

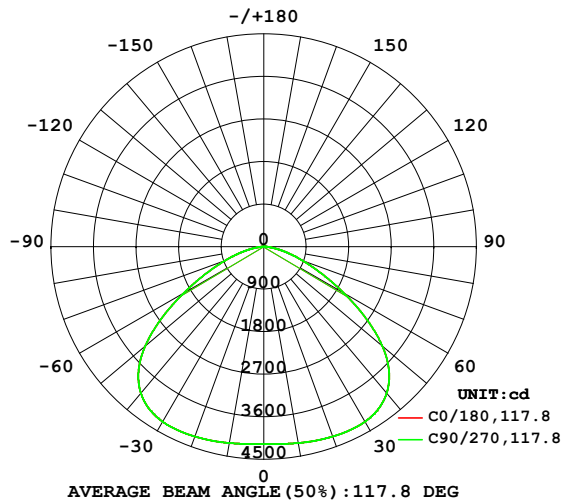
EVERFINE GONIOPHOTOMETERS SYSTEM TEST REPORT

LUMINAIRE PHOTOMETRIC TEST REPORT

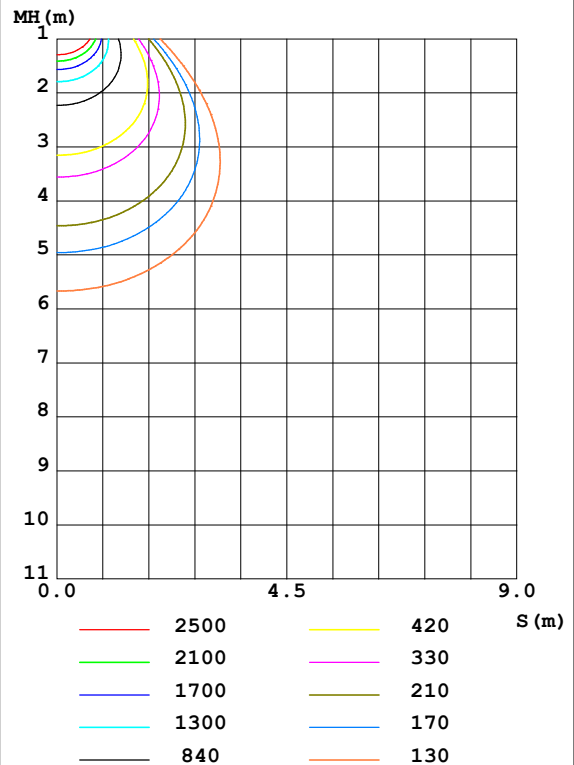
Test:U:230.1V I:0.4408A P:100.3W PF:0.9890 Freq:50.00Hz UTHDi:0% ITHDi:0% Lamp Flux:13446.5x1 lm		
NAME: HB39-100-5080-H00128	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 134.08 lm/W			
MODEL	/	I _{max} (cd)	4291	S/MH (C0/180)	1.52
NOMINAL POWER(W)	/	LOR(%)	100.0	S/MH (C90/270)	1.52
RATED VOLTAGE(V)	230	TOTAL FLUX(lm)	13446	η UP,DN(C0-180)	0.0,50.0
NOMINAL FLUX(lm)	13446.5	CIE CLASS	DIRECT	η UP,DN(C180-360)	0.0,50.0
LAMPS INSIDE	1	η up (%)	0.0	CIBSE SHR NOM	1.50
TEST VOLTAGE (V)	230	η down (%)	100.0	CIBSE SHR MAX	1.55

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:LI
Test Date:2020-05-12

γ Range: 0 - 90DEG
γ Interval: 0.1DEG
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	4218	4218	4218	4218	4218	4218	4218	4218	0- 10	400.9	400.9	2.98,2.98
20	4273	4273	4273	4273	4273	4273	4273	4273	10- 20	1205	1606	11.9,11.9
30	4278	4278	4278	4278	4278	4278	4278	4278	20- 30	1984	3589	26.7,26.7
40	4046	4046	4046	4046	4046	4046	4046	4046	30- 40	2631	6221	46.3,46.3
50	3276	3276	3276	3276	3276	3276	3276	3276	40- 50	2872	9093	67.6,67.6
60	1942	1942	1942	1942	1942	1942	1942	1942	50- 60	2343	11436	85,85
70	884.1	884.1	884.1	884.1	884.1	884.1	884.1	884.1	60- 70	1350	12786	95.1,95.1
80	254.9	254.9	254.9	254.9	254.9	254.9	254.9	254.9	70- 80	572.2	13359	99.3,99.3
90	0.7554	0.7554	0.7554	0.7554	0.7554	0.7554	0.7554	0.7554	80- 90	87.91	13446	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:cd									UNIT:lm		

Conical surface Flux(90deg): 7668 lm

%lum = 57.0%

%lamp = 57.0%

Conical surface Flux(120deg): 11436 lm

%lum = 85.0%

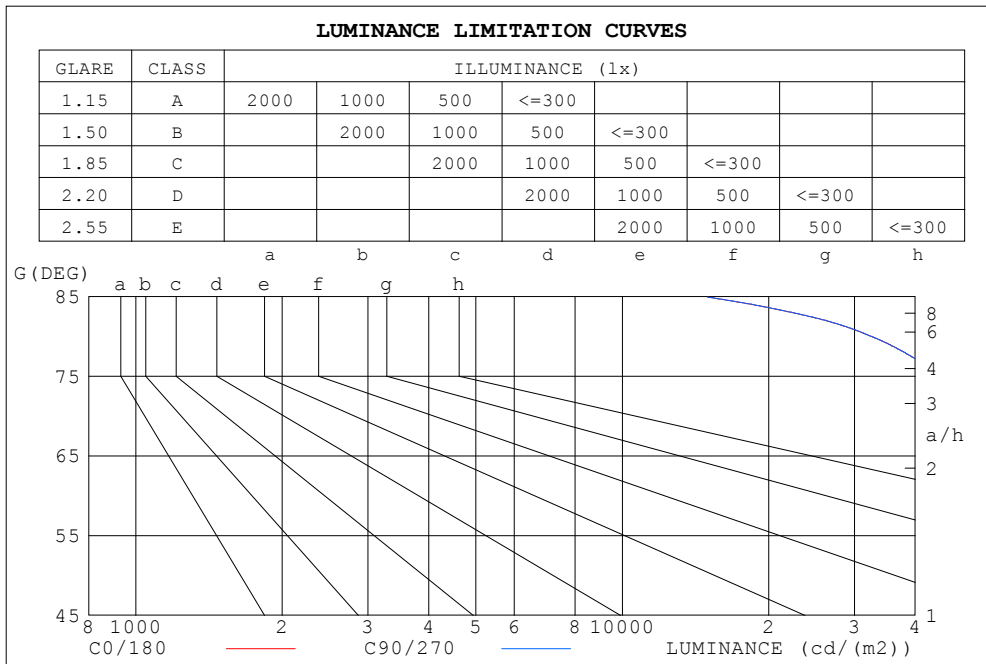
%lamp = 85.0%

C Range: 0 - 360DEG
C Interval: 15.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:LI
Test Date:2020-05-12

γ Range: 0 - 90DEG
 γ Interval: 0.1DEG
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	15276	15276
80	33069	33069
75	45809	45809
70	57667	57667
65	70797	70797
60	86438	86438
55	102067	102067
50	113065	113065
45	117466	117466

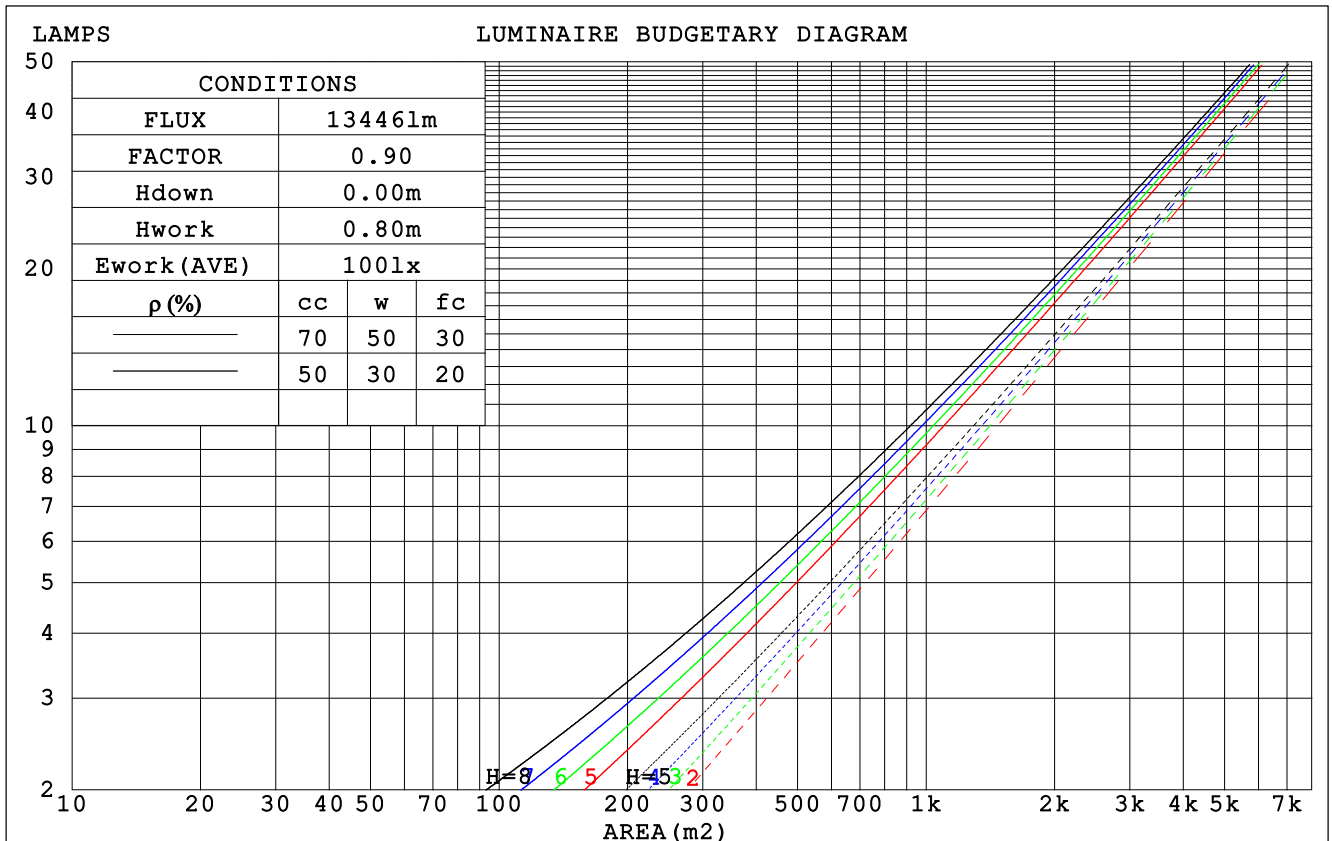
C Range: 0 - 360DEG
 C Interval: 15.0DEG
 Test Speed: HIGH
 Temperature: 25.3DEG
 Operators: LI
 Test Date: 2020-05-12

γ Range: 0 - 90DEG
 γ Interval: 0.1DEG
 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
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	.00
1.0	1.05	1.01	.98	1.03	.90	.96	.99	.96	.93	.95	.93	.90	.91	.90	.88	.86
2.0	.92	.86	.81	.91	.85	.80	.87	.82	.78	.84	.80	.76	.81	.77	.74	.72
3.0	.81	.74	.67	.80	.73	.67	.77	.71	.66	.74	.69	.64	.72	.67	.63	.61
4.0	.72	.64	.57	.71	.63	.57	.68	.61	.56	.66	.60	.55	.64	.59	.54	.52
5.0	.64	.56	.49	.63	.55	.49	.61	.54	.48	.59	.53	.48	.57	.52	.47	.45
6.0	.58	.49	.43	.57	.49	.42	.55	.48	.42	.53	.47	.42	.52	.46	.41	.39
7.0	.52	.44	.37	.51	.43	.37	.50	.42	.37	.48	.42	.37	.47	.41	.37	.35
8.0	.48	.39	.33	.47	.39	.33	.46	.38	.33	.44	.38	.33	.43	.37	.33	.31
9.0	.43	.35	.30	.43	.35	.30	.42	.35	.30	.41	.34	.29	.40	.34	.29	.27
10.0	.40	.32	.27	.39	.32	.27	.38	.31	.27	.38	.31	.26	.37	.31	.26	.25



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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: 26.000m [K=0.4589]
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	.281	.160	.051	.274	.156	.050	.261	.150	.048	.249	.144	.046	.238	.138	.044		
2.0	.272	.149	.046	.266	.147	.045	.255	.142	.044	.244	.137	.043	.234	.133	.042		
3.0	.257	.137	.041	.251	.135	.041	.241	.131	.040	.232	.127	.039	.223	.123	.038		
4.0	.240	.125	.037	.235	.123	.036	.226	.120	.036	.218	.117	.035	.210	.114	.035		
5.0	.224	.114	.033	.220	.113	.033	.212	.110	.032	.204	.108	.032	.197	.105	.032		
6.0	.209	.105	.030	.205	.104	.030	.198	.102	.030	.192	.100	.029	.185	.098	.029		
7.0	.196	.097	.027	.192	.096	.027	.186	.094	.027	.180	.092	.027	.174	.091	.027		
8.0	.184	.090	.025	.181	.089	.025	.175	.087	.025	.169	.086	.025	.164	.084	.025		
9.0	.173	.084	.023	.170	.083	.023	.165	.081	.023	.160	.080	.023	.155	.079	.023		
10.0	.163	.078	.022	.160	.077	.022	.156	.076	.021	.151	.075	.021	.147	.074	.021		

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	.178	.156	.137	.153	.134	.118	.104	.092	.081	.060	.053	.047	.019	.017	.015		
2.0	.170	.132	.100	.145	.114	.087	.100	.079	.061	.057	.046	.035	.018	.015	.012		
3.0	.162	.114	.076	.139	.099	.066	.095	.068	.046	.055	.040	.027	.018	.013	.009		
4.0	.155	.101	.060	.133	.087	.052	.091	.061	.037	.053	.036	.022	.017	.012	.007		
5.0	.148	.090	.048	.127	.078	.042	.087	.055	.030	.051	.032	.018	.016	.010	.006		
6.0	.141	.082	.040	.121	.071	.035	.083	.050	.025	.048	.029	.015	.016	.010	.005		
7.0	.134	.075	.034	.116	.065	.029	.080	.046	.021	.046	.027	.012	.015	.009	.004		
8.0	.128	.069	.029	.110	.060	.025	.076	.042	.018	.044	.025	.011	.014	.008	.004		
9.0	.122	.064	.025	.105	.056	.022	.073	.039	.016	.043	.023	.009	.014	.008	.003		
10.0	.117	.060	.023	.101	.052	.020	.070	.037	.014	.041	.022	.008	.013	.007	.003		

C Range: 0 - 360DEG
 C Interval: 15.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:LI
 Test Date:2020-05-12

γ Range: 0 - 90DEG
 γ Interval: 0.1DEG
 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	28.9	30.4	29.2	30.6	30.8	28.9	30.4	29.2	30.6	30.8
3H	29.7	31.0	30.0	31.3	31.5	29.7	31.0	30.0	31.3	31.5
4H	29.9	31.2	30.2	31.4	31.7	29.9	31.2	30.2	31.4	31.7
6H	30.0	31.2	30.3	31.5	31.7	30.0	31.2	30.3	31.5	31.7
8H	30.0	31.2	30.3	31.4	31.7	30.0	31.2	30.3	31.4	31.7
12H	29.9	31.1	30.3	31.4	31.7	29.9	31.1	30.3	31.4	31.7
4H 2H	29.3	30.6	29.6	30.8	31.1	29.3	30.6	29.6	30.8	31.1
3H	30.2	31.3	30.5	31.6	31.9	30.2	31.3	30.5	31.6	31.9
4H	30.5	31.5	30.9	31.8	32.1	30.5	31.5	30.9	31.8	32.1
6H	30.6	31.5	31.0	31.9	32.3	30.6	31.5	31.0	31.9	32.3
8H	30.7	31.5	31.1	31.9	32.2	30.7	31.5	31.1	31.9	32.2
12H	30.6	31.4	31.1	31.8	32.2	30.6	31.4	31.1	31.8	32.2
8H 4H	30.6	31.4	31.0	31.8	32.1	30.6	31.4	31.0	31.8	32.1
6H	30.8	31.5	31.2	31.9	32.3	30.8	31.5	31.2	31.9	32.3
8H	30.8	31.4	31.3	31.9	32.3	30.8	31.4	31.3	31.9	32.3
12H	30.8	31.4	31.3	31.8	32.3	30.8	31.4	31.3	31.8	32.3
12H 4H	30.5	31.3	31.0	31.7	32.1	30.5	31.3	31.0	31.7	32.1
6H	30.8	31.4	31.2	31.8	32.3	30.8	31.4	31.2	31.8	32.3
8H	30.8	31.4	31.3	31.8	32.3	30.8	31.4	31.3	31.8	32.3
Variations with the observer position at spacings(CIE Pub.117):										
S = 1.0H	+ 0.3 / - 0.4					+ 0.3 / - 0.4				
1.5H	+ 0.3 / - 0.7					+ 0.3 / - 0.7				
2.0H	+ 0.8 / - 0.8					+ 0.8 / - 0.8				

CIE Pub.117, 13447 lm Total Lamp Luminous Flux Corrected (8log(F/F0) = 9.0)
Area: 0.04524 m2

C Range: 0 - 360DEG
C Interval: 15.0DEG
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Operators:LI
Test Date:2020-05-12

γ Range: 0 - 90DEG
γ Interval: 0.1DEG
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

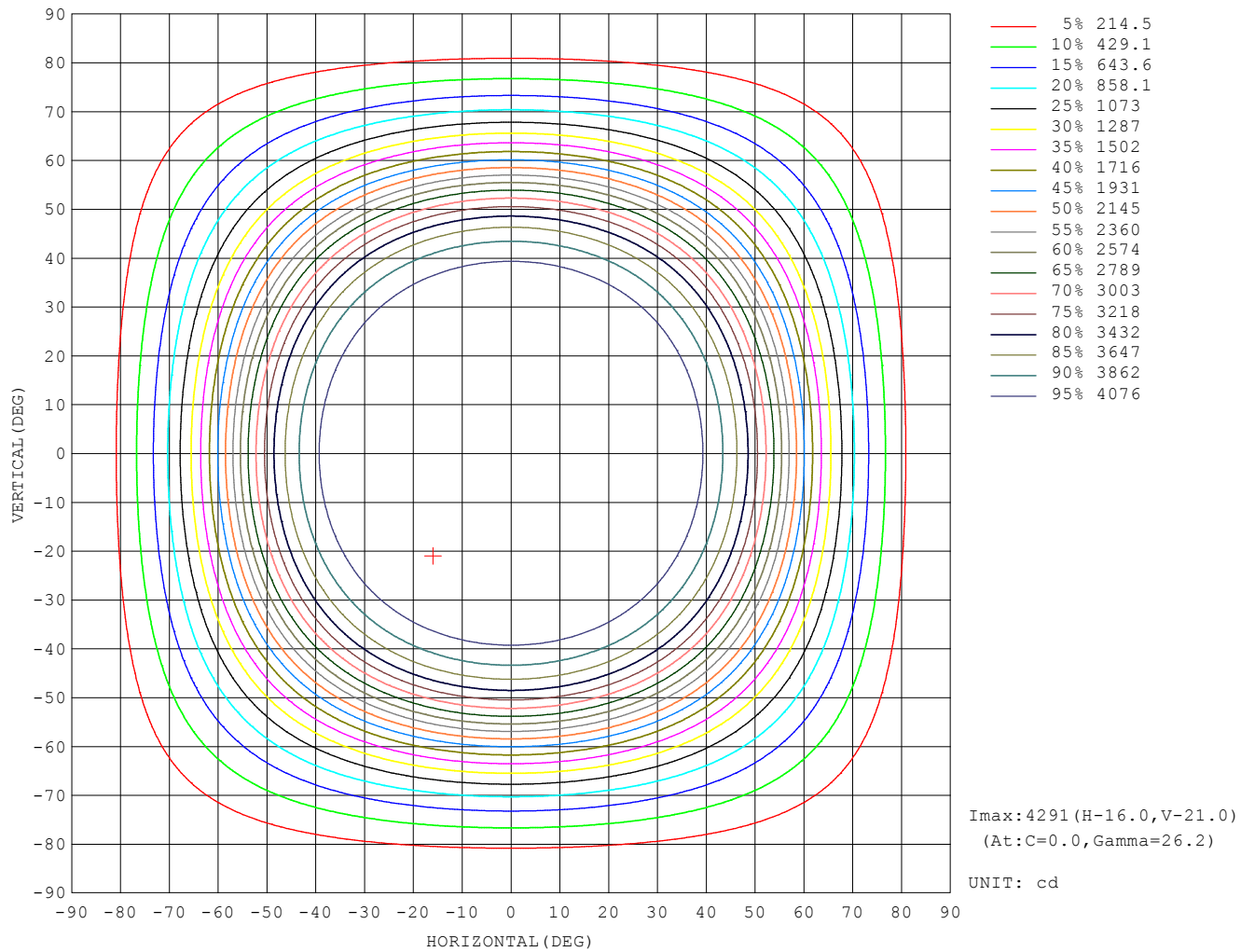
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS (PERCENT) $k(RI) \times RCR = 5$									
$k = 0.60$	58	46	39	57	46	39	56	45	39	33
0.80	69	57	50	68	57	50	66	56	49	42
1.00	78	67	60	76	66	60	74	68	59	52
1.25	85	75	68	84	74	68	81	73	67	60
1.50	90	81	74	88	80	74	85	78	73	65
2.00	97	89	83	95	88	82	92	86	81	73
2.50	100	93	88	99	92	87	95	89	85	77
3.00	104	97	92	102	96	91	98	93	89	81
4.00	107	102	98	105	100	96	101	97	94	85
5.00	110	105	101	107	103	100	103	100	97	88
ROOM INDEX	UF (total)									Direct
According to DIN EN 13032-2 2004			Suspended					SHRNOM = 1.25		

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 Operators: LI
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 γ Interval: 0.1DEG
 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

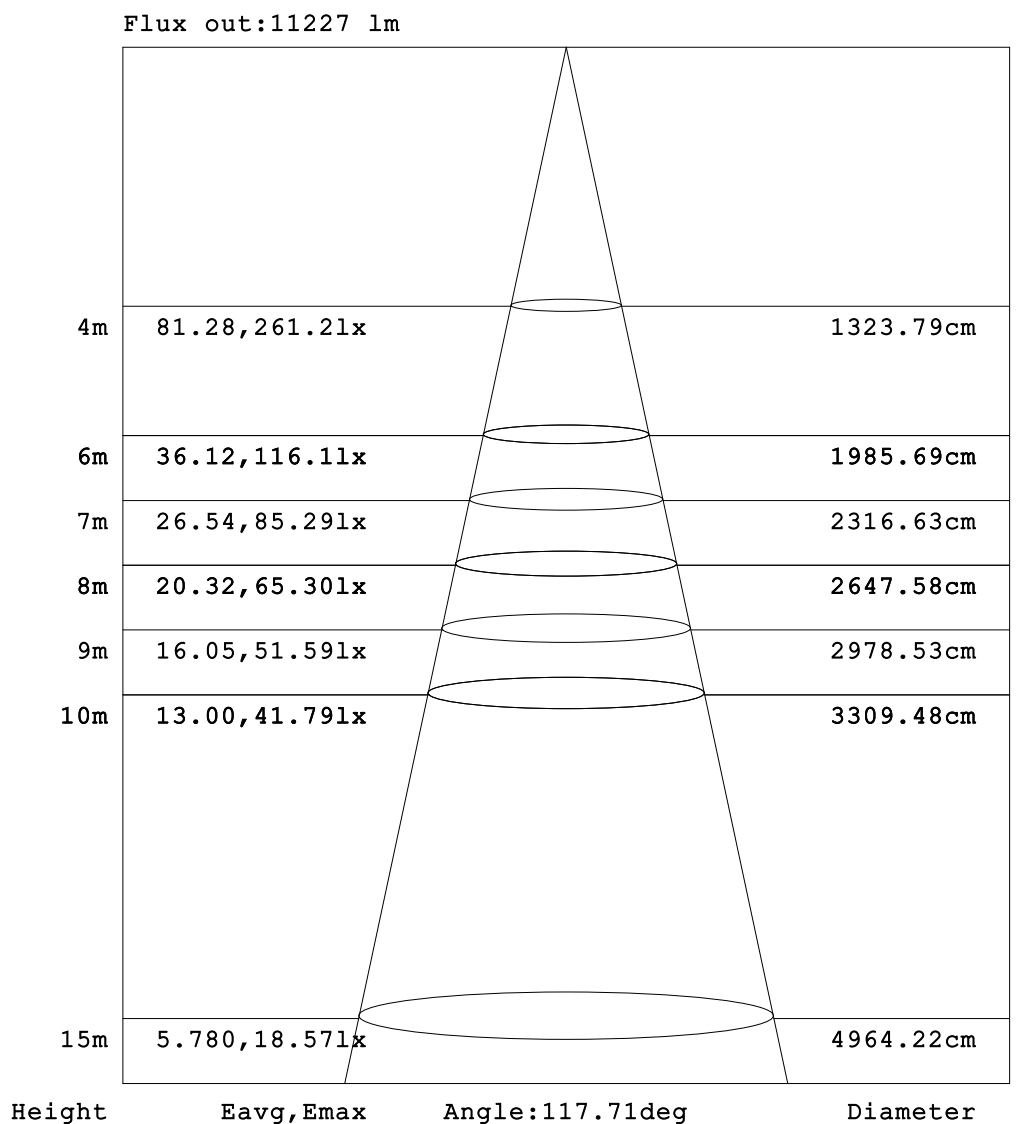
ISOCANDELA DIAGRAM



C Range: 0 - 360DEG
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γ Range: 0 - 90DEG
 γ Interval: 0.1DEG
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Humidity: 65.0%
Test Distance: 26.000m [K=0.4589]
Remarks:

AAI Figure



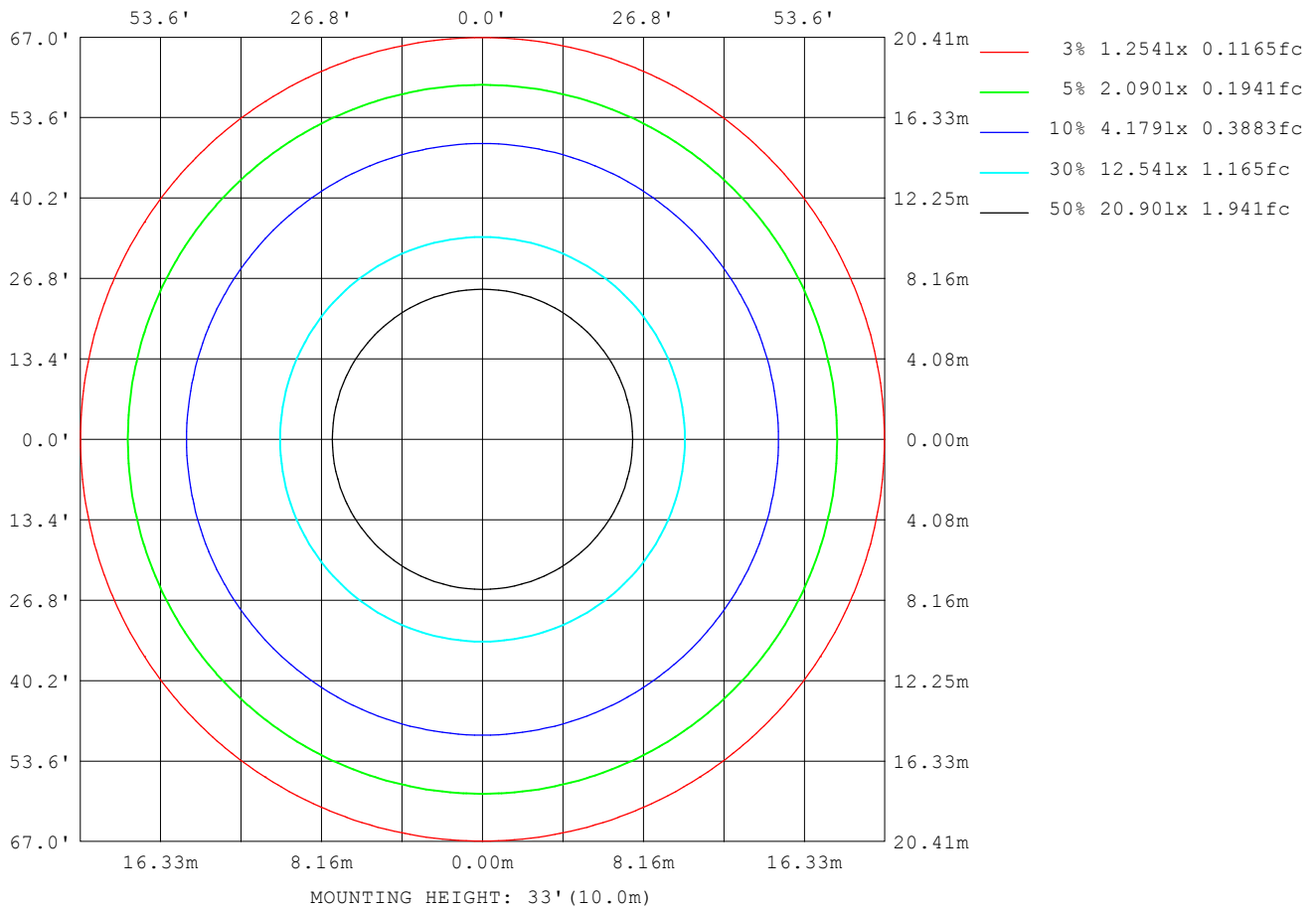
Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

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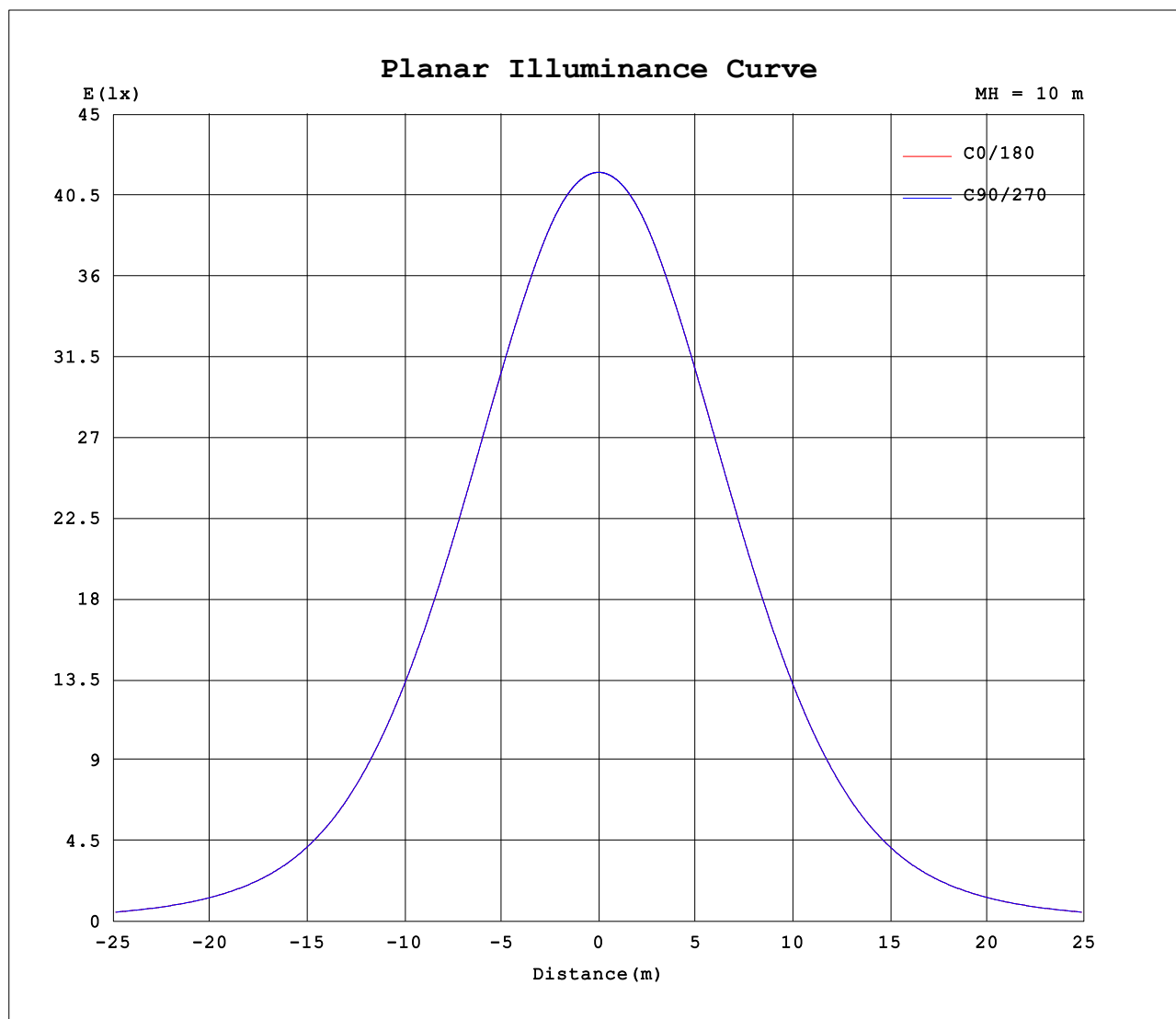
ISOLUX DIAGRAM



C Range: 0 - 360DEG
C Interval: 15.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators: LI
Test Date: 2020-05-12

γ Range: 0 - 90DEG
 γ Interval: 0.1DEG
Test System: EVERFINE GO-R5000_V2 SYSTEM V2.00.426
Humidity: 65.0%
Test Distance: 26.000m [K=0.4589]
Remarks:

Planar Illuminance Curve



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C Interval: 15.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators: LI
Test Date: 2020-05-12

γ Range: 0 - 90DEG
 γ Interval: 0.1DEG
Test System: EVERFINE GO-R5000_V2 SYSTEM V2.00.426
Humidity: 65.0%
Test Distance: 26.000m [K=0.4589]
Remarks: