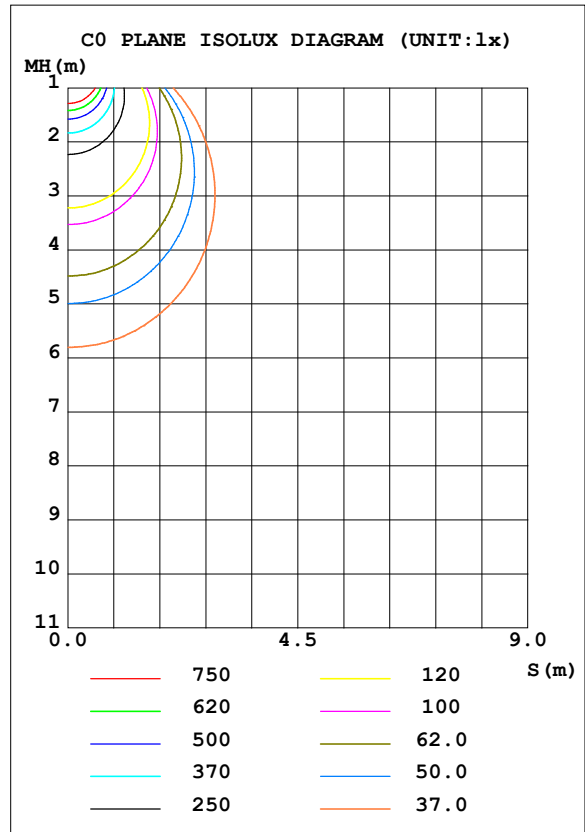
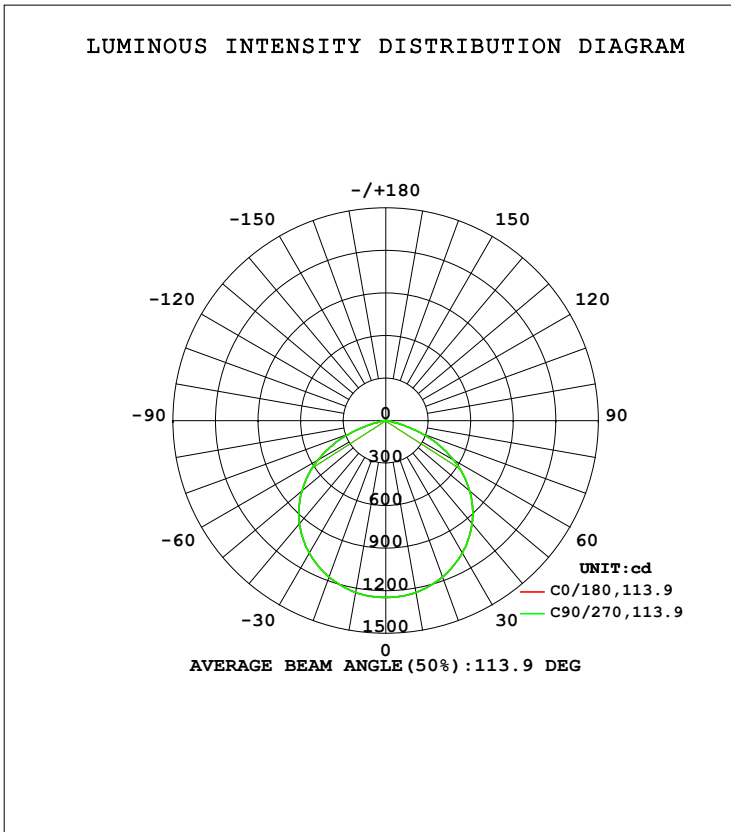


EVERFINE GONIOPHOTOMETERS SYSTEM TEST REPORT

LUMINAIRE PHOTOMETRIC TEST REPORT

Test:U:229.9V I:0.1341A P:30.56W PF:0.9910 Freq:50.01Hz UTHDi:0% ITHDi:0% Lamp Flux:3440.96x1 lm		
NAME: 146-306	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: Tronix Lighting	SUR.:	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 112.58 lm/W			
MODEL	/	Imax (cd)	1246	S/MH (C0/180)	1.29
NOMINAL POWER (W)	30	LOR (%)	100.0	S/MH (C90/270)	1.29
RATED VOLTAGE (V)	230	TOTAL FLUX (lm)	3441.0	η UP, DN (C0-180)	0.0, 50.0
NOMINAL FLUX (lm)	3440.96	CIE CLASS	DIRECT	η UP, DN (C180-360)	0.0, 50.0
LAMPS INSIDE	1	η up (%)	0.0	CIBSE SHR NOM	1.25
TEST VOLTAGE (V)	230	η down (%)	100.0	CIBSE SHR MAX	1.35



C Range: 0 - 360DEG
 C Interval: 15.0DEG
 Test Speed: HIGH
 Temperature: 26.6DEG
 Operators: LYJ
 Test Date: 2020-12-14

γ Range: 0 - 90DEG
 γ Interval: 0.5DEG
 Test System: EVERFINE GO-R5000_V2 SYSTEM V2.00.426
 Humidity: 49.8%
 Test Distance: 1.900m [K=0.6013]
 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	1230	1230	1230	1230	1230	1230	1230	1230	0- 10	118.2	118.2	3.44,3.44
20	1172	1172	1172	1172	1172	1172	1172	1172	10- 20	340.5	458.7	13.3,13.3
30	1079	1079	1079	1079	1079	1079	1079	1079	20- 30	521.2	979.9	28.5,28.5
40	947.6	947.6	947.6	947.6	947.6	947.6	947.6	947.6	30- 40	636.8	1617	47,47
50	772.9	772.9	772.9	772.9	772.9	772.9	772.9	772.9	40- 50	667.3	2284	66.4,66.4
60	551.2	551.2	551.2	551.2	551.2	551.2	551.2	551.2	50- 60	595.2	2879	83.7,83.7
70	277.0	277.0	277.0	277.0	277.0	277.0	277.0	277.0	60- 70	415.2	3294	95.7,95.7
80	23.27	23.27	23.27	23.27	23.27	23.27	23.27	23.27	70- 80	140.8	3435	99.8,99.8
90	0.1195	0.1195	0.1195	0.1195	0.1195	0.1195	0.1195	0.1195	80- 90	5.816	3441	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): 1952.7 lm

%lum = 56.7%

%lamp = 56.7%

Conical surface Flux(120deg): 2879.2 lm

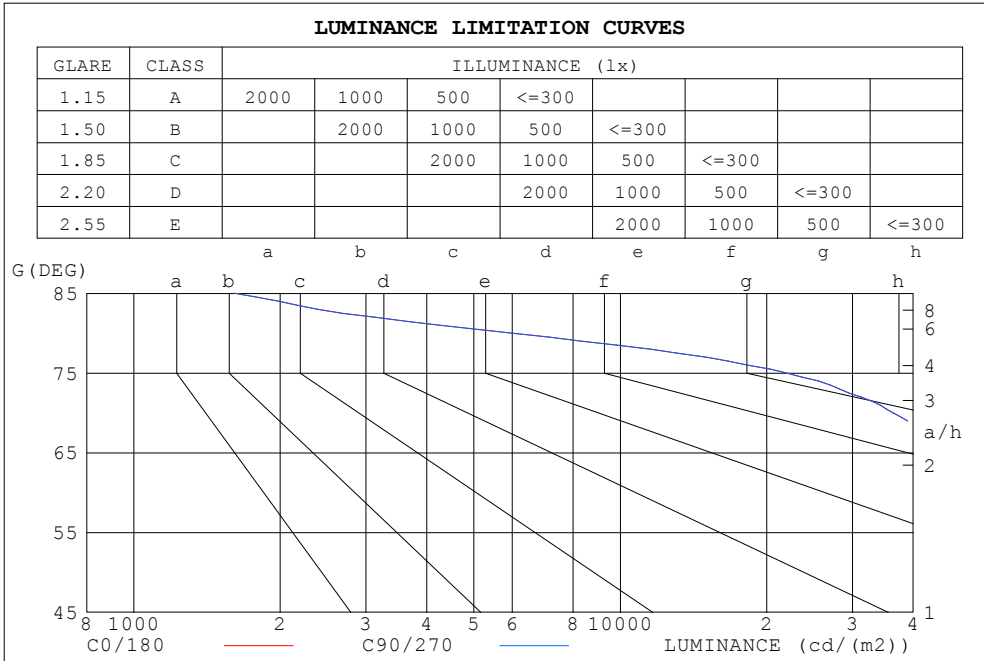
%lum = 83.7%

%lamp = 83.7%

C Range: 0 - 360DEG
 C Interval: 15.0DEG
 Test Speed: HIGH
 Temperature:26.6DEG
 Operators:LYJ
 Test Date:2020-12-14

γ Range: 0 - 90DEG
 γ Interval: 0.5DEG
 γ Test System:EVERFINE GO-R5000_V2 SYSTEM V2.00.426
 Humidity:49.8%
 Test Distance:1.900m [K=0.6013]
 Remarks:

LUMINANCE LIMITATION CURVES



LUMINANCE cd/(m2)		
G (DEG)	C0/180	C90/270
85	1613	1613
80	6016	6016
75	21948	21948
70	36365	36365
65	44823	44823
60	49494	49494
55	52256	52256
50	53991	53991
45	55001	55001

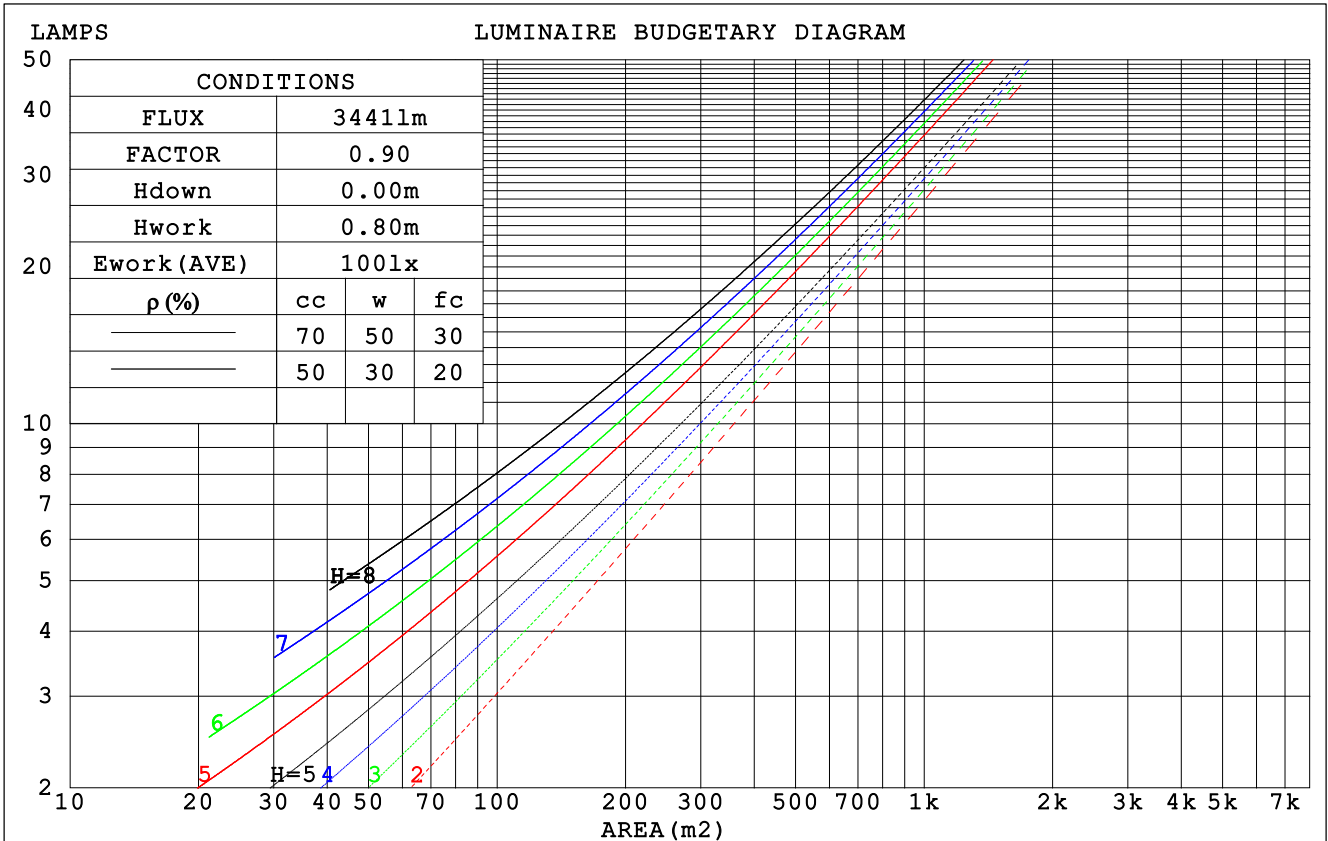
C Range: 0 - 360DEG
 C Interval: 15.0DEG
 Test Speed: HIGH
 Temperature: 26.6DEG
 Operators: LYJ
 Test Date: 2020-12-14

γ Range: 0 - 90DEG
 γ Interval: 0.5DEG
 Test System: EVERFINE GO-R5000_V2 SYSTEM V2.00.426
 Humidity: 49.8%
 Test Distance: 1.900m [K=0.6013]
 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	.00
1.0	1.06	1.02	.98	1.03	.90	.97	.99	.96	.94	.95	.93	.91	.92	.90	.88	.86
2.0	.93	.86	.81	.91	.85	.80	.87	.82	.78	.84	.80	.76	.81	.78	.75	.72
3.0	.82	.74	.68	.80	.73	.67	.77	.71	.66	.74	.69	.65	.72	.67	.64	.61
4.0	.72	.64	.57	.71	.63	.57	.68	.62	.56	.66	.60	.55	.64	.59	.55	.53
5.0	.65	.56	.49	.63	.55	.49	.61	.54	.49	.59	.53	.48	.58	.52	.47	.45
6.0	.58	.49	.43	.57	.49	.43	.55	.48	.42	.54	.47	.42	.52	.46	.42	.40
7.0	.53	.44	.38	.52	.44	.38	.50	.43	.38	.49	.42	.37	.48	.42	.37	.35
8.0	.48	.40	.34	.47	.39	.34	.46	.39	.33	.45	.38	.33	.44	.38	.33	.31
9.0	.44	.36	.30	.43	.36	.30	.42	.35	.30	.41	.35	.30	.40	.34	.30	.28
10.0	.41	.33	.28	.40	.33	.27	.39	.32	.27	.38	.32	.27	.37	.31	.27	.25



C Range: 0 - 360DEG
 C Interval: 15.0DEG
 Test Speed: HIGH
 Temperature: 26.6DEG
 Operators: LYJ
 Test Date: 2020-12-14

γ Range: 0 - 90DEG
 γ Interval: 0.5DEG
 Test System: EVERFINE GO-R5000_V2 SYSTEM V2.00.426
 Humidity: 49.8%
 Test Distance: 1.900m [K=0.6013]
 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	.278	.158	.050	.271	.154	.049	.258	.148	.047	.246	.142	.045	.235	.136	.044	
2.0	.271	.149	.046	.265	.146	.045	.254	.141	.044	.243	.136	.043	.233	.132	.042	
3.0	.256	.136	.041	.251	.134	.040	.240	.130	.040	.231	.127	.039	.222	.123	.038	
4.0	.239	.124	.037	.235	.123	.036	.226	.120	.036	.217	.117	.035	.209	.114	.035	
5.0	.223	.114	.033	.219	.112	.033	.211	.110	.032	.204	.107	.032	.197	.105	.032	
6.0	.208	.104	.030	.205	.103	.030	.197	.101	.029	.191	.099	.029	.184	.097	.029	
7.0	.195	.096	.027	.191	.095	.027	.185	.094	.027	.179	.092	.027	.173	.090	.026	
8.0	.183	.089	.025	.180	.088	.025	.174	.087	.025	.168	.085	.025	.163	.084	.024	
9.0	.172	.083	.023	.169	.082	.023	.164	.081	.023	.159	.080	.023	.154	.078	.023	
10.0	.162	.077	.022	.159	.077	.021	.155	.076	.021	.150	.075	.021	.146	.073	.021	

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	.178	.156	.137	.152	.134	.118	.104	.092	.081	.060	.053	.047	.019	.017	.015	
2.0	.169	.132	.100	.145	.114	.087	.099	.079	.061	.057	.046	.036	.018	.015	.012	
3.0	.162	.114	.076	.139	.099	.066	.095	.068	.046	.055	.040	.027	.018	.013	.009	
4.0	.154	.101	.060	.133	.087	.052	.091	.061	.037	.053	.036	.022	.017	.012	.007	
5.0	.147	.090	.048	.127	.078	.042	.087	.055	.030	.050	.032	.018	.016	.010	.006	
6.0	.140	.082	.040	.121	.071	.035	.083	.050	.025	.048	.029	.015	.016	.010	.005	
7.0	.134	.075	.034	.115	.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	.042	.023	.009	.014	.008	.003	
10.0	.116	.060	.023	.100	.052	.020	.070	.037	.014	.041	.022	.008	.013	.007	.003	

C Range: 0 - 360DEG
 C Interval: 15.0DEG
 Test Speed: HIGH
 Temperature: 26.6DEG
 Operators: LYJ
 Test Date: 2020-12-14

γ Range: 0 - 90DEG
 γ Interval: 0.5DEG
 Test System: EVERFINE GO-R5000_V2 SYSTEM V2.00.426
 Humidity: 49.8%
 Test Distance: 1.900m [K=0.6013]
 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	26.8	28.2	27.0	28.4	28.6	26.8	28.2	27.0	28.4	28.6
3H	27.9	29.3	28.2	29.5	29.7	27.9	29.3	28.2	29.5	29.7
4H	28.1	29.4	28.4	29.6	29.9	28.1	29.4	28.4	29.6	29.9
6H	28.0	29.3	28.4	29.5	29.8	28.0	29.3	28.4	29.5	29.8
8H	28.0	29.2	28.3	29.4	29.7	28.0	29.2	28.3	29.4	29.7
12H	27.9	29.1	28.3	29.4	29.7	27.9	29.1	28.3	29.4	29.7
4H 2H	27.3	28.6	27.6	28.8	29.1	27.3	28.6	27.6	28.8	29.1
3H	28.5	29.7	28.9	29.9	30.2	28.5	29.7	28.9	29.9	30.2
4H	28.8	29.8	29.1	30.1	30.4	28.8	29.8	29.1	30.1	30.4
6H	28.7	29.6	29.1	30.0	30.4	28.7	29.6	29.1	30.0	30.4
8H	28.7	29.5	29.1	29.9	30.3	28.7	29.5	29.1	29.9	30.3
12H	28.7	29.4	29.1	29.8	30.2	28.7	29.4	29.1	29.8	30.2
8H 4H	28.8	29.6	29.2	30.0	30.4	28.8	29.6	29.2	30.0	30.4
6H	28.8	29.5	29.2	29.9	30.3	28.8	29.5	29.2	29.9	30.3
8H	28.8	29.4	29.2	29.8	30.2	28.8	29.4	29.2	29.8	30.2
12H	28.7	29.2	29.2	29.7	30.2	28.7	29.2	29.2	29.7	30.2
12H 4H	28.8	29.5	29.2	29.9	30.3	28.8	29.5	29.2	29.9	30.3
6H	28.8	29.4	29.2	29.8	30.2	28.8	29.4	29.2	29.8	30.2
8H	28.7	29.2	29.2	29.7	30.2	28.7	29.2	29.2	29.7	30.2
Variations with the observer position at spacings(CIE Pub.117):										
S = 1.0H	+ 0.3 / - 0.3					+ 0.3 / - 0.3				
1.5H	+ 0.3 / - 0.5					+ 0.3 / - 0.5				
2.0H	+ 0.4 / - 0.5					+ 0.4 / - 0.5				

CIE Pub.117, 3441 lm Total Lamp Luminous Flux Corrected (8log(F/F0) = 4.3)
 Area: 0.022272 m2

C Range: 0 - 360DEG
 C Interval: 15.0DEG
 Test Speed: HIGH
 Temperature:26.6DEG
 Operators:LYJ
 Test Date:2020-12-14

γ Range: 0 - 90DEG
 γ Interval: 0.5DEG
 Test System:EVERFINE GO-R5000_V2 SYSTEM V2.00.426
 Humidity:49.8%
 Test Distance:1.900m [K=0.6013]
 Remarks:

EVERFINE GONIOPHOTOMETERS SYSTEM TEST REPORT

UTILIZATION FACTORS TABLE

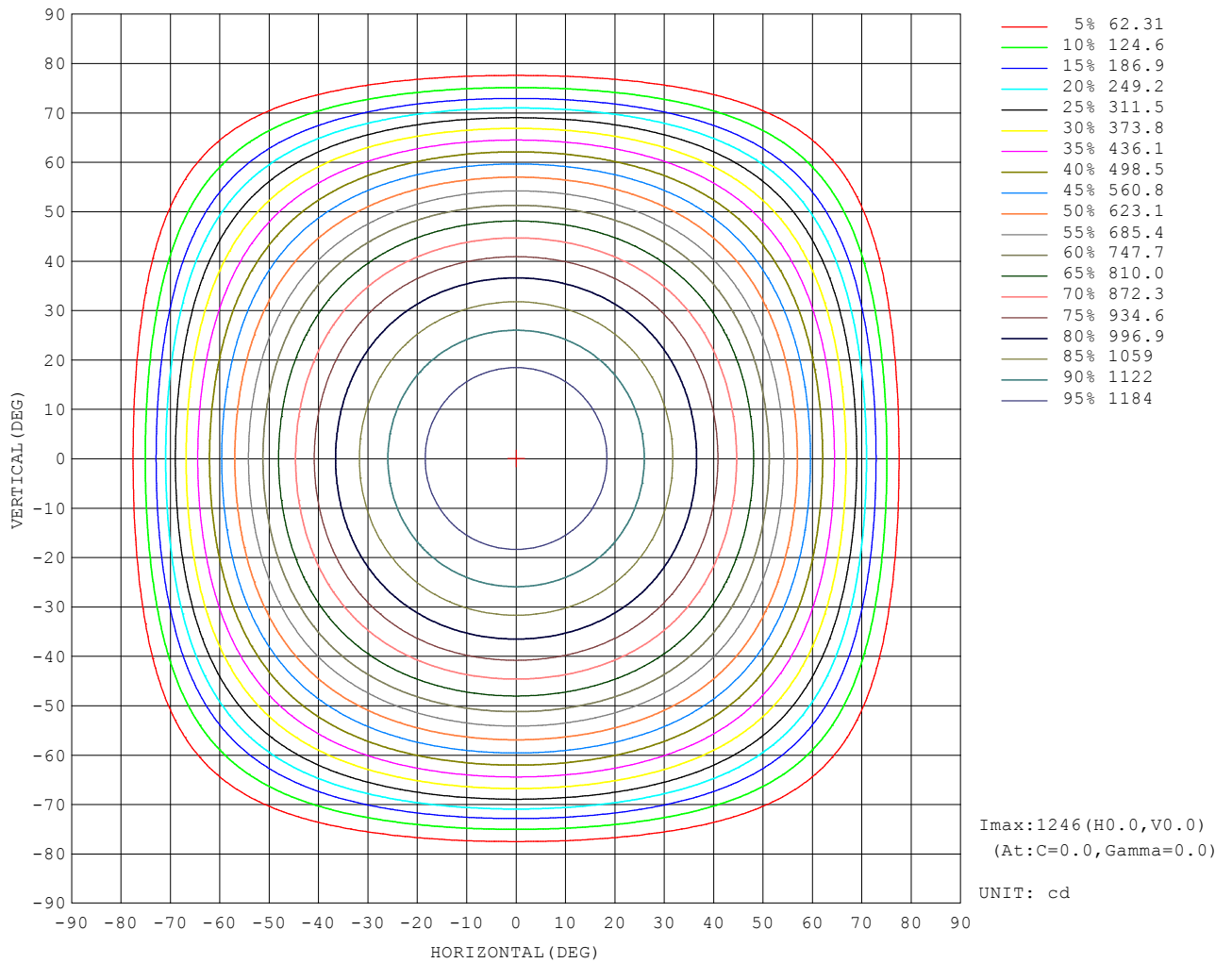
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS (PERCENT) $k(RI) \times RCR = 5$									
$k = 0.60$	59	47	40	58	47	40	57	46	40	34
0.80	69	58	50	68	57	50	66	56	50	43
1.00	78	67	60	77	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	72	65
2.00	97	89	83	95	88	82	92	86	81	73
2.50	101	93	88	99	92	87	95	89	85	77
3.00	104	98	93	102	96	91	98	93	89	81
4.00	108	102	98	105	101	97	101	97	94	86
5.00	110	106	102	108	104	100	103	100	97	88
ROOM INDEX	UF(total)									Direct
According to DIN EN 13032-2 2004			Suspended				SHRNOM = 1.25			

C Range: 0 - 360DEG
 C Interval: 15.0DEG
 Test Speed: HIGH
 Temperature: 26.6DEG
 Operators: LYJ
 Test Date: 2020-12-14

γ Range: 0 - 90DEG
 γ Interval: 0.5DEG
 Test System: EVERFINE GO-R5000_V2 SYSTEM V2.00.426
 Humidity: 49.8%
 Test Distance: 1.900m [K=0.6013]
 Remarks:

EVERFINE GONIOPHOTOMETERS SYSTEM TEST REPORT

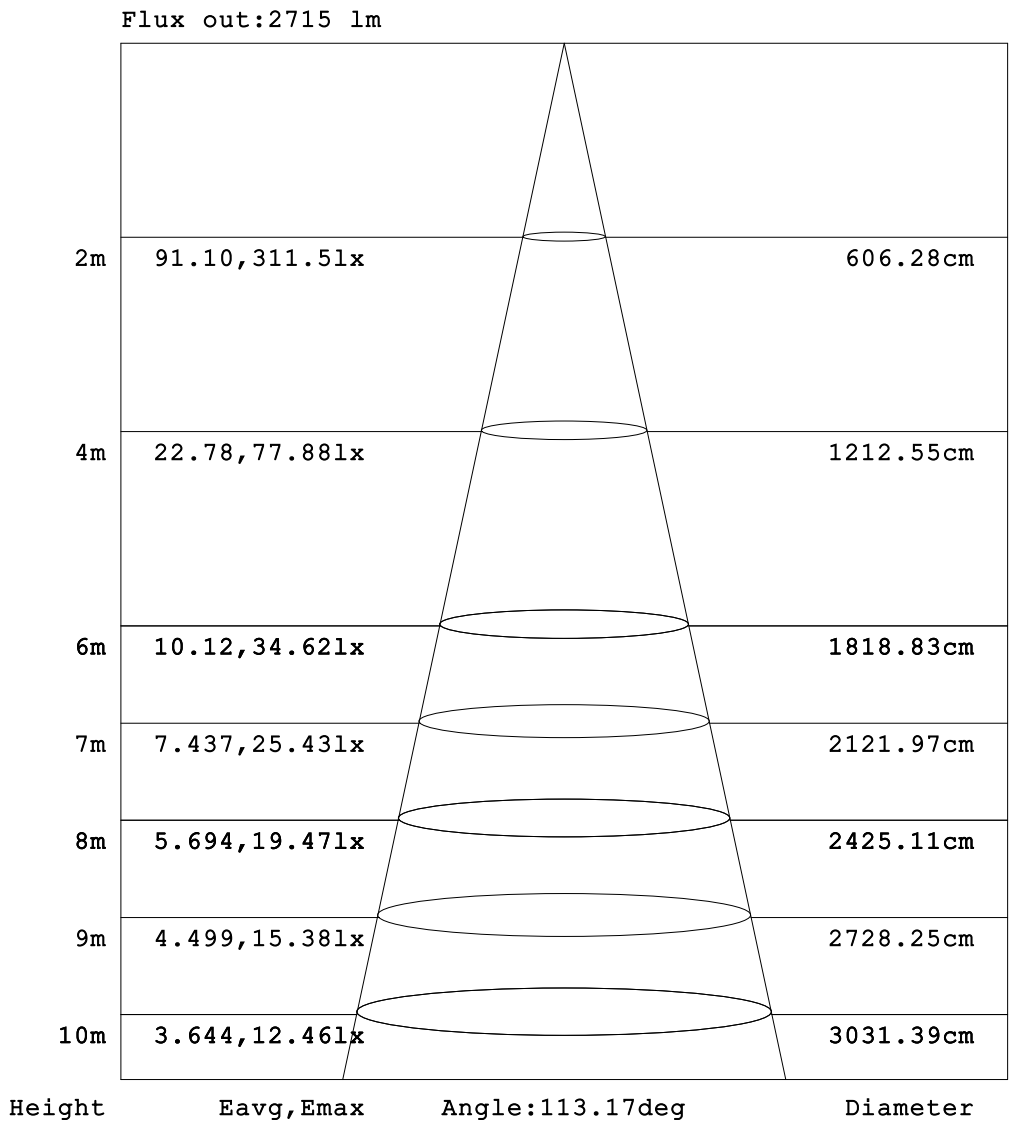
ISOCANDELA DIAGRAM



C Range: 0 - 360DEG
C Interval: 15.0DEG
Test Speed: HIGH
Temperature:26.6DEG
Operators:LYJ
Test Date:2020-12-14

γ Range: 0 - 90DEG
 γ Interval: 0.5DEG
Test System:EVERFINE GO-R5000_V2 SYSTEM V2.00.426
Humidity:49.8%
Test Distance:1.900m [K=0.6013]
Remarks:

AAI Figure

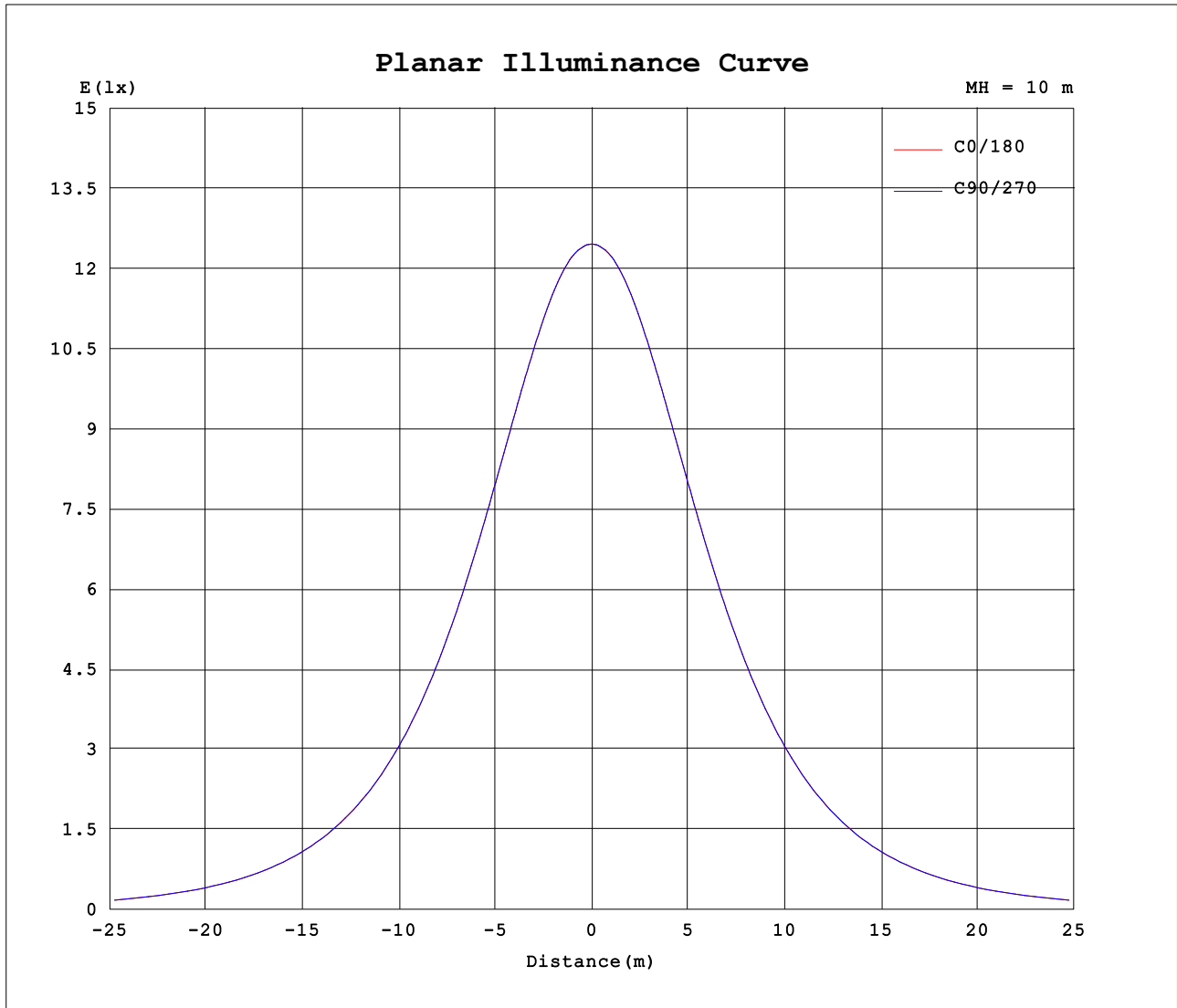


Note: The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG
 C Interval: 15.0DEG
 Test Speed: HIGH
 Temperature: 26.6DEG
 Operators: LYJ
 Test Date: 2020-12-14

γ Range: 0 - 90DEG
 γ Interval: 0.5DEG
 Test System: EVERFINE GO-R5000_V2 SYSTEM V2.00.426
 Humidity: 49.8%
 Test Distance: 1.900m [K=0.6013]
 Remarks:

Planar Illuminance Curve



C Range: 0 - 360DEG
C Interval: 15.0DEG
Test Speed: HIGH
Temperature: 26.6DEG
Operators: LYJ
Test Date: 2020-12-14

γ Range: 0 - 90DEG
 γ Interval: 0.5DEG
Test System: EVERFINE GO-R5000_V2 SYSTEM V2.00.426
Humidity: 49.8%
Test Distance: 1.900m [K=0.6013]
Remarks: