

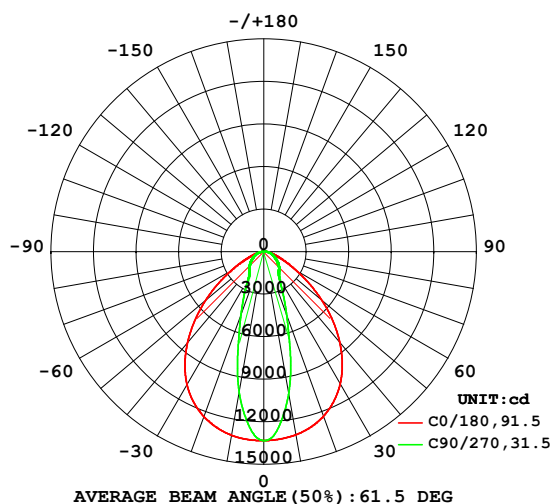
EVERFINE GONIOPHOTOMETERS SYSTEM TEST REPORT

LUMINAIRE PHOTOMETRIC TEST REPORT

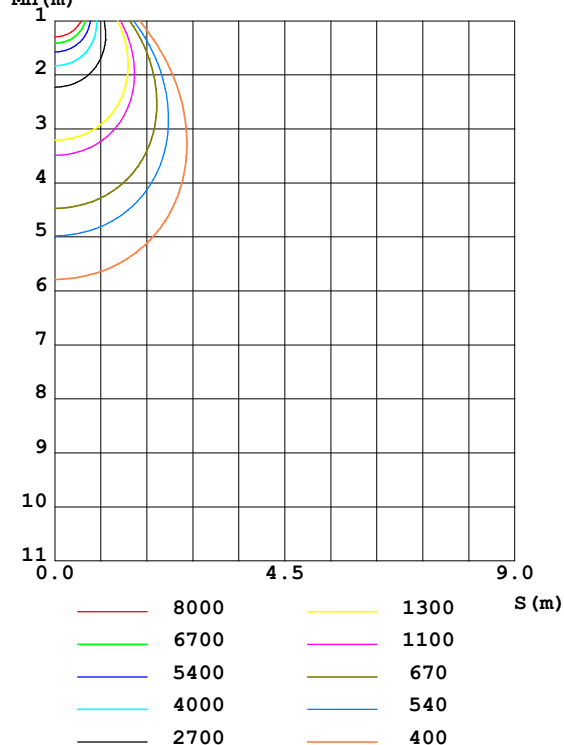
Test:U:229.7V I:0.4240A P:97.19W PF:0.9978 Freq:50.01Hz UTHDi:0.4101% ITHDi:4.763% Lamp Flux:14866.6x1 lm		
NAME: LHB09-100-5070-L00401	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 152.96 lm/W			
MODEL	/	I _{max} (cd)	13328	S/MH (C0/180)	1.21
NOMINAL POWER(W)	100	LOR(%)	100.0	S/MH (C90/270)	0.52
RATED VOLTAGE(V)	230	TOTAL FLUX (lm)	14867	η UP,DN (C0-180)	0.0,50.1
NOMINAL FLUX(lm)	14866.6	CIE CLASS	DIRECT	η UP,DN (C180-360)	0.0,49.9
LAMPS INSIDE	1	η up (%)	0.0	CIBSE SHR NOM	0.50
TEST VOLTAGE (V)	230	η down (%)	100.0	CIBSE SHR MAX	0.65

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: 2020-05-19

γ Range: 0 - 90DEG
γ Interval: 0.1DEG
Test System: EVERFINE GO-R5000_V2 SYSTEM V2.00.426
Humidity: 65.0%
Test Distance: 1.900m [K=0.6030]
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	1311	1139	1017	1148	1314	1136	1005	1136	0- 10	1180	1180	7.94,7.94
20	1235	739.8	474.8	753.5	1238	722.5	472.4	734.0	10- 20	2703	3884	26.1,26.1
30	1078	377.8	220.1	387.4	1083	374.7	221.4	387.9	20- 30	2928	6811	45.8,45.8
40	834.0	196.4	165.0	199.1	836.9	195.5	164.9	204.4	30- 40	2588	9399	63.2,63.2
50	537.0	139.8	128.0	139.4	537.2	139.4	129.9	142.7	40- 50	2129	11528	77.5,77.5
60	261.5	103.1	89.76	102.0	262.4	102.6	93.17	104.5	50- 60	1579	13107	88.2,88.2
70	101.9	67.99	60.61	67.37	102.1	67.68	63.20	68.44	60- 70	1031	14138	95.1,95.1
80	32.20	32.77	31.14	32.79	32.23	33.03	30.61	33.69	70- 80	560.3	14698	98.9,98.9
90	0.0655	0.2479	0.4373	0.1572	0.0682	0.0565	0.0836	0.0563	80- 90	168.6	14867	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): 10529 lm

%lum = 70.8%

%lamp = 70.8%

Conical surface Flux(120deg): 13107 lm

%lum = 88.2%

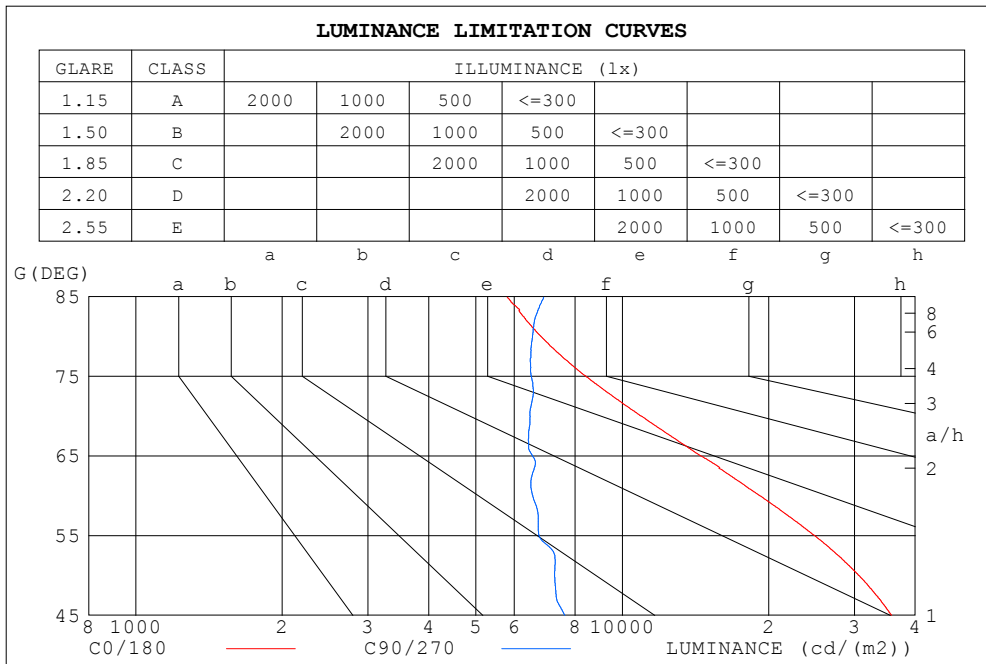
%lamp = 88.2%

C Range: 0 - 360DEG
C Interval: 10.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:LI
Test Date:2020-05-19

γ Range: 0 - 90DEG
 γ Interval: 0.1DEG
Test System:EVERFINE GO-R5000_V2 SYSTEM V2.00.426
Humidity:65.0%
Test Distance:1.900m [K=0.6030]
Remarks:

EVERFINE GONIOPHOTOMETERS SYSTEM TEST REPORT

LUMINANCE LIMITATION CURVES



LUMINANCE cd/(m2)		
G (DEG)	C0/180	C90/270
85	5913	7029
80	6884	6602
75	8505	6546
70	11041	6495
65	14640	6575
60	19349	6571
55	25004	6767
50	30796	7277
45	35906	7647

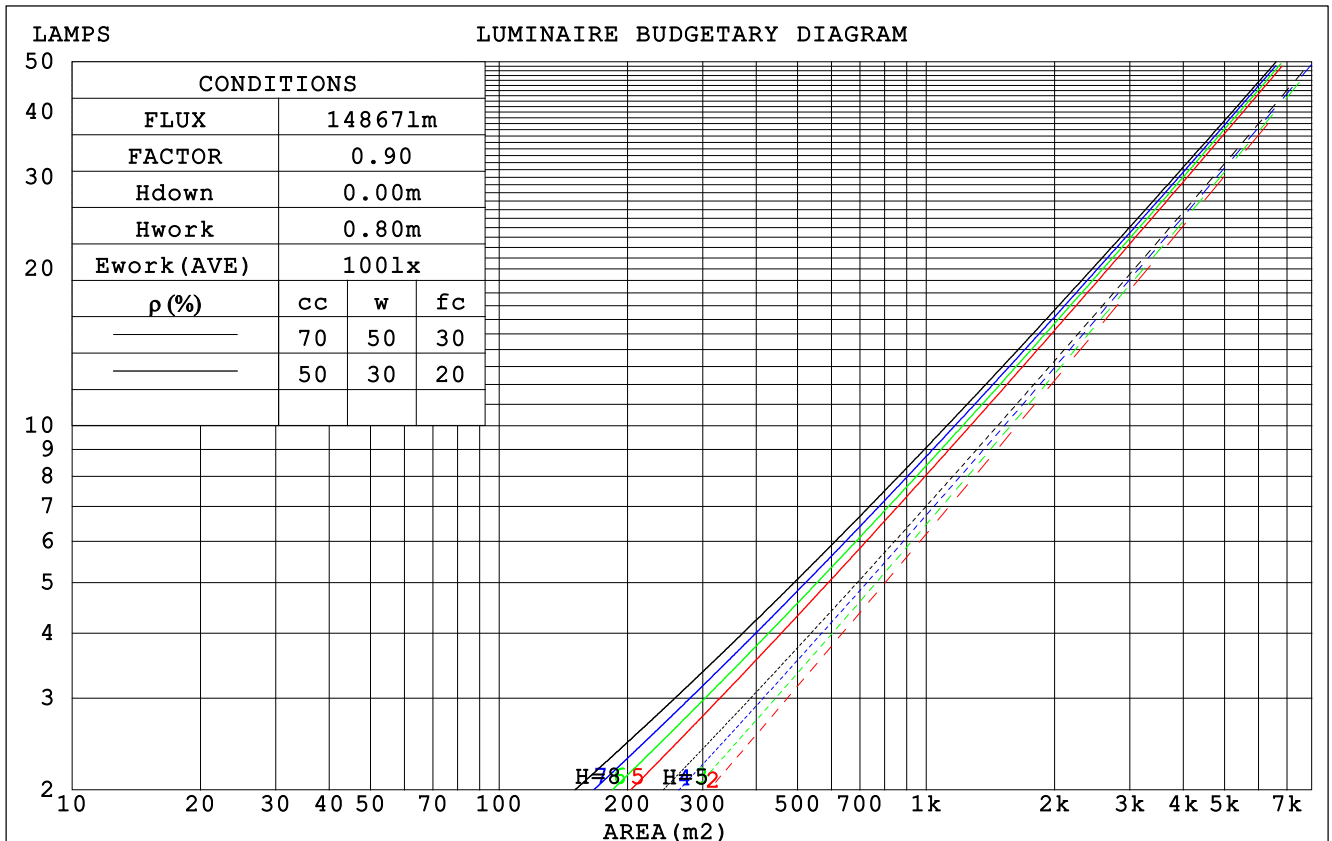
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 Test Speed: HIGH
 Temperature: 25.3DEG
 Operators: LI
 Test Date: 2020-05-19

γ Range: 0 - 90DEG
 γ Interval: 0.1DEG
 Test System: EVERFINE GO-R5000_V2 SYSTEM V2.00.426
 Humidity: 65.0%
 Test Distance: 1.900m [K=0.6030]
 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	1.07	1.03	1.00	1.05	1.02	.99	1.01	.98	.96	.97	.95	.93	.93	.91	.90	.88
2.0	.96	.90	.86	.94	.89	.85	.91	.86	.83	.88	.84	.81	.85	.82	.79	.77
3.0	.87	.80	.75	.85	.79	.74	.82	.77	.73	.80	.75	.71	.77	.74	.70	.68
4.0	.79	.71	.66	.78	.71	.65	.75	.69	.65	.73	.68	.64	.71	.67	.63	.61
5.0	.72	.65	.59	.71	.64	.59	.69	.63	.58	.67	.62	.57	.66	.61	.57	.55
6.0	.66	.59	.53	.65	.58	.53	.64	.57	.53	.62	.57	.52	.61	.56	.52	.50
7.0	.61	.54	.49	.61	.53	.48	.59	.53	.48	.58	.52	.48	.57	.51	.47	.46
8.0	.57	.50	.45	.56	.49	.44	.55	.49	.44	.54	.48	.44	.53	.48	.44	.42
9.0	.53	.46	.41	.53	.46	.41	.52	.45	.41	.51	.45	.41	.50	.44	.41	.39
10.0	.50	.43	.38	.49	.43	.38	.48	.42	.38	.48	.42	.38	.47	.42	.38	.36



C Range: 0 - 360DEG
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 γ Interval: 0.1DEG
 Test System: EVERFINE GO-R5000_V2 SYSTEM V2.00.426
 Humidity: 65.0%
 Test Distance: 1.900m [K=0.6030]
 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	.252	.143	.045	.245	.140	.044	.232	.133	.042	.220	.127	.041	.209	.121	.039	
2.0	.238	.131	.040	.232	.128	.039	.221	.123	.038	.211	.118	.037	.201	.114	.036	
3.0	.223	.119	.036	.218	.117	.035	.208	.113	.034	.199	.109	.033	.190	.105	.033	
4.0	.208	.108	.032	.203	.106	.031	.195	.103	.031	.187	.100	.030	.179	.097	.030	
5.0	.194	.099	.029	.190	.098	.028	.183	.095	.028	.176	.093	.028	.169	.090	.027	
6.0	.182	.091	.026	.178	.090	.026	.172	.088	.026	.165	.086	.025	.159	.084	.025	
7.0	.171	.084	.024	.167	.083	.024	.162	.082	.024	.156	.080	.023	.151	.078	.023	
8.0	.161	.078	.022	.158	.078	.022	.152	.076	.022	.147	.075	.022	.143	.073	.021	
9.0	.152	.073	.020	.149	.073	.020	.144	.071	.020	.140	.070	.020	.136	.069	.020	
10.0	.143	.069	.019	.141	.068	.019	.137	.067	.019	.133	.066	.019	.129	.065	.019	

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	.176	.157	.139	.151	.134	.120	.103	.092	.083	.059	.054	.048	.019	.017	.016	
2.0	.165	.132	.104	.141	.114	.090	.097	.079	.063	.056	.046	.037	.018	.015	.012	
3.0	.155	.114	.081	.133	.098	.070	.091	.068	.049	.053	.040	.029	.017	.013	.010	
4.0	.147	.100	.064	.126	.086	.056	.087	.060	.039	.050	.035	.023	.016	.011	.008	
5.0	.139	.089	.053	.119	.077	.046	.082	.054	.032	.048	.032	.019	.015	.010	.006	
6.0	.131	.080	.044	.113	.070	.038	.078	.049	.027	.045	.029	.016	.015	.009	.005	
7.0	.125	.073	.037	.107	.063	.032	.074	.044	.023	.043	.026	.014	.014	.009	.005	
8.0	.119	.067	.032	.102	.058	.028	.071	.041	.020	.041	.024	.012	.013	.008	.004	
9.0	.113	.062	.028	.097	.054	.024	.067	.038	.017	.039	.022	.010	.013	.007	.003	
10.0	.108	.058	.025	.093	.050	.021	.064	.035	.015	.038	.021	.009	.012	.007	.003	

C Range: 0 - 360DEG
 C Interval: 10.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:LI
 Test Date:2020-05-19

γ Range: 0 - 90DEG
 γ Interval: 0.1DEG
 Test System:EVERFINE GO-R5000_V2 SYSTEM V2.00.426
 Humidity:65.0%
 Test Distance:1.900m [K=0.6030]
 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	22.1	23.5	22.5	23.8	24.1	16.2	17.6	16.6	17.9	18.2
3H	23.3	24.6	23.7	24.9	25.3	18.1	19.3	18.4	19.7	20.0
4H	23.7	24.8	24.1	25.2	25.6	18.9	20.0	19.3	20.4	20.8
6H	23.9	24.9	24.3	25.3	25.7	19.5	20.6	19.9	21.0	21.4
8H	23.9	24.9	24.3	25.3	25.7	19.8	20.8	20.2	21.2	21.6
12H	23.9	24.9	24.4	25.3	25.7	20.0	21.0	20.4	21.3	21.8
4H 2H	22.1	23.3	22.5	23.6	24.0	17.0	18.1	17.4	18.5	18.9
3H	23.4	24.4	23.8	24.8	25.2	19.1	20.0	19.5	20.4	20.9
4H	23.9	24.8	24.3	25.2	25.6	20.0	20.9	20.4	21.3	21.7
6H	24.2	25.0	24.7	25.4	25.9	20.8	21.5	21.2	22.0	22.4
8H	24.3	25.0	24.8	25.5	26.0	21.1	21.8	21.5	22.2	22.7
12H	24.4	25.0	24.9	25.5	26.0	21.3	22.0	21.8	22.4	22.9
8H 4H	24.0	24.7	24.4	25.1	25.6	20.4	21.1	20.9	21.6	22.0
6H	24.4	25.0	24.9	25.4	25.9	21.3	21.9	21.8	22.4	22.9
8H	24.5	25.0	25.0	25.6	26.0	21.7	22.3	22.2	22.8	23.3
12H	24.6	25.1	25.2	25.6	26.2	22.1	22.5	22.6	23.0	23.6
12H 4H	23.9	24.6	24.4	25.1	25.5	20.5	21.1	20.9	21.6	22.0
6H	24.4	24.9	24.9	25.4	25.9	21.4	22.0	22.0	22.4	23.0
8H	24.6	25.0	25.1	25.5	26.1	21.9	22.4	22.4	22.8	23.4
CIE190: 2010										

CIE190: 2010
Area: 0.1105 m2

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γ Range: 0 - 90DEG
 γ Interval: 0.1DEG
Test System:EVERFINE GO-R5000_V2 SYSTEM V2.00.426
Humidity:65.0%
Test Distance:1.900m [K=0.6030]
Remarks:

EVERFINE GONIOPHOTOMETERS SYSTEM TEST REPORT

UTILIZATION FACTORS TABLE

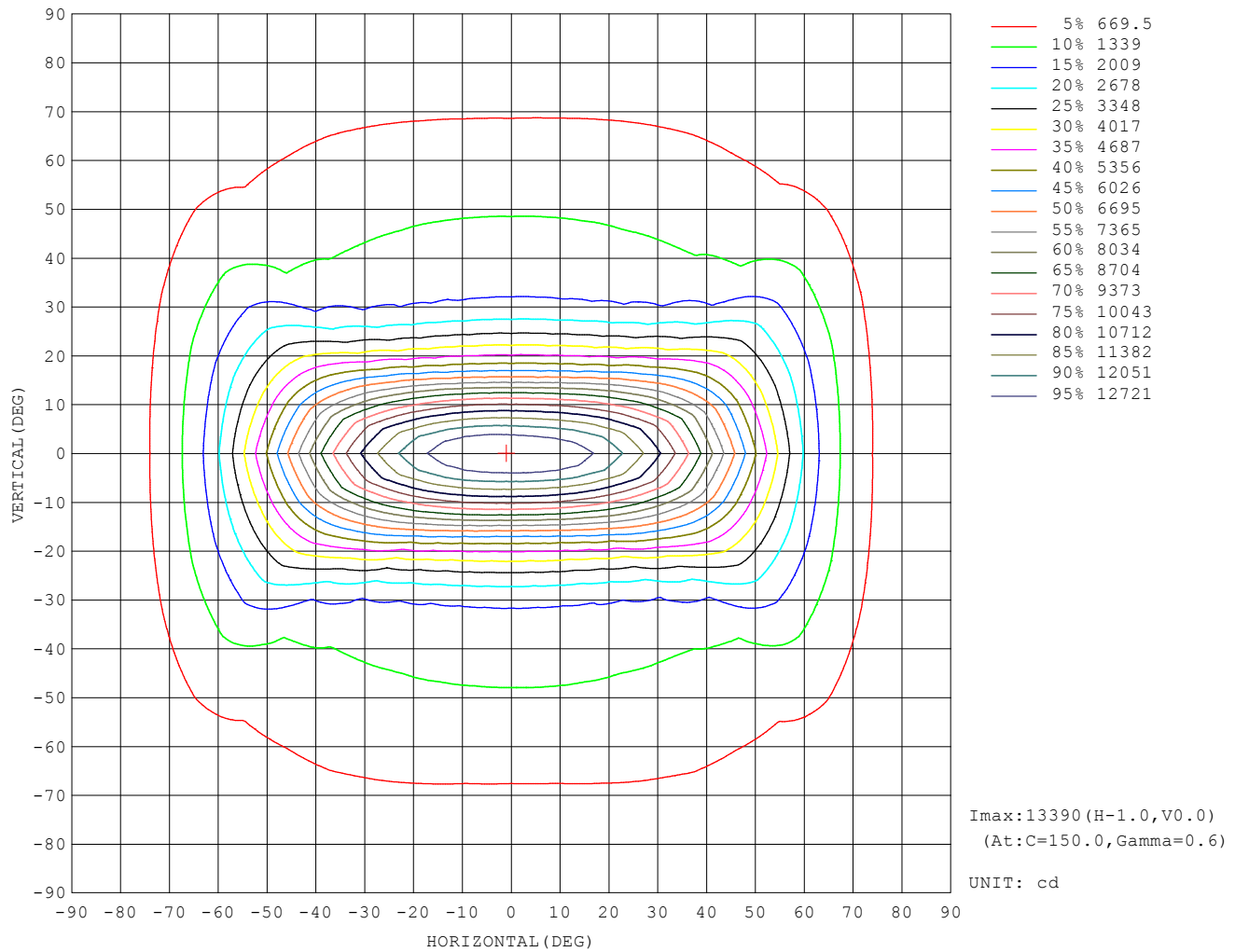
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS (PERCENT) $k(RI) \times RCR = 5$									
$k = 0.60$	69	59	53	68	59	53	67	58	53	48
0.80	78	69	63	77	68	62	76	67	62	56
1.00	85	76	70	84	76	70	82	76	70	64
1.25	91	83	77	90	82	77	87	81	76	70
1.50	95	87	82	94	87	81	91	85	80	74
2.00	101	94	89	99	93	88	96	91	86	80
2.50	104	97	93	102	96	92	98	93	90	82
3.00	106	101	96	104	99	95	100	96	93	85
4.00	109	105	101	107	103	100	103	100	97	89
5.00	111	107	104	109	105	103	105	102	100	91
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 V2.00.426
 Humidity: 65.0%
 Test Distance: 1.900m [K=0.6030]
 Remarks:

EVERFINE GONIOPHOTOMETERS SYSTEM TEST REPORT

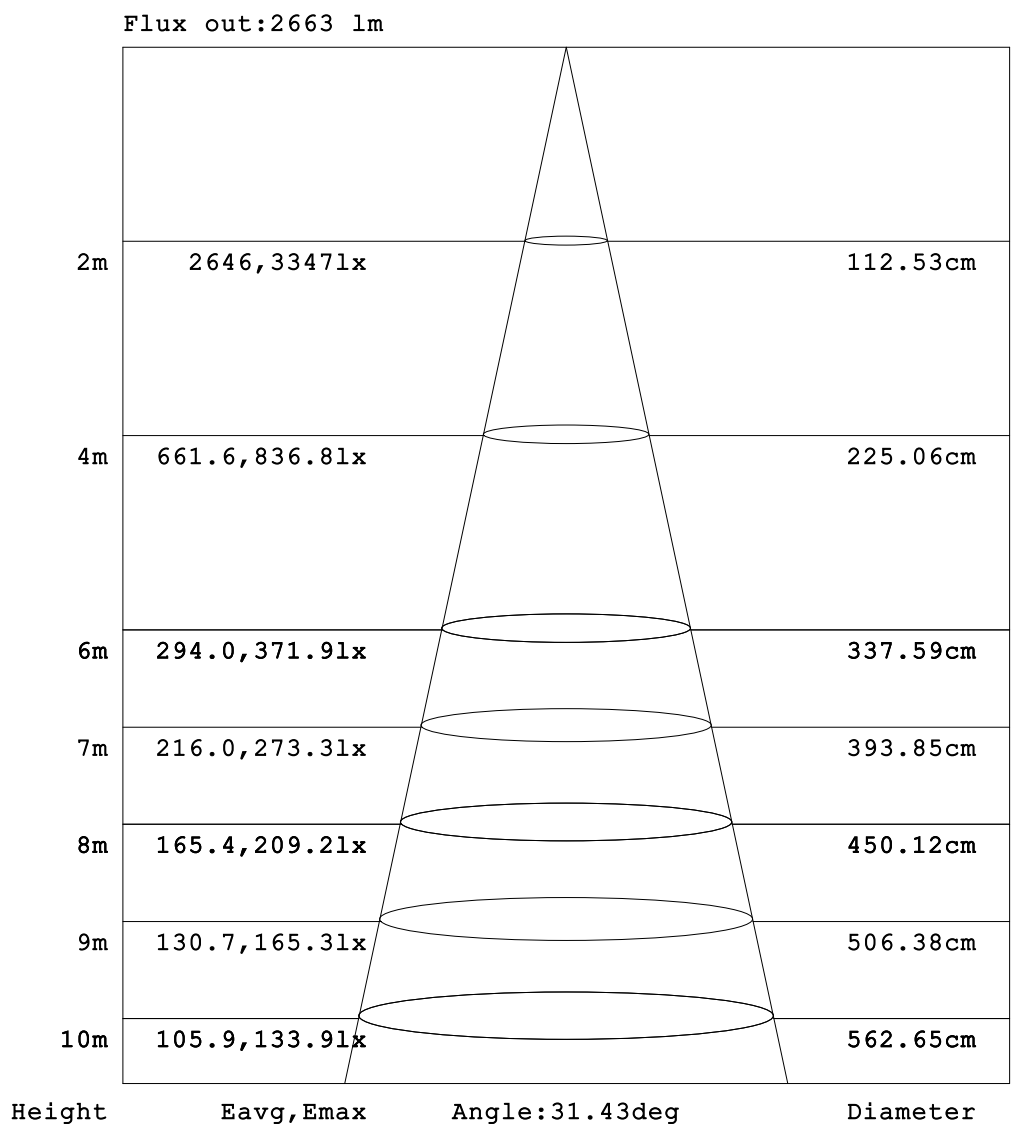
ISOCANDELA DIAGRAM



C Range: 0 - 360DEG
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Test Distance:1.900m [K=0.6030]
Remarks:

AAI Figure



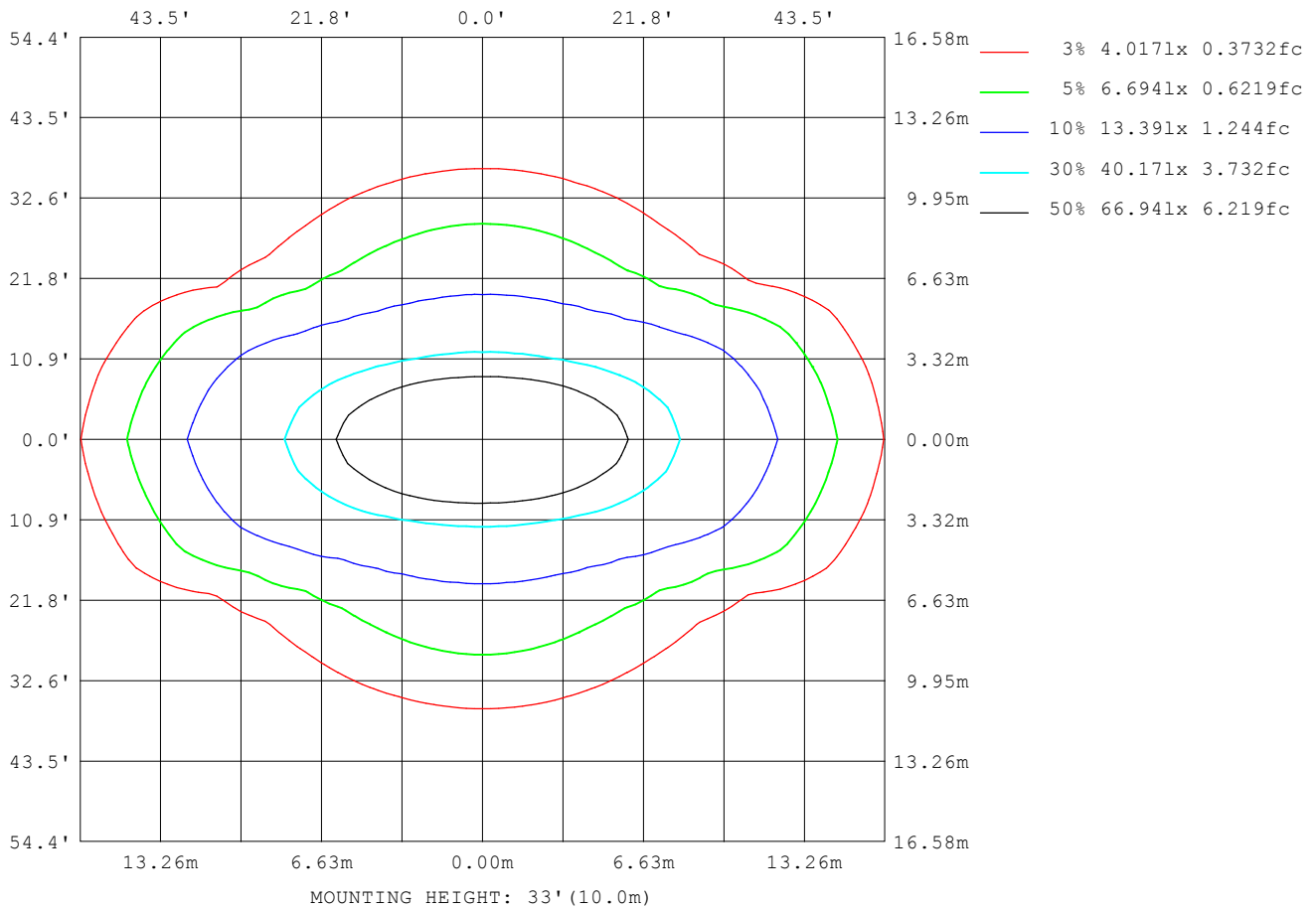
Note: The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

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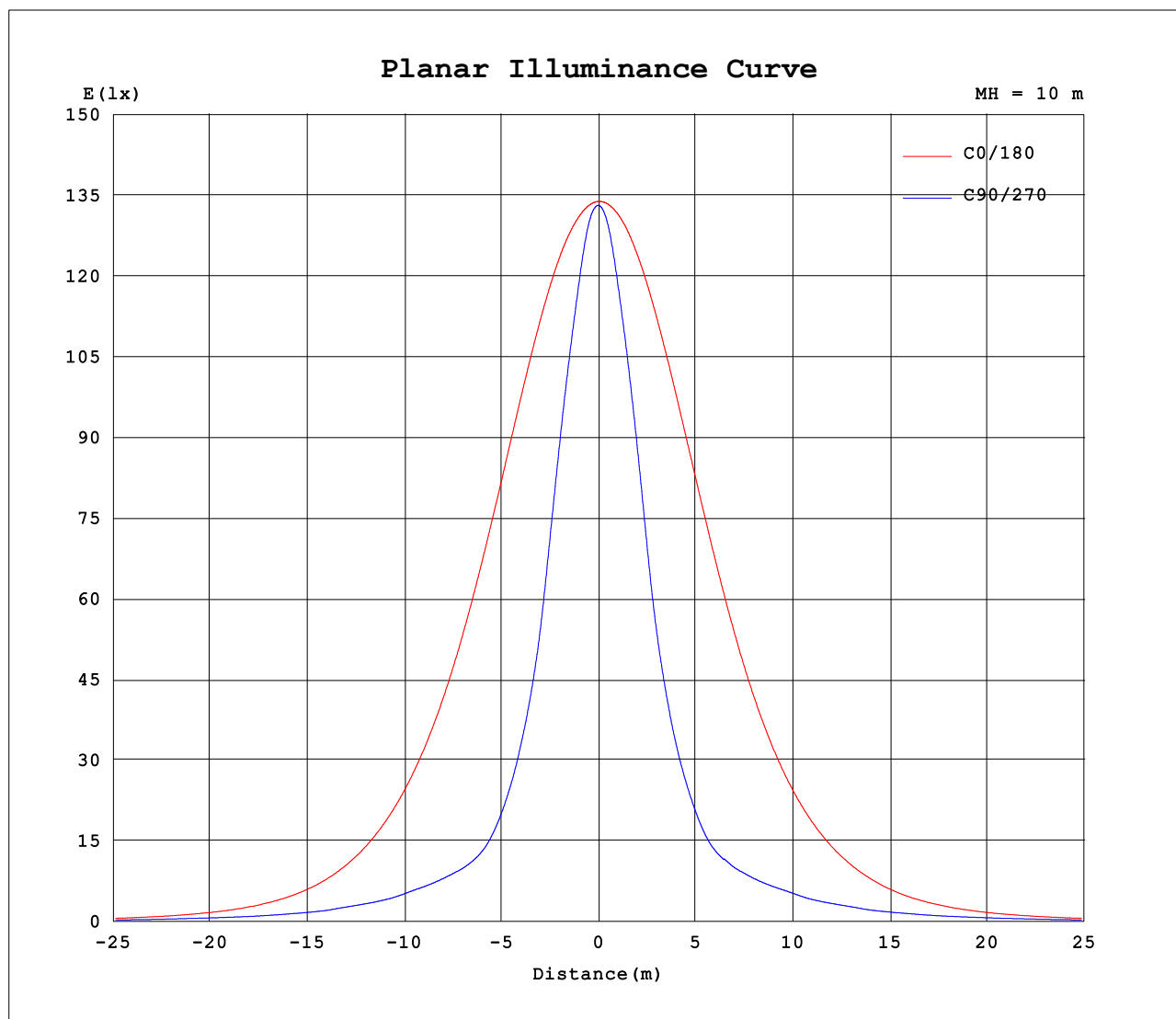
ISOLUX DIAGRAM



C Range: 0 - 360DEG
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Temperature: 25.3DEG
Operators: LI
Test Date: 2020-05-19

γ Range: 0 - 90DEG
 γ Interval: 0.1DEG
Test System: EVERFINE GO-R5000_V2 SYSTEM V2.00.426
Humidity: 65.0%
Test Distance: 1.900m [K=0.6030]
Remarks:

Planar Illuminance Curve



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γ Range: 0 - 90DEG
 γ Interval: 0.1DEG
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Test Distance: 1.900m [K=0.6030]
Remarks: