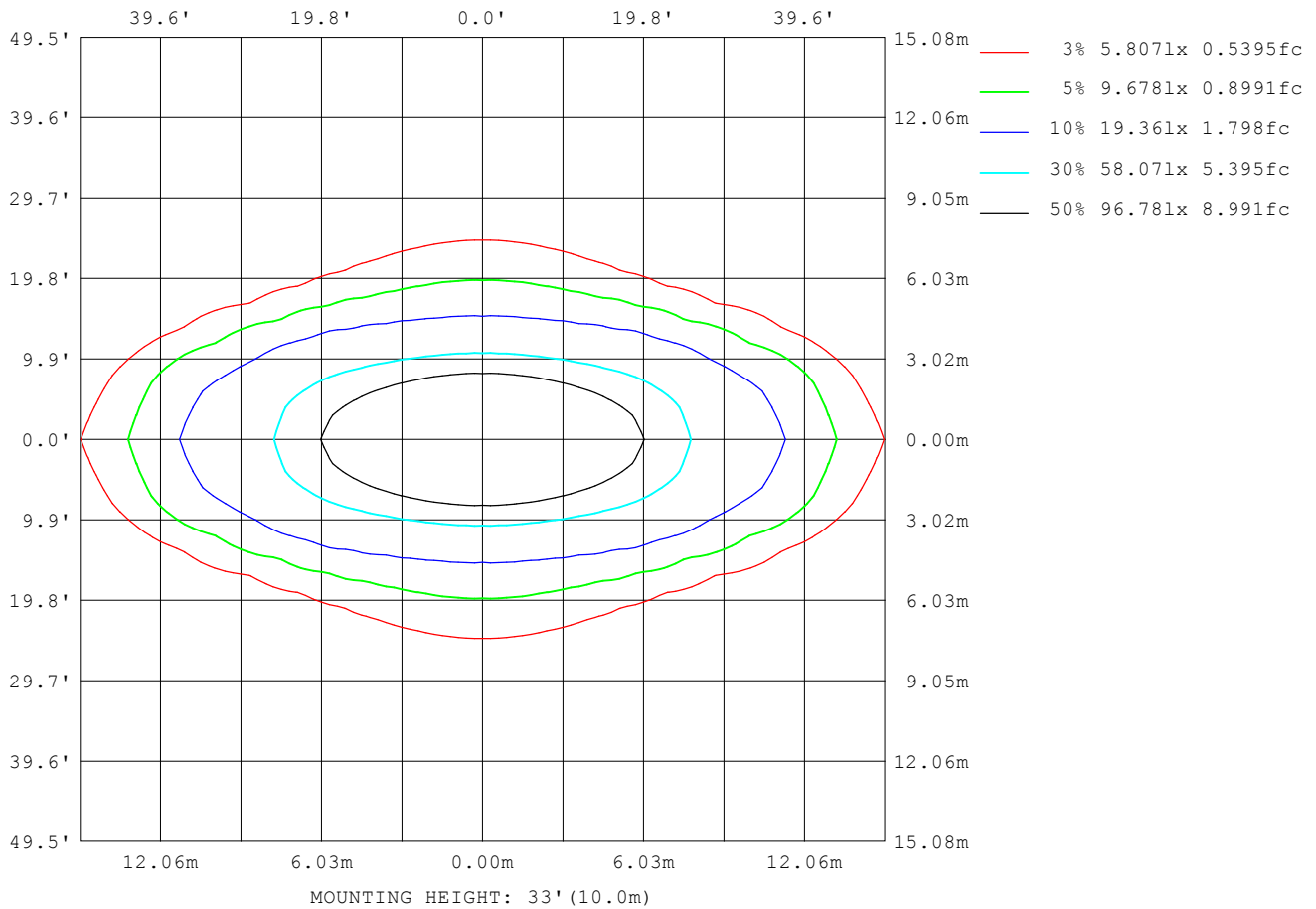
Note: The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

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Remarks:

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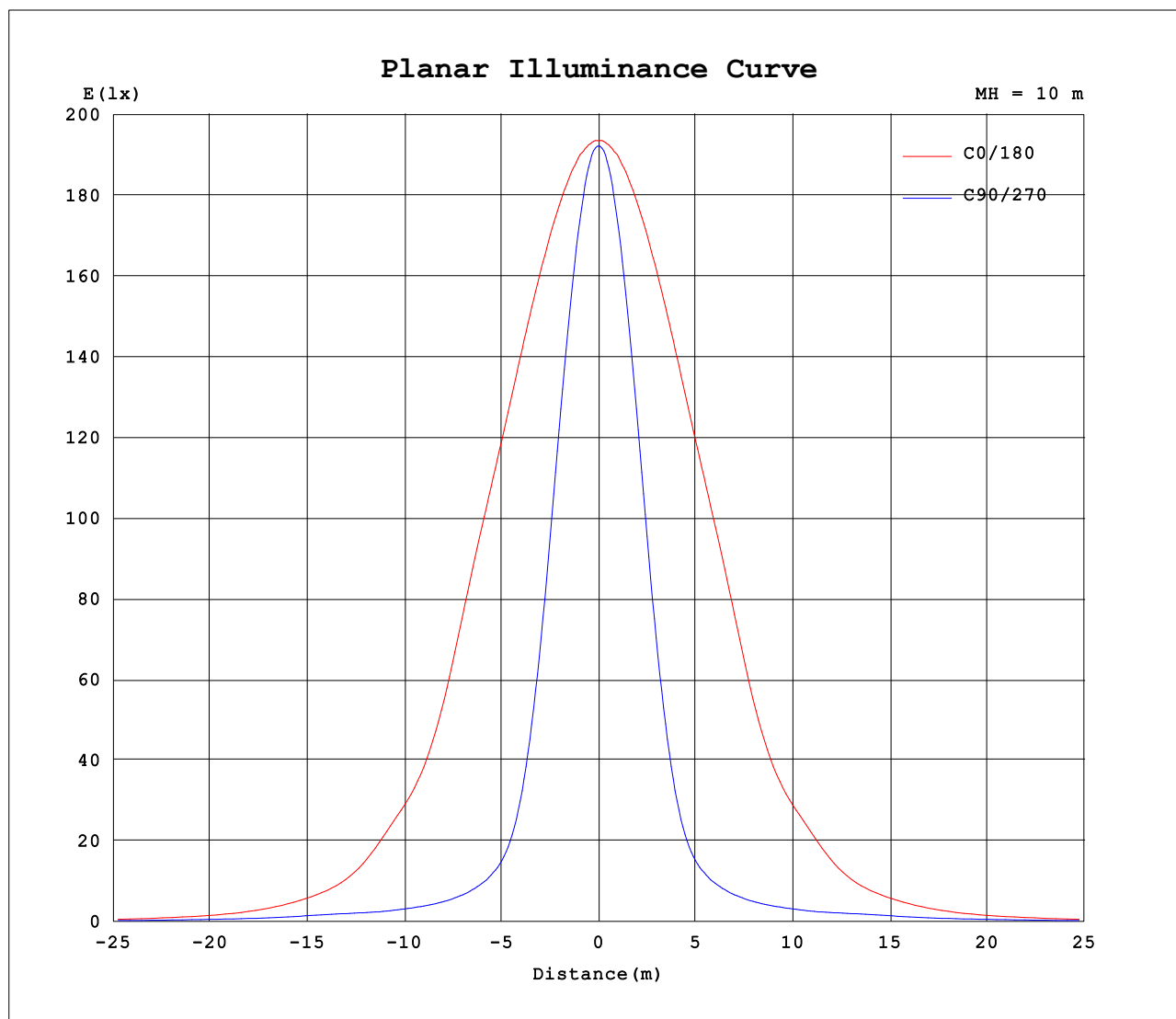
ISOLUX DIAGRAM



C Range: 0 - 360DEG
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Temperature: 25.3DEG
Operators: LI
Test Date: 2020-06-12

γ Range: 0 - 90DEG
 γ Interval: 0.5DEG
Test System: EVERFINE GO-R5000_V2 SYSTEM V2.00.426
Humidity: 65.0%
Test Distance: 26.000m [K=0.4589]
Remarks:

Planar Illuminance Curve



C Range: 0 - 360DEG
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Test Speed: HIGH
Temperature: 25.3DEG
Operators: LI
Test Date: 2020-06-12

γ Range: 0 - 90DEG
 γ Interval: 0.5DEG
Test System: EVERFINE GO-R5000_V2 SYSTEM V2.00.426
Humidity: 65.0%
Test Distance: 26.000m [K=0.4589]
Remarks: