

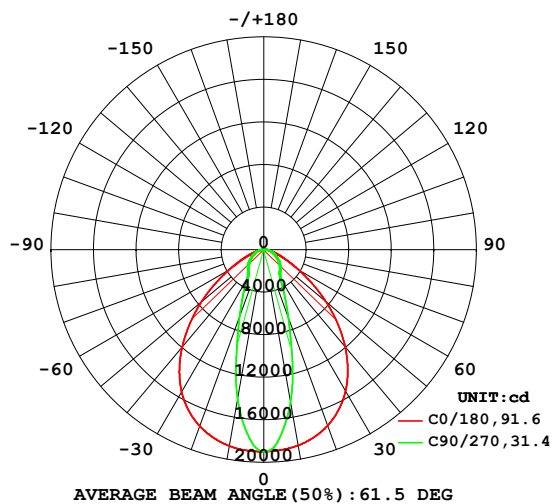
EVERFINE GONIOPHOTOMETERS SYSTEM TEST REPORT

LUMINAIRE PHOTOMETRIC TEST REPORT

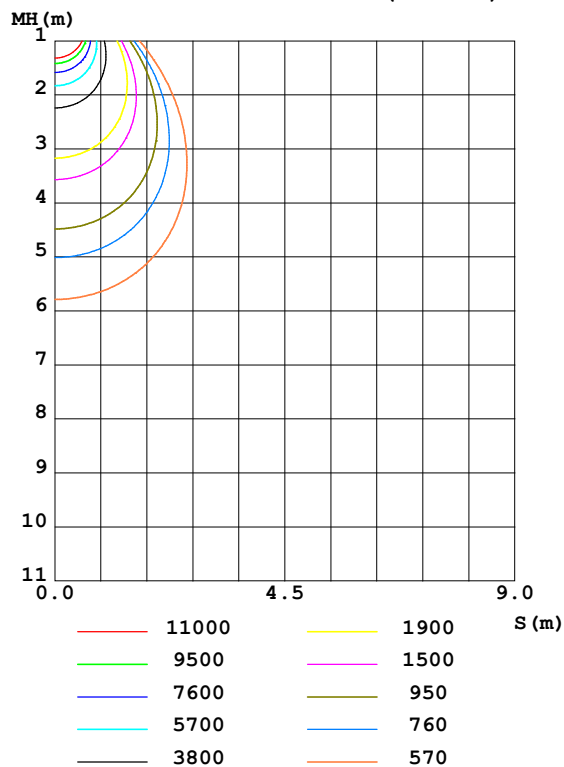
Test:U:229.7V I:0.6469A P:148.4W PF:0.9989 Freq:50.01Hz UTHDi:0.5543% ITHDi:4.013% Lamp Flux:21192.2x1 lm		
NAME: LHB09-150-5070-L00401	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 142.76 lm/W			
MODEL	/	I _{max} (cd)	18997	S/MH (C0/180)	1.21
NOMINAL POWER(W)	150	LOR(%)	100.0	S/MH (C90/270)	0.51
RATED VOLTAGE(V)	230	TOTAL FLUX (lm)	21192	η UP,DN (C0-180)	0.0,50.3
NOMINAL FLUX(lm)	21192.2	CIE CLASS	DIRECT	η UP,DN (C180-360)	0.0,49.7
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	1869	1632	1456	1639	1874	1616	1424	1608	0- 10	1682	1682	7.94,7.94
20	1760	1067	678.6	1069	1765	1027	666.3	1026	10- 20	3848	5529	26.1,26.1
30	1538	546.6	314.3	546.6	1546	533.3	312.7	539.5	20- 30	4164	9693	45.7,45.7
40	1190	283.9	237.4	281.4	1194	279.8	235.8	285.9	30- 40	3683	13377	63.1,63.1
50	766.3	201.6	185.1	199.7	767.1	199.8	186.7	203.4	40- 50	3038	16414	77.5,77.5
60	372.8	148.8	129.9	146.6	374.7	147.1	133.6	149.1	50- 60	2257	18672	88.1,88.1
70	145.2	97.83	87.63	96.91	145.7	96.63	90.32	97.82	60- 70	1476	20147	95.1,95.1
80	45.86	47.76	44.96	47.22	45.91	46.93	43.58	48.00	70- 80	802.0	20949	98.9,98.9
90	0.0902	0.4446	0.7455	0.2821	0.0995	0.0762	0.1152	0.0770	80- 90	243.0	21192	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): 14988 lm

%lum = 70.7%

%lamp = 70.7%

Conical surface Flux(120deg): 18672 lm

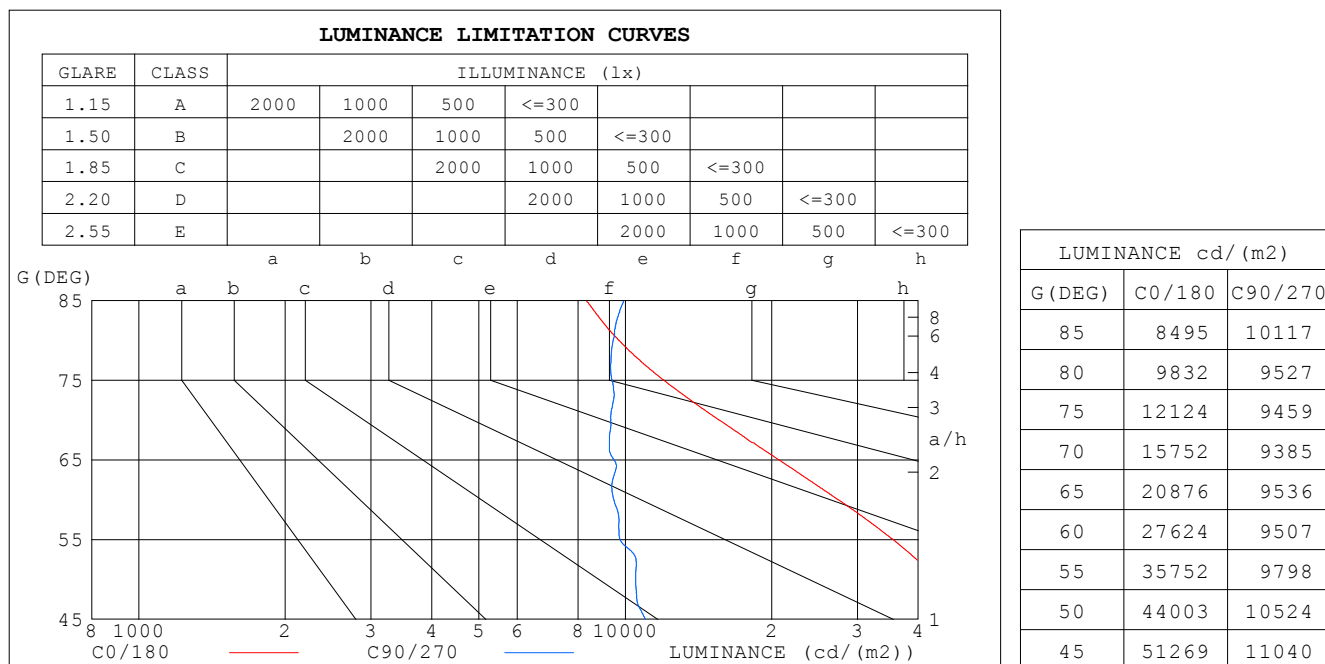
%lum = 88.1%

%lamp = 88.1%

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:

LUMINANCE LIMITATION CURVES



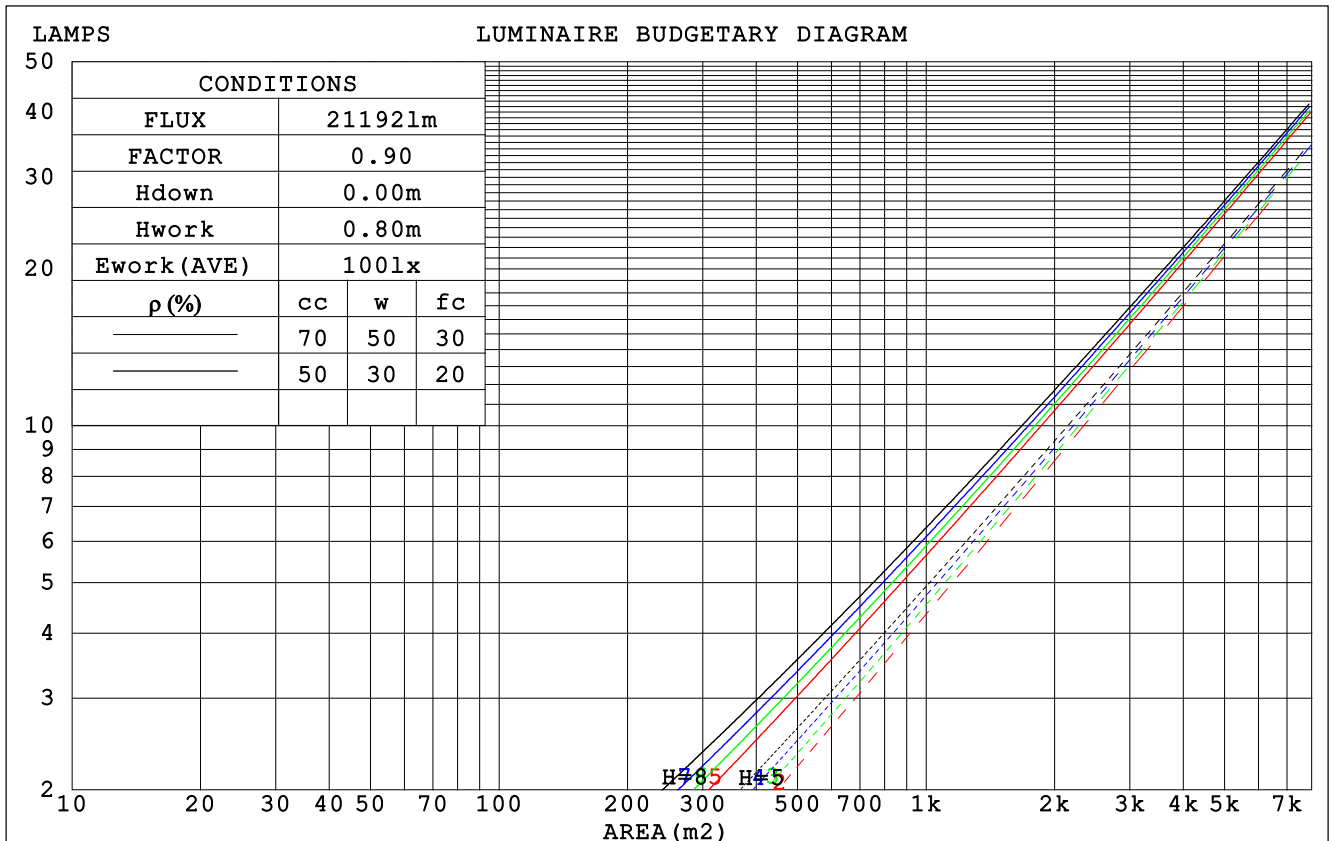
C Range: 0 - 360DEG
C Interval: 10.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators: LI
Test Date: 2020-05-19

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

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	1.00
1.0	1.07	1.03	1.00	1.05	1.01	.99	1.00	.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	.74	.85	.79	.74	.82	.77	.73	.80	.75	.71	.77	.73	.70	.68
4.0	.79	.71	.66	.78	.71	.65	.75	.69	.64	.73	.68	.64	.71	.67	.63	.61
5.0	.72	.64	.59	.71	.64	.59	.69	.63	.58	.67	.62	.57	.65	.61	.57	.55
6.0	.66	.59	.53	.65	.58	.53	.64	.57	.53	.62	.56	.52	.61	.56	.52	.50
7.0	.61	.54	.48	.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
 C Interval: 10.0DEG
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 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

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	.043	.220	.127	.041	.209	.121	.039	
2.0	.239	.131	.040	.233	.128	.039	.222	.123	.038	.211	.118	.037	.202	.114	.036	
3.0	.223	.119	.036	.218	.117	.035	.208	.113	.034	.199	.109	.033	.191	.106	.033	
4.0	.208	.108	.032	.204	.107	.031	.195	.103	.031	.187	.100	.030	.180	.098	.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	.160	.084	.025	
7.0	.171	.084	.024	.168	.084	.024	.162	.082	.024	.156	.080	.023	.151	.078	.023	
8.0	.161	.079	.022	.158	.078	.022	.153	.076	.022	.148	.075	.022	.143	.073	.021	
9.0	.152	.073	.020	.149	.073	.020	.144	.071	.020	.140	.070	.020	.136	.069	.020	
10.0	.144	.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	.132	.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	23.5	24.9	23.8	25.2	25.5	17.5	18.9	17.9	19.2	19.5
3H	24.7	25.9	25.1	26.3	26.6	19.4	20.6	19.8	21.0	21.3
4H	25.0	26.2	25.4	26.5	26.9	20.2	21.4	20.6	21.7	22.1
6H	25.2	26.3	25.6	26.6	27.0	20.8	21.9	21.3	22.3	22.7
8H	25.2	26.3	25.7	26.7	27.1	21.1	22.1	21.5	22.5	22.9
12H	25.3	26.2	25.7	26.6	27.1	21.3	22.3	21.7	22.7	23.1
4H 2H	23.5	24.6	23.9	25.0	25.4	18.3	19.4	18.7	19.8	20.2
3H	24.8	25.8	25.2	26.2	26.6	20.4	21.4	20.8	21.8	22.2
4H	25.2	26.1	25.7	26.5	27.0	21.3	22.2	21.7	22.6	23.0
6H	25.6	26.3	26.0	26.8	27.2	22.1	22.9	22.6	23.3	23.8
8H	25.6	26.4	26.1	26.8	27.3	22.4	23.1	22.9	23.6	24.0
12H	25.7	26.3	26.2	26.8	27.3	22.7	23.3	23.1	23.8	24.2
8H 4H	25.3	26.0	25.8	26.4	26.9	21.7	22.4	22.2	22.9	23.3
6H	25.7	26.3	26.2	26.8	27.3	22.7	23.2	23.2	23.7	24.2
8H	25.8	26.4	26.4	26.9	27.4	23.1	23.6	23.6	24.1	24.6
12H	26.0	26.4	26.5	26.9	27.5	23.4	23.9	23.9	24.4	24.9
12H 4H	25.3	25.9	25.8	26.4	26.9	21.8	22.4	22.2	22.9	23.3
6H	25.7	26.2	26.2	26.7	27.2	22.8	23.3	23.3	23.7	24.3
8H	25.9	26.4	26.4	26.9	27.4	23.2	23.7	23.7	24.2	24.7
CIE190: 2010										

CIE190: 2010
Area: 0.1105 m2

C Range: 0 - 360DEG
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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

UTILIZATION FACTORS TABLE

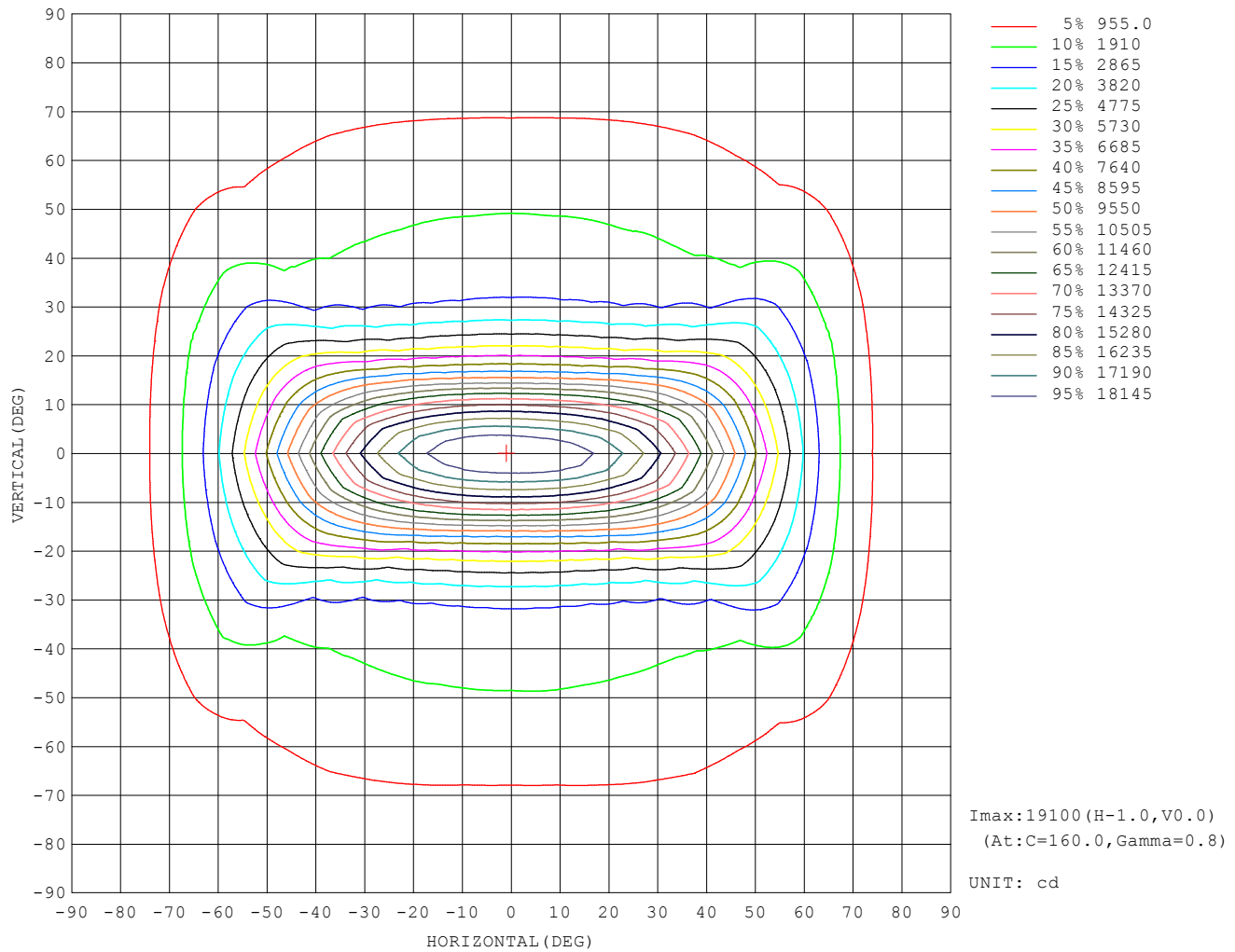
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS (PERCENT) $k(RI) \times RCR = 5$									
$k = 0.60$	69	59	53	68	59	53	67	58	53	48
0.80	78	69	63	77	68	62	75	67	62	56
1.00	85	76	70	84	76	70	82	76	69	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	90	86	80
2.50	103	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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 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

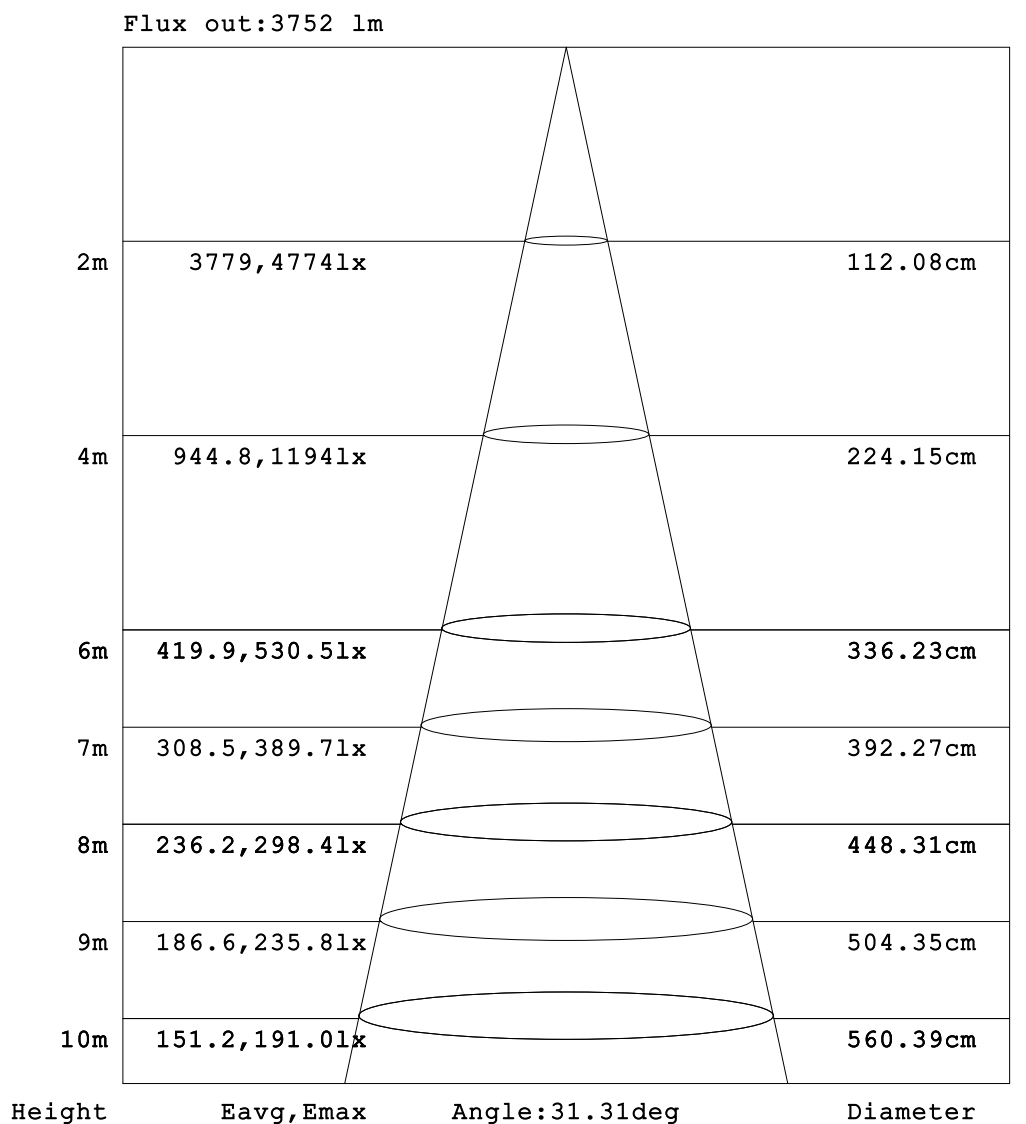
ISOCANDELA DIAGRAM



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:

AAI Figure



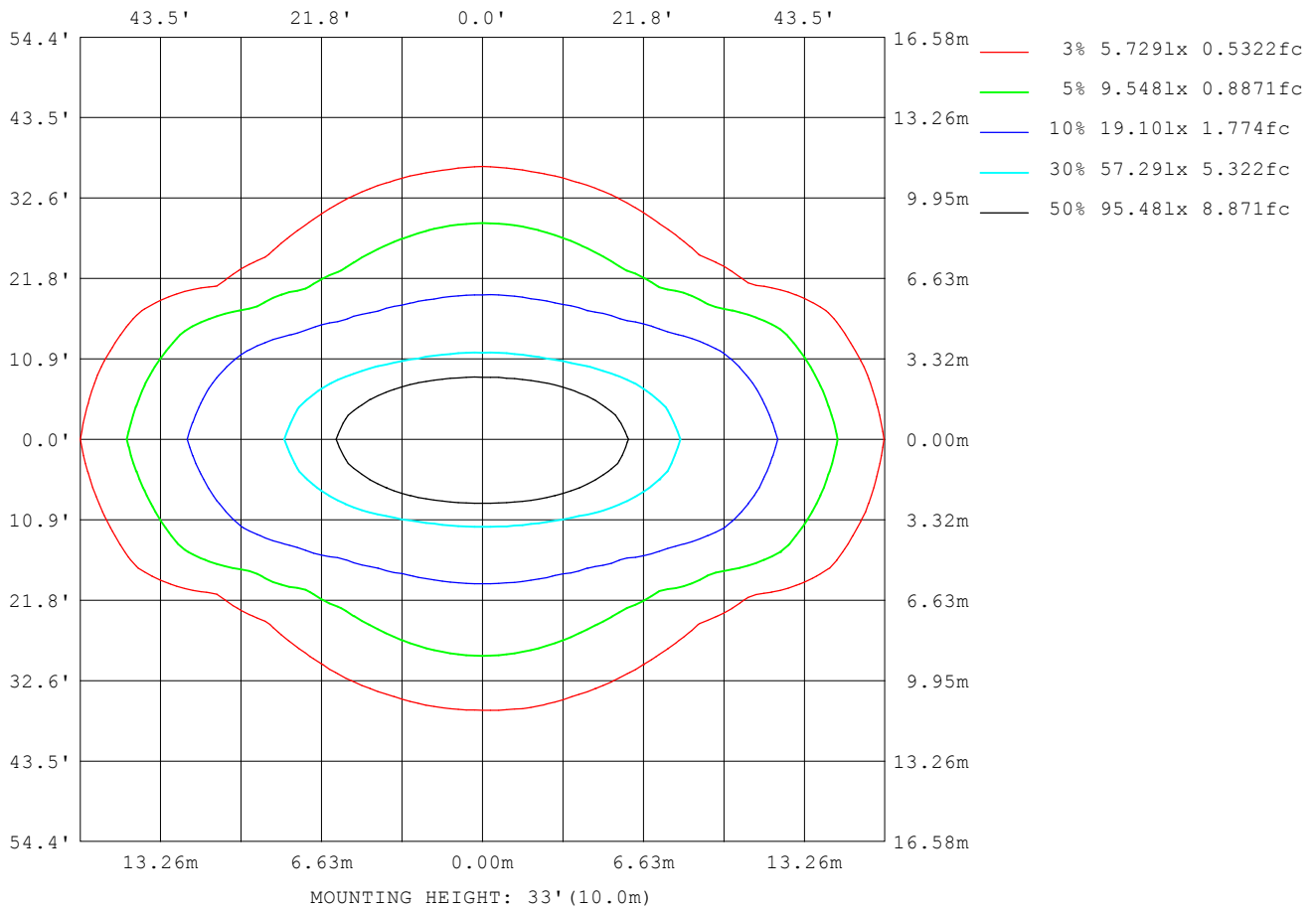
Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

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γ Range: 0 - 90DEG
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Humidity:65.0%
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Remarks:

EVERFINE GONIOPHOTOMETERS SYSTEM TEST REPORT

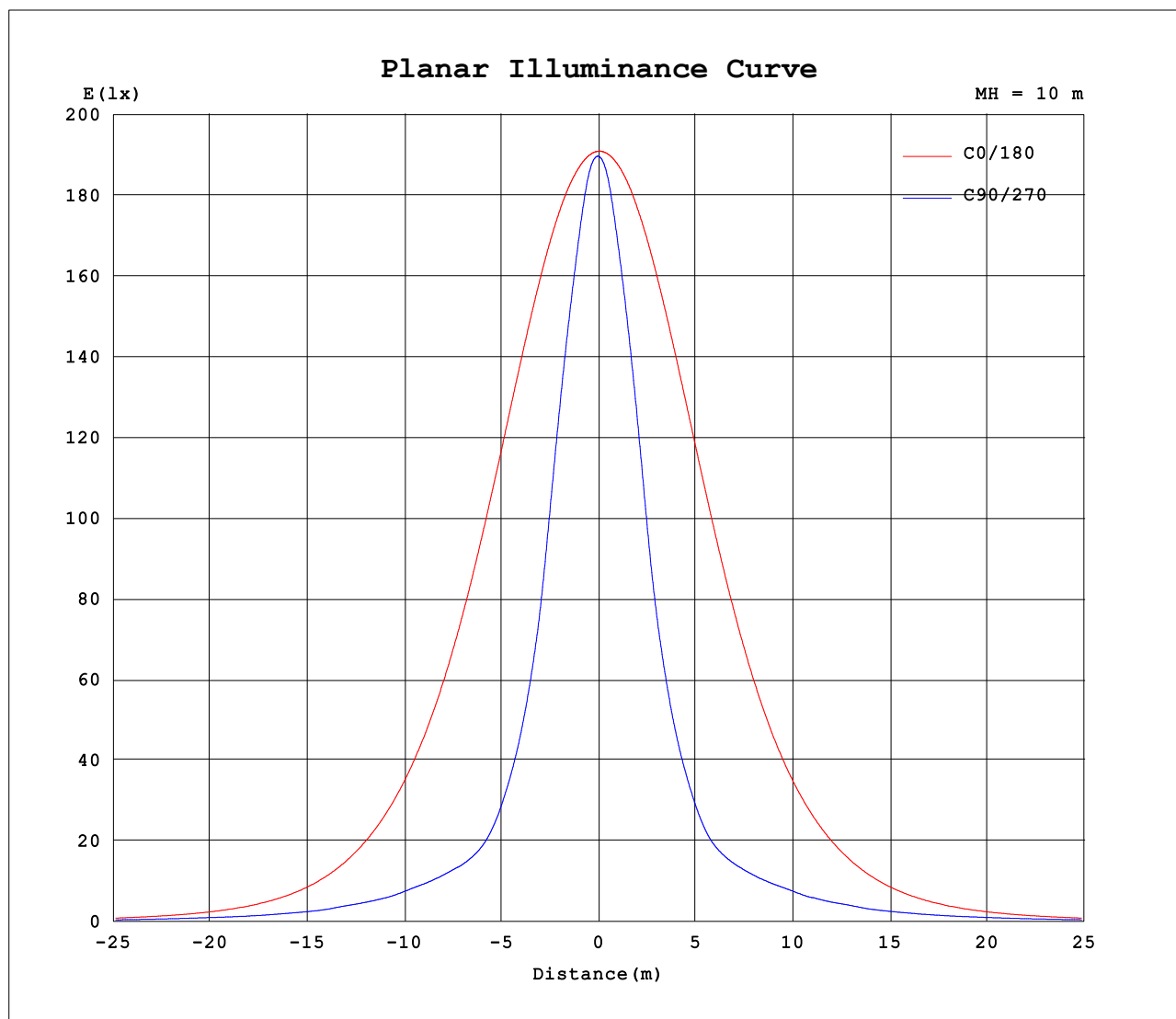
ISOLUX DIAGRAM



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:

Planar Illuminance Curve



C Range: 0 - 360DEG
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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: