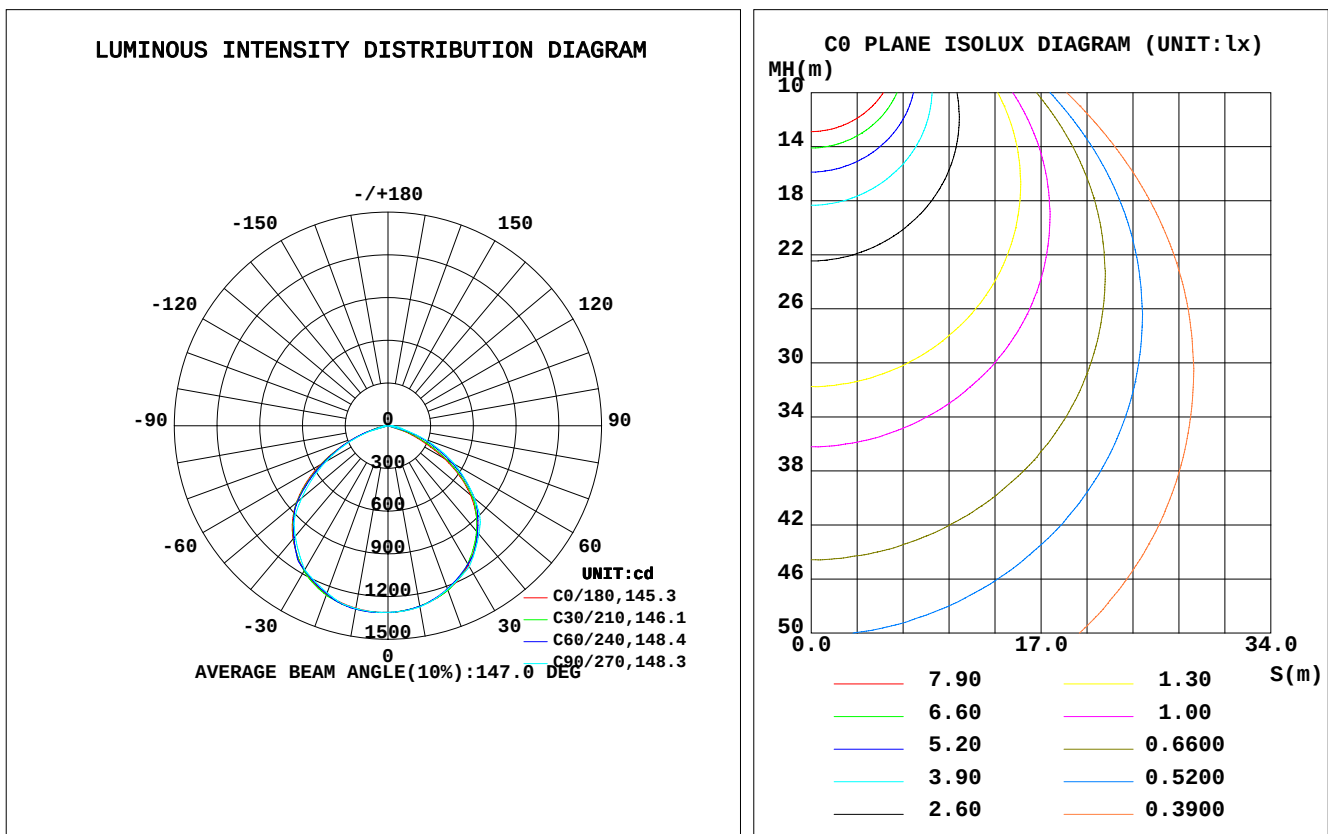


EVERFINE GONIOPHOTOMETERS SYSTEM TEST REPORT

LUMINAIRE PHOTOMETRIC TEST REPORT

Test:U:120.6V I:0.2447A P:29.14W PF:0.9880 Lamp Flux:3510.97x1 lm		

DATA OF LAMP		PHOTOMETRIC DATA Eff: 120.47 lm/W			
MODEL		Imax(cd)	1314	S/MH(C0/180)	1.33
NOMINAL POWER(W)	30	LOR(%)	100.0	S/MH(C90/270)	1.31
RATED VOLTAGE(V)	120	TOTAL FLUX(lm)	3511.0	η UP, DN(C0-180)	0.0, 50.2
NOMINAL FLUX(lm)	3510.97	CIE CLASS	DIRECT	η UP, DN(C180-360)	0.0, 49.8
LAMPS INSIDE	1	η up(%)	0.0	CIBSE SHR NOM	1.25
TEST VOLTAGE(V)	120	η down(%)	100.0	CIBSE SHR MAX	1.35



C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature:25DEG
Operators:
Test Date:2017-07-04

γ Range: 0 - 90DEG
 γ Interval: 0.5DEG
Test System:EVERFINE G0-2000B_V1 SYSTEM V2.0.350
Humidity:65.0%
Test Distance:7.850m [K=1.0000]
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
5	1305	1303	1305	1306	1310	1313	1311	1306	0- 5	31.30	31.30	0.89,0.89
10	1288	1286	1292	1295	1301	1308	1303	1295	5- 10	93.12	124.4	3.54,3.54
15	1263	1261	1262	1276	1284	1292	1286	1277	10- 15	152.5	276.9	7.89,7.89
20	1227	1226	1223	1241	1260	1262	1249	1245	15- 20	207.4	484.3	13.8,13.8
25	1183	1174	1183	1197	1223	1220	1209	1195	20- 25	255.9	740.3	21.1,21.1
30	1128	1117	1143	1147	1175	1170	1169	1138	25- 30	297.2	1037	29.5,29.5
35	1059	1054	1068	1091	1111	1113	1091	1075	30- 35	329.1	1367	38.9,38.9
40	974.3	981.2	992.8	1023	1036	1044	1013	999.5	35- 40	348.5	1715	48.8,48.8
45	875.3	881.0	912.9	928.7	948.0	936.8	928.8	887.4	40- 45	355.2	2070	59.59
50	757.4	777.2	791.7	829.2	839.3	823.6	791.3	769.9	45- 50	346.7	2417	68.8,68.8
55	615.2	661.9	665.5	718.6	703.6	699.2	647.1	643.3	50- 55	318.5	2735	77.9,77.9
60	451.7	501.0	539.2	562.5	548.2	534.8	502.9	476.7	55- 60	272.4	3008	85.7,85.7
65	288.0	337.6	401.9	403.4	386.1	369.6	359.4	310.0	60- 65	212.2	3220	91.7,91.7
70	153.2	202.4	264.6	260.9	235.8	228.5	215.9	176.9	65- 70	146.0	3366	95.9,95.9
75	79.71	107.4	136.8	144.9	117.6	120.8	84.32	89.89	70- 75	84.01	3450	98.3,98.3
80	25.48	31.61	85.53	47.50	47.13	32.22	48.76	22.04	75- 80	38.28	3488	99.4,99.4
85	4.286	16.39	43.80	23.66	9.647	16.26	25.19	11.51	80- 85	17.01	3505	99.8,99.8
90	2.031	1.971	2.072	1.566	1.249	1.481	1.633	1.685	85- 90	5.568	3511	100,100
95									90- 95			
100									95-100			
105									100-105			
110									105-110			
115									110-115			
120									115-120			
125									120-125			
130									125-130			
135									130-135			
140									135-140			
145									140-145			
150									145-150			
155									150-155			
160									155-160			
165									160-165			
170									165-170			
175									170-175			
180									175-180			
DEG	LUMINOUS INTENSITY:cd									UNIT:lm		

Conical surface Flux(90deg): 2070.2 lm

%lum = 59.0%

%lamp = 59.0%

Conical surface Flux(120deg): 3007.9 lm

%lum = 85.7%

%lamp = 85.7%

C Range: 0 - 360DEG
 C Interval: 5.0DEG
 Test Speed: HIGH
 Temperature:25DEG
 Operators:
 Test Date:2017-07-04

γ Range: 0 - 90DEG
 γ Interval: 0.5DEG
 Test System:EVERFINE G0-2000B_V1 SYSTEM V2.0.350
 Humidity:65.0%
 Test Distance:7.850m [K=1.0000]
 Remarks:

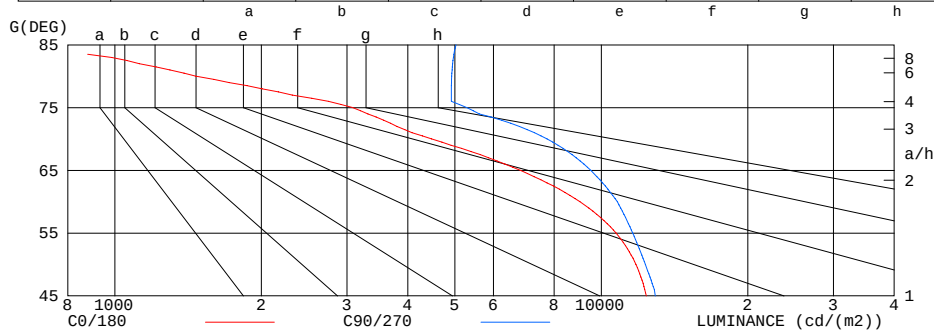
EVERFINE GONIOPHOTOMETERS SYSTEM TEST REPORT

LUMINANCE LIMITATION CURVES

Test:U:120.6V I:0.2447A P:29.14W PF:0.9880 Lamp Flux:3510.97x1 lm

LUMINANCE LIMITATION CURVES

GLARE	CLASS	ILLUMINANCE (lx)							
1.15	A	2000	1000	500	<=300				
1.50	B		2000	1000	500	<=300			
1.85	C			2000	1000	500	<=300		
2.20	D				2000	1000	500	<=300	
2.55	E					2000	1000	500	<=300



LUMINANCE cd/(m2)		
G(DEG)	C0/180	C90/270
85	492	5026
80	1468	4926
75	3080	5286
70	4479	7736
65	6814	9510
60	9034	10784
55	10725	11602
50	11783	12317
45	12378	12910

C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature:25DEG
Operators:
Test Date:2017-07-04

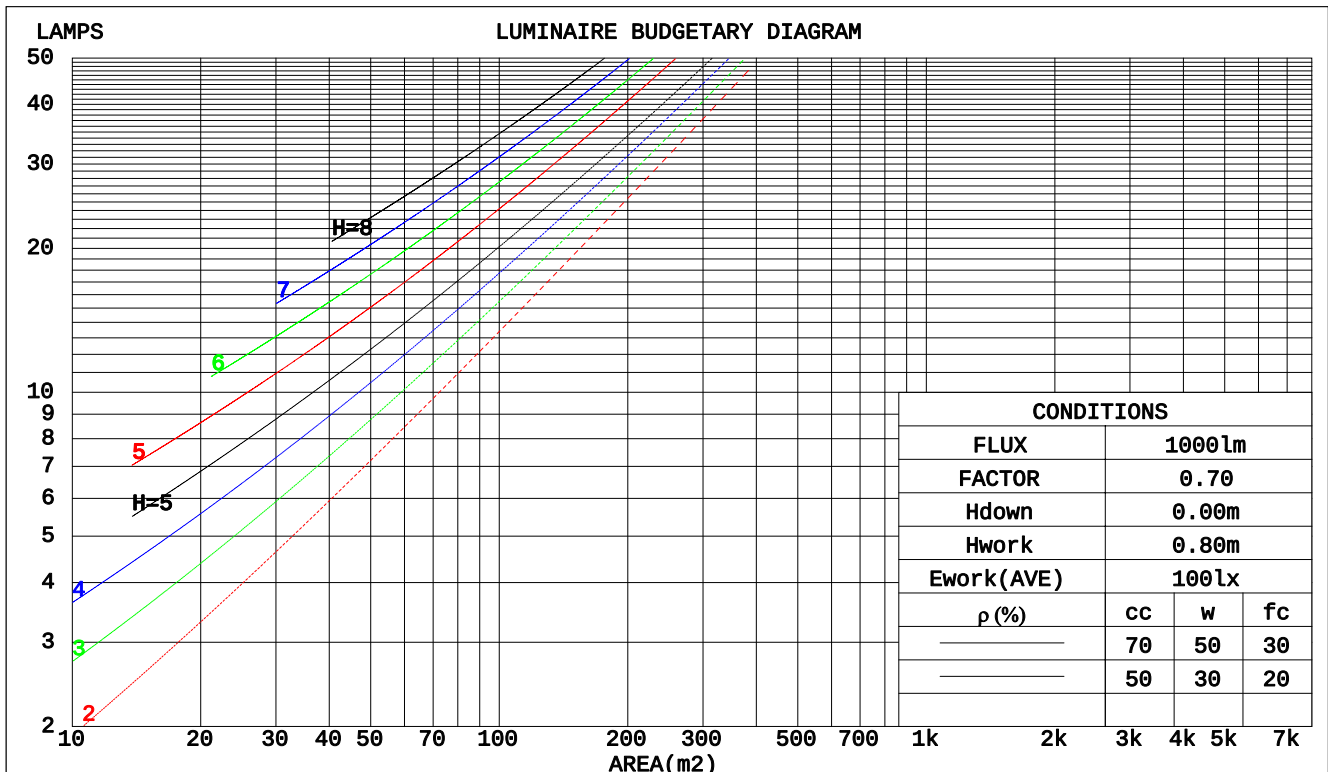
γ Range: 0 - 90DEG
γ Interval: 0.5DEG
Test System:EVERFINE G0-2000B_V1 SYSTEM V2.0.350
Humidity:65.0%
Test Distance:7.850m [K=1.0000]
Remarks:

EVERFINE GONIOPHOTOMETERS SYSTEM TEST REPORT

CU AND LUMINAIRE BUDGETARY ESTIMATE DIAGRAM

Test:U:120.6V I:0.2447A P:29.14W PF:0.9880 Lamp Flux:3510.97x1 lm		

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	1.06	1.02	.98	1.03	1.00	.97	.99	.96	.94	.95	.93	.91	.92	.90	.88	.86
2.0	.93	.87	.82	.91	.86	.81	.88	.83	.79	.85	.81	.77	.82	.78	.75	.73
3.0	.82	.75	.69	.81	.74	.68	.78	.72	.67	.75	.70	.66	.73	.68	.65	.62
4.0	.73	.65	.58	.72	.64	.58	.69	.63	.57	.67	.61	.57	.65	.60	.56	.54
5.0	.66	.57	.51	.64	.56	.50	.62	.55	.50	.60	.54	.49	.59	.53	.49	.47
6.0	.59	.50	.44	.58	.50	.44	.56	.49	.44	.55	.48	.43	.53	.47	.43	.41
7.0	.54	.45	.39	.53	.45	.39	.51	.44	.39	.50	.43	.38	.48	.43	.38	.36
8.0	.49	.41	.35	.48	.40	.35	.47	.40	.35	.46	.39	.34	.44	.39	.34	.32
9.0	.45	.37	.31	.44	.37	.31	.43	.36	.31	.42	.36	.31	.41	.35	.31	.29
10.0	.41	.34	.28	.41	.33	.28	.40	.33	.28	.39	.33	.28	.38	.32	.28	.26



C Range: 0 - 360DEG
 C Interval: 5.0DEG
 Test Speed: HIGH
 Temperature:25DEG
 Operators:
 Test Date:2017-07-04

γ Range: 0 - 90DEG
 γ Interval: 0.5DEG
 Test System:EVERFINE G0-2000B_V1 SYSTEM V2.0.350
 Humidity:65.0%
 Test Distance:7.850m [K=1.0000]
 Remarks:

EVERFINE GONIOPHOTOMETERS SYSTEM TEST REPORT

WEC AND CCEC

Test:U:120.6V I:0.2447A P:29.14W PF:0.9880 Lamp Flux:3510.97x1 lm														

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	.274	.156	.049	.267	.153	.048	.254	.146	.047	.242	.140	.045	.231	.134	.043	
2.0	.266	.146	.045	.260	.143	.044	.248	.138	.043	.238	.133	.042	.228	.129	.041	
3.0	.251	.134	.040	.246	.132	.040	.236	.128	.039	.226	.124	.038	.218	.120	.037	
4.0	.235	.122	.036	.230	.121	.036	.221	.117	.035	.213	.114	.035	.205	.112	.034	
5.0	.220	.112	.032	.215	.111	.032	.207	.108	.032	.200	.106	.031	.193	.103	.031	
6.0	.205	.103	.029	.202	.102	.029	.194	.100	.029	.188	.098	.029	.182	.096	.028	
7.0	.192	.095	.027	.189	.094	.027	.183	.092	.027	.177	.091	.026	.171	.089	.026	
8.0	.180	.088	.025	.177	.087	.025	.172	.086	.025	.166	.084	.024	.161	.083	.024	
9.0	.170	.082	.023	.167	.081	.023	.162	.080	.023	.157	.079	.023	.153	.077	.022	
10.0	.160	.077	.021	.158	.076	.021	.153	.075	.021	.149	.074	.021	.145	.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	.082	.060	.053	.047	.019	.017	.015	
2.0	.169	.132	.101	.145	.114	.087	.099	.079	.061	.057	.046	.036	.018	.015	.012	
3.0	.161	.114	.077	.138	.098	.067	.095	.068	.047	.055	.040	.028	.018	.013	.009	
4.0	.153	.101	.060	.132	.087	.052	.091	.061	.037	.052	.036	.022	.017	.012	.007	
5.0	.146	.090	.049	.126	.078	.042	.087	.054	.030	.050	.032	.018	.016	.010	.006	
6.0	.139	.082	.040	.120	.071	.035	.083	.050	.025	.048	.029	.015	.015	.010	.005	
7.0	.133	.075	.034	.114	.065	.030	.079	.045	.021	.046	.027	.013	.015	.009	.004	
8.0	.127	.069	.029	.109	.060	.026	.076	.042	.018	.044	.025	.011	.014	.008	.004	
9.0	.121	.064	.026	.104	.056	.022	.072	.039	.016	.042	.023	.009	.014	.008	.003	
10.0	.116	.060	.023	.100	.052	.020	.069	.037	.014	.040	.022	.008	.013	.007	.003	

C Range: 0 - 360DEG
 C Interval: 5.0DEG
 Test Speed: HIGH
 Temperature:25DEG
 Operators:
 Test Date:2017-07-04

γ Range: 0 - 90DEG
 γ Interval: 0.5DEG
 Test System:EVERFINE G0-2000B_V1 SYSTEM V2.0.350
 Humidity:65.0%
 Test Distance:7.850m [K=1.0000]
 Remarks:

EVERFINE GONIOPHOTOMETERS SYSTEM TEST REPORT

UGR(Unified Glare Rating) Table

Test:U:120.6V I:0.2447A P:29.14W PF:0.9880 Lamp Flux:3510.97x1 lm										
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	20.8	22.3	21.1	22.5	22.7	21.4	22.9	21.7	23.1	23.3
3H	21.3	22.7	21.6	22.9	23.1	22.4	23.8	22.7	24.0	24.2
4H	21.4	22.7	21.7	22.9	23.1	22.6	23.9	22.9	24.1	24.4
6H	21.3	22.5	21.7	22.8	23.1	22.7	23.9	23.0	24.2	24.5
8H	21.3	22.4	21.6	22.7	23.0	22.8	23.9	23.1	24.2	24.5
12H	21.2	22.3	21.6	22.6	22.9	22.8	23.9	23.2	24.2	24.5
4H 2H	21.3	22.5	21.6	22.8	23.0	21.7	23.0	22.1	23.3	23.5
3H	21.9	23.0	22.2	23.3	23.6	22.9	24.0	23.2	24.3	24.6
4H	22.0	23.0	22.3	23.3	23.6	23.1	24.1	23.5	24.4	24.8
6H	22.0	22.8	22.4	23.2	23.5	23.3	24.2	23.7	24.5	24.9
8H	21.9	22.7	22.3	23.1	23.5	23.4	24.2	23.8	24.6	24.9
12H	21.9	22.6	22.3	23.0	23.4	23.5	24.2	23.9	24.6	25.0
8H 4H	22.0	22.8	22.4	23.2	23.6	23.1	23.9	23.5	24.3	24.7
6H	22.0	22.7	22.5	23.1	23.5	23.3	24.0	23.8	24.4	24.8
8H	22.0	22.6	22.5	23.0	23.5	23.4	24.0	23.9	24.5	24.9
12H	22.0	22.5	22.5	22.9	23.4	23.6	24.1	24.1	24.5	25.0
12H 4H	22.0	22.7	22.4	23.1	23.5	23.1	23.8	23.5	24.2	24.6
6H	22.0	22.6	22.5	23.0	23.5	23.3	23.9	23.7	24.3	24.8
8H	22.0	22.5	22.5	23.0	23.4	23.4	23.9	23.9	24.4	24.9
Variations with the observer position at spacings:										
S = 1.0H	+ 0.3 / - 0.4					+ 0.3 / - 0.4				
1.5H	+ 0.4 / - 0.7					+ 0.3 / - 0.5				
2.0H	+ 0.8 / - 0.8					+ 0.5 / - 0.5				

CIE Pub.117 Corrected 3511 lm Total Lamp Luminous Flux.(8log(F/F0) = 4.4)

C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature:25DEG
Operators:
Test Date:2017-07-04

γ Range: 0 - 90DEG
γ Interval: 0.5DEG
Test System:EVERFINE G0-2000B_V1 SYSTEM V2.0.350
Humidity:65.0%
Test Distance:7.850m [K=1.0000]
Remarks:

EVERFINE GONIOPHOTOMETERS SYSTEM TEST REPORT

UTILIZATION FACTORS TABLE

Test:U:120.6V I:0.2447A P:29.14W PF:0.9880 Lamp Flux:3510.97x1 lm		

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	48	41	59	48	41	58	47	41	35
0.80	70	59	52	69	58	52	67	58	51	45
1.00	79	68	61	78	68	61	75	69	61	54
1.25	86	76	70	85	76	69	82	74	68	62
1.50	91	82	75	89	81	75	86	79	74	67
2.00	98	90	84	96	89	83	92	86	82	74
2.50	101	94	89	99	93	88	95	90	86	78
3.00	104	98	93	102	97	92	98	94	90	82
4.00	108	103	99	106	101	97	101	98	95	86
5.00	110	106	102	108	104	100	103	100	97	89
ROOM INDEX	UF(total)									Direct
According to DIN EN 13032-2 2004			Suspended					SHRNOM = 1.25		

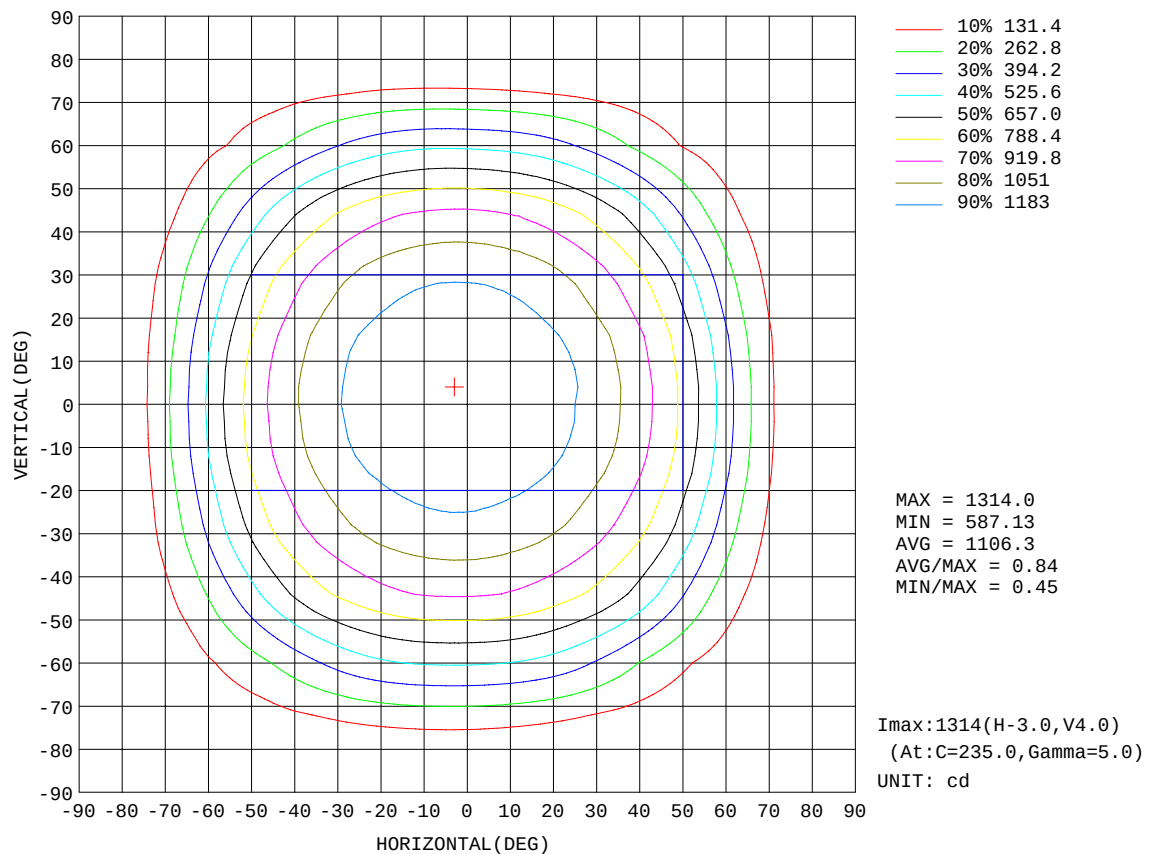
C Range: 0 - 360DEG
 C Interval: 5.0DEG
 Test Speed: HIGH
 Temperature:25DEG
 Operators:
 Test Date:2017-07-04

γ Range: 0 - 90DEG
 γ Interval: 0.5DEG
 Test System:EVERFINE G0-2000B_V1 SYSTEM V2.0.350
 Humidity:65.0%
 Test Distance:7.850m [K=1.0000]
 Remarks:

EVERFINE GONIOPHOTOMETERS SYSTEM TEST REPORT

ISOCANDELA DIAGRAM

Test:U:120.6V I:0.2447A P:29.14W PF:0.9880 Lamp Flux:3510.97x1 lm		



C Range: 0 - 360DEG
 C Interval: 5.0DEG
 Test Speed: HIGH
 Temperature:25DEG
 Operators:
 Test Date:2017-07-04

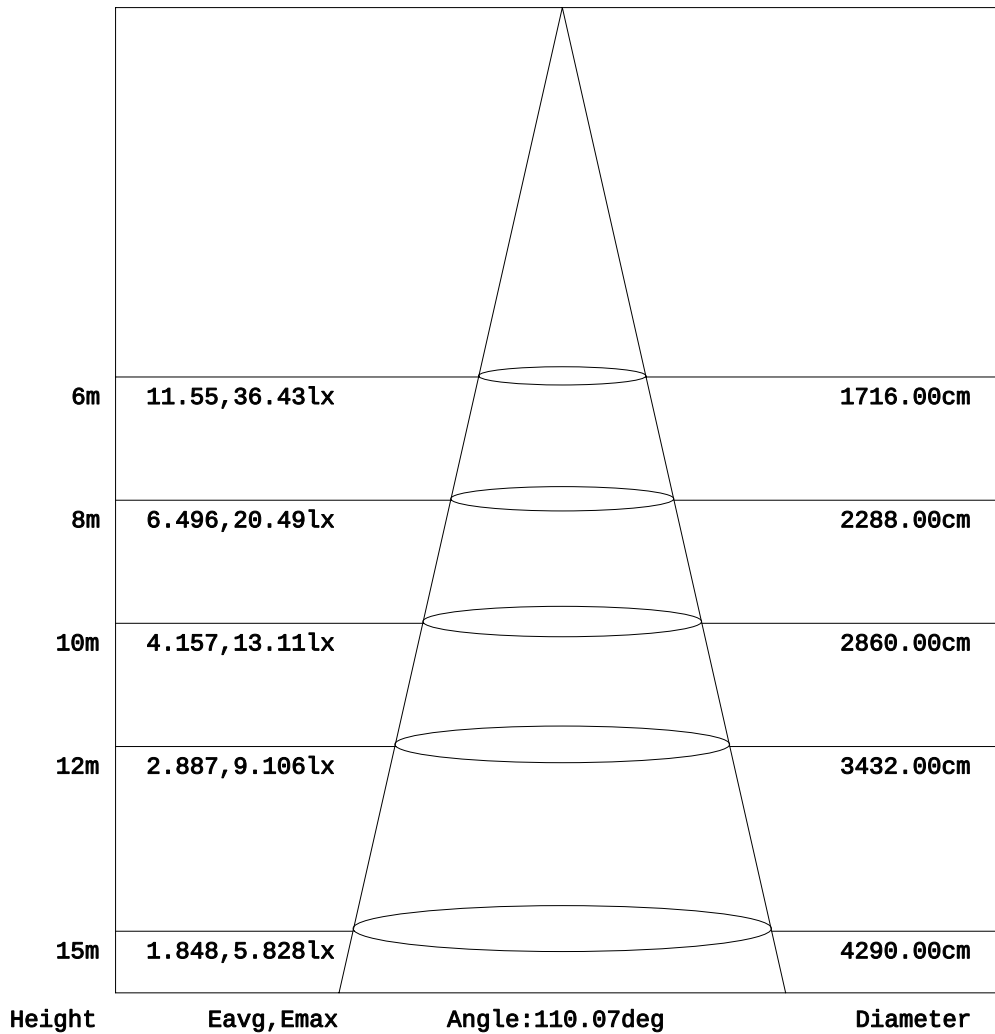
γ Range: 0 - 90DEG
 γ Interval: 0.5DEG
 Test System:EVERFINE G0-2000B_V1 SYSTEM V2.0.350
 Humidity:65.0%
 Test Distance:7.850m [K=1.0000]
 Remarks:

EVERFINE GONIOPHOTOMETERS SYSTEM TEST REPORT

AAI Figure

Test:U:120.6V I:0.2447A P:29.14W PF:0.9880 Lamp Flux:3510.97x1 lm		

Flux out:2765 lm



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

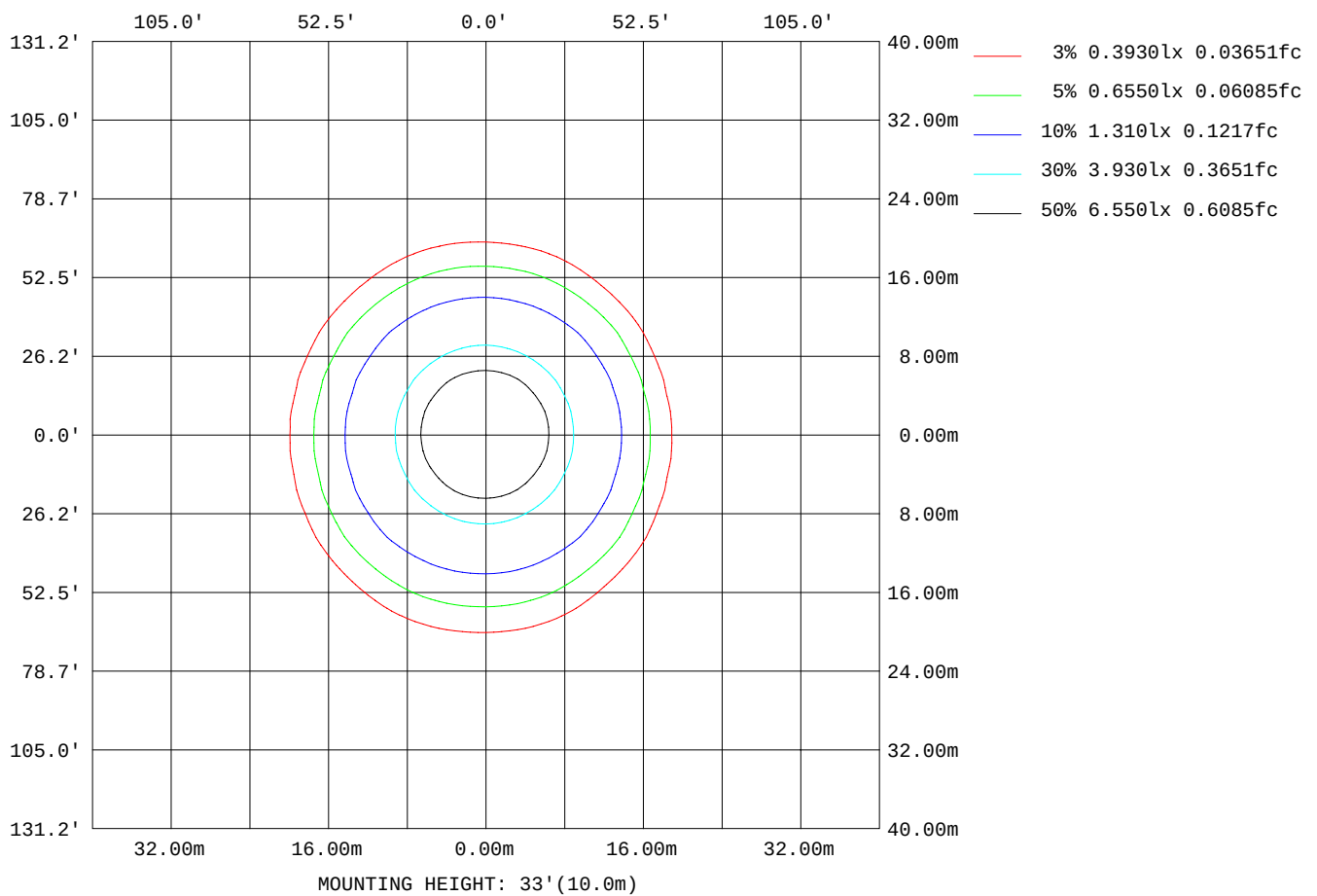
C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature:25DEG
Operators:
Test Date:2017-07-04

γ Range: 0 - 90DEG
γ Interval: 0.5DEG
Test System:EVERFINE G0-2000B_V1 SYSTEM V2.0.350
Humidity:65.0%
Test Distance:7.850m [K=1.0000]
Remarks:

EVERFINE GONIOPHOTOMETERS SYSTEM TEST REPORT

ISOLUX DIAGRAM

Test:U:120.6V I:0.2447A P:29.14W PF:0.9880 Lamp Flux:3510.97x1 lm		



C Range: 0 - 360DEG
 C Interval: 5.0DEG
 Test Speed: HIGH
 Temperature: 25DEG
 Operators:
 Test Date: 2017-07-04

γ Range: 0 - 90DEG
 γ Interval: 0.5DEG
 Test System: EVERFINE G0-2000B_V1 SYSTEM V2.0.350
 Humidity: 65.0%
 Test Distance: 7.850m [K=1.0000]
 Remarks:

EVERFINE GONIOPHOTOMETERS SYSTEM TEST REPORT

LED Avg.L Report

Test:U:120.6V I:0.2447A P:29.14W PF:0.9880 Lamp Flux:3510.97x1 lm		

AvgL	cd/m2
L_0~180(65)av	7974
L_0~180(75)av	3811
L_0~180(85)av	799
L_90~270(65)av	9007
L_90~270(75)av	4272
L_90~270(85)av	3958
L_45(65)av	8404
L_45(75)av	4472
L_45(85)av	1945

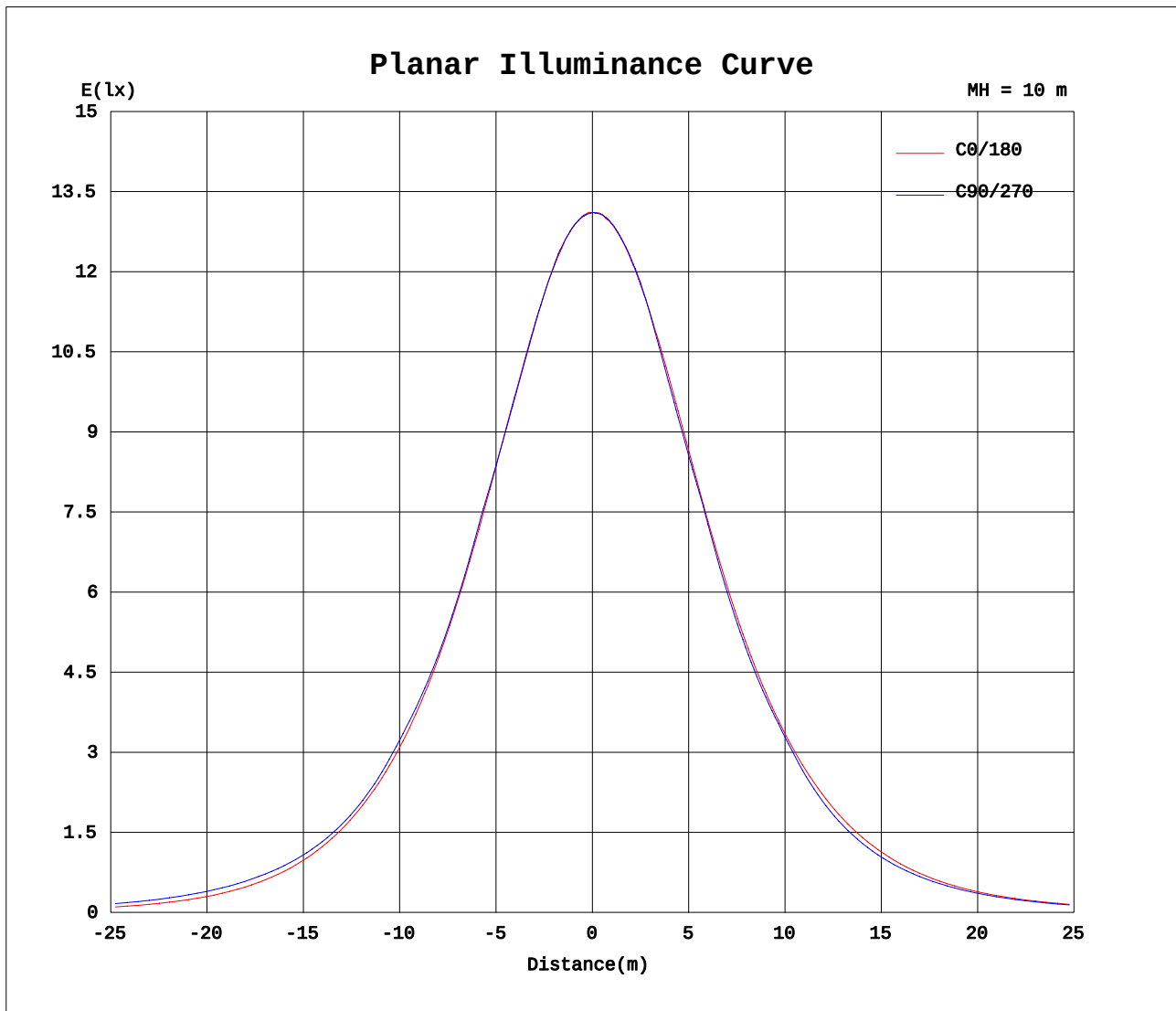
Standard: GB/T 29293-2012

C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature:25DEG
Operators:
Test Date:2017-07-04

γ Range: 0 - 90DEG
γ Interval: 0.5DEG
Test System:EVERFINE G0-2000B_V1 SYSTEM V2.0.350
Humidity:65.0%
Test Distance:7.850m [K=1.0000]
Remarks:

EVERFINE GONIOPHOTOMETERS SYSTEM TEST REPORT

Planar Illuminance Curve



C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature: 25DEG
Operators:
Test Date: 2017-07-04

γ Range: 0 - 90DEG
 γ Interval: 0.5DEG
Test System: EVERFINE G0-2000B_V1 SYSTEM V2.0.350
Humidity: 65.0%
Test Distance: 7.850m [K=1.0000]
Remarks:

