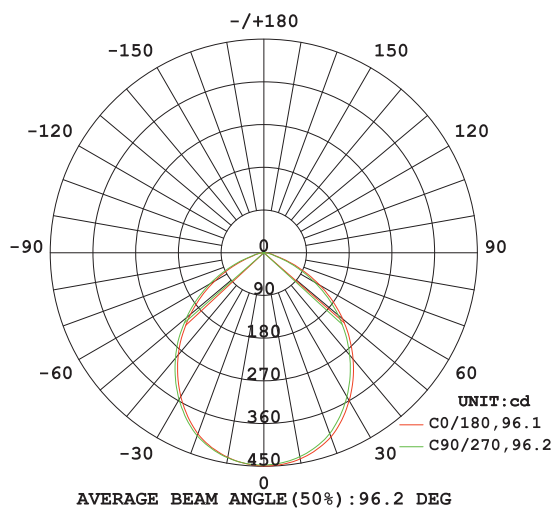




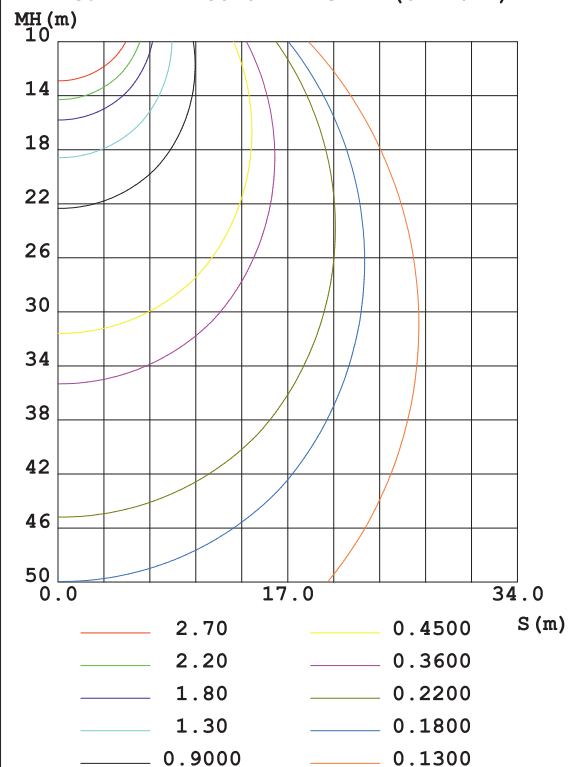
LUMINAIRE PHOTOMETRIC TEST REPORT

DATA OF LAMP		PHOTOMETRIC DATA				Eff: 66.73 lm/W
MODEL	LUXEON 3030	I _{max} (cd)	449.3	S/MH (C0/180)	1.17	
NOMINAL POWER (W)	15.2	LOR (%)	67.8	S/MH (C90/270)	1.19	
RATED VOLTAGE (V)	30.3	TOTAL FLUX (lm)	1014.3	η UP, DN (C0-180)	0.3, 33.6	
NOMINAL FLUX (lm)	1495.32	CIE CLASS	DIRECT	η UP, DN (C180-360)	0.3, 33.7	
LAMPS INSIDE	1	η up (%)	0.6	CIBSE SHR NOM	1.25	
TEST VOLTAGE (V)	30.3	η down (%)	67.2	CIBSE SHR MAX	1.30	

LUMINOUS INTENSITY DISTRIBUTION DIAGRAM



C0 PLANE ISOLUX DIAGRAM (UNIT:lx)



C Range: 0 - 360DEG
C Interval: 45.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators: Rinno
Test Date: 2016-08-04

γ Range: 0 - 180DEG
γ Interval: 1.0DEG
Test System: EVERFINE GO-2000A_V1 SYSTEM V2.0.362
Humidity: 65.0%
Test Distance: 7.954m [K=1.0000]
Remarks:



ZONAL FLUX DIAGRAM

ZONAL FLUX DIAGRAM:

γ	C0	C45	C90	C135	C180	C225	C270	C315	γ	Φ zone	Φ total	%lum, lamp
10	441.1	439.1	436.3	434.7	437.7	437.3	438.6	438.5	0- 10	42.27	42.27	4.17, 2.83
20	413.0	411.0	405.6	404.1	406.2	407.7	410.6	411.6	10- 20	120.0	162.3	16, 10.9
30	359.7	362.0	349.9	352.1	350.0	356.5	357.3	364.2	20- 30	177.2	339.5	33.5, 22.7
40	292.5	290.7	281.4	279.5	280.6	284.1	289.9	293.8	30- 40	201.6	541.1	53.3, 36.2
50	217.0	210.9	204.4	198.8	201.9	204.1	212.7	215.0	40- 50	191.0	732.1	72.2, 49
60	135.5	130.3	123.0	118.3	120.2	122.6	131.6	134.2	50- 60	149.6	881.8	86.9, 59
70	56.21	56.41	46.68	47.43	44.64	50.03	53.15	59.02	60- 70	86.90	968.7	95.5, 64.8
80	15.50	14.93	13.35	12.54	12.68	13.12	14.67	15.45	70- 80	29.59	998.2	98.4, 66.8
90	0.8926	0.5970	0.3627	0.4683	0.5743	0.6402	0.5337	0.8404	80- 90	7.087	1005	99.1, 67.2
100	0.3869	0.4117	0.4153	0.4646	0.5013	0.4317	0.4116	0.3786	90-100	0.4538	1006	99.2, 67.3
110	0.7209	0.7663	0.7859	0.8314	0.8234	0.7777	0.7379	0.7004	100-110	0.6124	1006	99.2, 67.3
120	1.185	1.231	1.254	1.320	1.308	1.250	1.215	1.165	110-120	0.9898	1007	99.3, 67.4
130	1.682	1.728	1.763	1.805	1.793	1.739	1.704	1.682	120-130	1.333	1009	99.4, 67.5
140	2.159	2.196	2.228	2.262	2.270	2.212	2.180	2.151	130-140	1.525	1010	99.6, 67.6
150	2.607	2.636	2.660	2.693	2.698	2.656	2.612	2.566	140-150	1.522	1012	99.7, 67.7
160	2.994	3.031	3.047	3.072	3.056	3.007	2.999	2.949	150-160	1.306	1013	99.9, 67.7
170	3.357	3.378	3.365	3.386	3.398	3.361	3.337	3.316	160-170	0.9006	1014	100, 67.8
180	3.585	3.585	3.581	3.573	3.606	3.577	3.577	3.581	170-180	0.3297	1014	100, 67.8
DEG	LUMINOUS INTENSITY:cd									UNIT:lm		

Conical surface Flux(90deg): 640.09 lm

%lum = 63.1%

%lamp = 42.8%

Conical surface Flux(120deg): 881.76 lm

%lum = 86.9%

%lamp = 59.0%

C Range: 0 - 360DEG
 C Interval: 45.0DEG
 Test Speed: HIGH
 Temperature: 25.3DEG
 Operators: Rinno
 Test Date: 2016-08-04

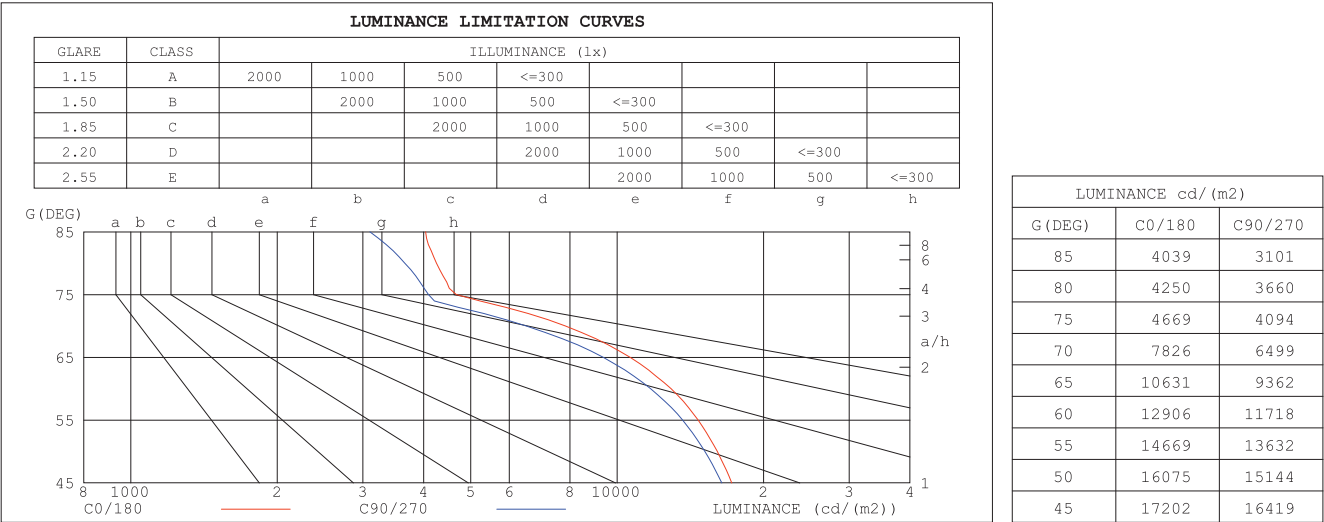
γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System: EVERFINE GO-2000A_V1 SYSTEM V2.0.362
 Humidity: 65.0%
 Test Distance: 7.954m [K=1.0000]
 Remarks:



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LUMINANCE LIMITATION CURVES



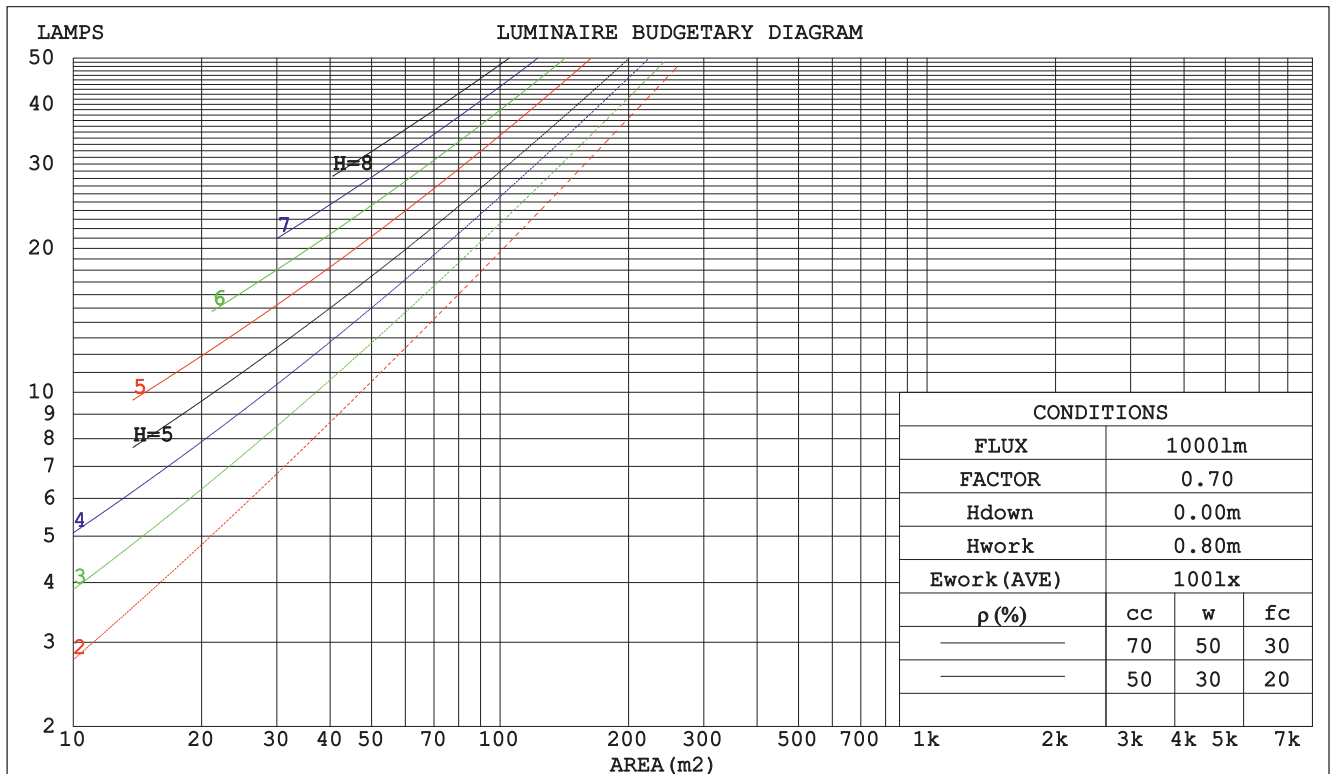
C Range: 0 - 360DEG
C Interval: 45.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:Rinno
Test Date:2016-08-04

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.362
Humidity:65.0%
Test Distance:7.954m [K=1.0000]
Remarks:



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	.81	.81	.81	.79	.79	.79	.75	.75	.75	.72	.72	.72	.69	.69	.69	.67
1.0	.72	.69	.67	.70	.68	.66	.67	.66	.64	.65	.63	.62	.62	.61	.60	.59
2.0	.64	.60	.56	.63	.59	.56	.60	.57	.54	.58	.55	.53	.56	.54	.52	.50
3.0	.57	.52	.48	.56	.51	.47	.54	.50	.47	.52	.48	.46	.50	.47	.45	.43
4.0	.51	.45	.41	.50	.45	.41	.48	.44	.40	.47	.43	.40	.45	.42	.39	.38
5.0	.46	.40	.36	.45	.40	.36	.44	.39	.35	.42	.38	.35	.41	.37	.35	.33
6.0	.41	.36	.32	.41	.35	.32	.40	.35	.31	.38	.34	.31	.37	.34	.31	.29
7.0	.38	.32	.28	.37	.32	.28	.36	.31	.28	.35	.31	.28	.34	.30	.27	.26
8.0	.35	.29	.25	.34	.29	.25	.33	.28	.25	.32	.28	.25	.32	.28	.25	.24
9.0	.32	.27	.23	.31	.26	.23	.31	.26	.23	.30	.26	.23	.29	.25	.23	.21
10.0	.29	.24	.21	.29	.24	.21	.28	.24	.21	.28	.24	.21	.27	.23	.21	.19



C Range: 0 - 360DEG
 C Interval: 45.0DEG
 Test Speed: HIGH
 Temperature: 25.3DEG
 Operators: Rinno
 Test Date: 2016-08-04

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System: EVERFINE GO-2000A_V1 SYSTEM V2.0.362
 Humidity: 65.0%
 Test Distance: 7.954m [K=1.0000]
 Remarks:



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	.179	.102	.032	.174	.099	.031	.165	.094	.030	.156	.090	.029	.148	.086	.028		
2.0	.173	.095	.029	.168	.093	.029	.160	.089	.028	.153	.086	.027	.146	.083	.026		
3.0	.163	.087	.026	.159	.085	.026	.152	.083	.025	.146	.080	.025	.140	.077	.024		
4.0	.153	.080	.023	.150	.078	.023	.143	.076	.023	.138	.074	.022	.132	.072	.022		
5.0	.143	.073	.021	.140	.072	.021	.135	.070	.021	.130	.068	.020	.125	.067	.020		
6.0	.134	.067	.019	.132	.066	.019	.127	.065	.019	.122	.063	.019	.118	.062	.018		
7.0	.126	.062	.018	.124	.062	.018	.119	.060	.017	.115	.059	.017	.111	.058	.017		
8.0	.118	.058	.016	.116	.057	.016	.112	.056	.016	.109	.055	.016	.105	.054	.016		
9.0	.112	.054	.015	.110	.054	.015	.106	.052	.015	.103	.052	.015	.100	.051	.015		
10.0	.106	.051	.014	.104	.050	.014	.101	.049	.014	.097	.048	.014	.095	.048	.014		

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	.134	.134	.134	.114	.114	.114	.078	.078	.078	.045	.045	.045	.014	.014	.014	
1.0	.125	.111	.098	.107	.095	.085	.073	.065	.058	.042	.038	.034	.013	.012	.011	
2.0	.118	.094	.074	.101	.081	.064	.069	.056	.045	.040	.033	.026	.013	.011	.009	
3.0	.112	.082	.058	.096	.071	.050	.066	.049	.035	.038	.029	.021	.012	.009	.007	
4.0	.107	.073	.047	.092	.063	.041	.063	.044	.029	.037	.026	.017	.012	.008	.006	
5.0	.102	.066	.039	.088	.057	.034	.060	.040	.024	.035	.023	.014	.011	.008	.005	
6.0	.098	.060	.033	.084	.052	.029	.058	.036	.020	.034	.021	.012	.011	.007	.004	
7.0	.093	.055	.028	.080	.048	.025	.055	.034	.018	.032	.020	.010	.010	.006	.003	
8.0	.089	.051	.025	.077	.044	.022	.053	.031	.016	.031	.018	.009	.010	.006	.003	
9.0	.085	.048	.023	.073	.042	.020	.051	.029	.014	.030	.017	.008	.010	.006	.003	
10.0	.082	.045	.021	.070	.039	.018	.049	.027	.013	.028	.016	.008	.009	.005	.003	

C Range: 0 - 360DEG
 C Interval: 45.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:Rinno
 Test Date:2016-08-04

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.362
 Humidity:65.0%
 Test Distance:7.954m [K=1.0000]
 Remarks:



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	20.5	21.9	20.8	22.1	22.3	20.2	21.6	20.5	21.8	22.0
3H	21.2	22.5	21.5	22.7	23.0	20.8	22.1	21.1	22.3	22.6
4H	21.3	22.5	21.6	22.8	23.0	20.9	22.1	21.2	22.3	22.6
6H	21.3	22.5	21.7	22.7	23.0	20.9	22.0	21.2	22.3	22.6
8H	21.3	22.4	21.7	22.7	23.0	20.9	22.0	21.2	22.2	22.6
12H	21.3	22.4	21.7	22.7	23.0	20.9	21.9	21.2	22.2	22.5
4H 2H	20.8	22.0	21.2	22.3	22.6	20.6	21.8	20.9	22.0	22.3
3H	21.7	22.7	22.0	23.0	23.3	21.3	22.3	21.7	22.6	23.0
4H	21.8	22.8	22.2	23.1	23.4	21.4	22.4	21.8	22.7	23.0
6H	21.9	22.7	22.3	23.1	23.5	21.5	22.3	21.9	22.7	23.1
8H	21.9	22.7	22.3	23.1	23.5	21.5	22.3	21.9	22.7	23.1
12H	21.9	22.6	22.4	23.0	23.5	21.5	22.2	21.9	22.6	23.0
8H 4H	21.8	22.6	22.2	23.0	23.4	21.4	22.2	21.9	22.6	23.0
6H	22.0	22.6	22.4	23.0	23.5	21.6	22.2	22.0	22.6	23.1
8H	22.0	22.6	22.5	23.0	23.5	21.6	22.2	22.1	22.6	23.1
12H	22.1	22.6	22.6	23.0	23.5	21.7	22.2	22.2	22.6	23.1
12H 4H	21.8	22.5	22.2	22.9	23.3	21.4	22.1	21.9	22.5	22.9
6H	22.0	22.5	22.4	23.0	23.4	21.6	22.1	22.0	22.6	23.0
8H	22.0	22.5	22.5	23.0	23.5	21.6	22.1	22.1	22.6	23.1
Variations with the observer position at spacings:										
S = 1.0H	+ 0.4 / - 0.5					+ 0.4 / - 0.5				
1.5H	+ 0.2 / - 0.4					+ 0.2 / - 0.5				
2.0H	+ 0.7 / - 0.7					+ 0.7 / - 0.7				

CIE Pub.117, 1495 lm Total Lamp Luminous Flux Correct ($8\log(F/F_0) = 1.4$)

C Range: 0 - 360DEG
 C Interval: 45.0DEG
 Test Speed: HIGH
 Temperature: 25.3DEG
 Operators: Rinno
 Test Date: 2016-08-04

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System: EVERFINE GO-2000A_V1 SYSTEM V2.0.362
 Humidity: 65.0%
 Test Distance: 7.954m [K=1.0000]
 Remarks:



UTILIZATION FACTORS TABLE

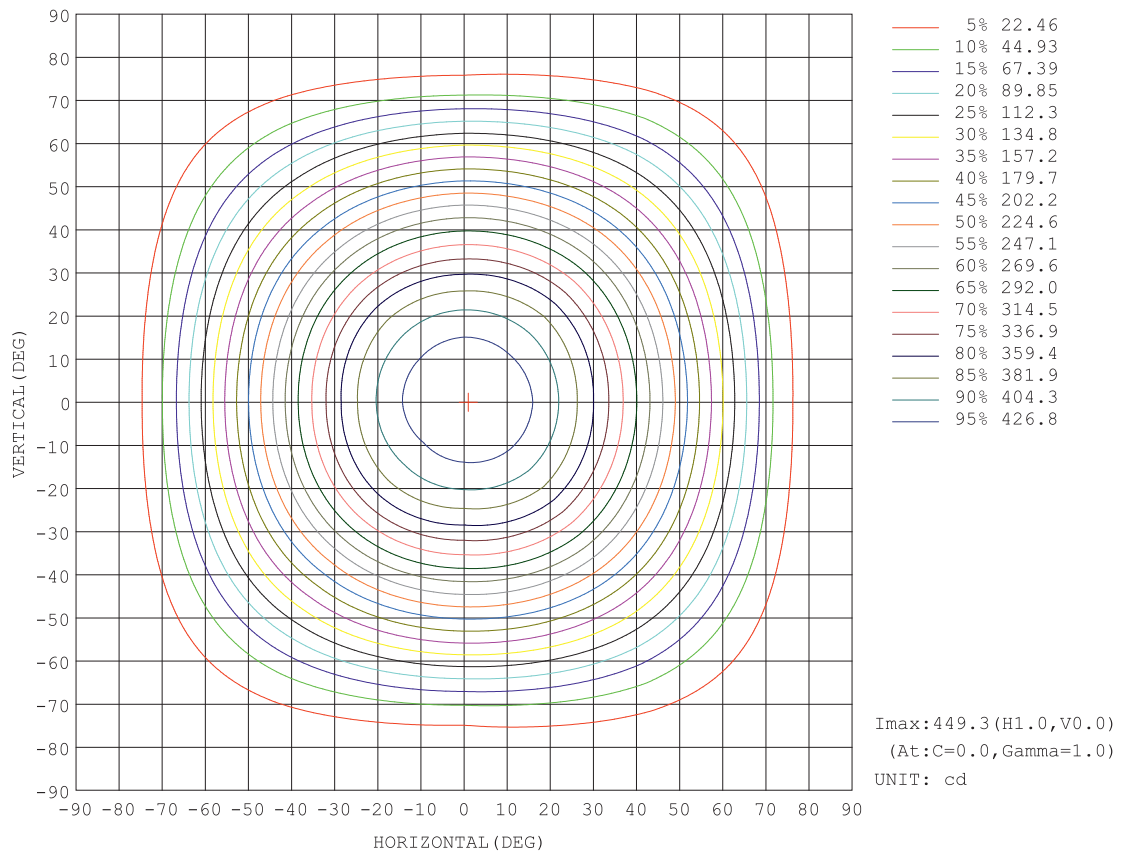
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS (PERCENT) k(RI) x RCR = 5									
k = 0.60	42	35	31	42	35	30	41	34	30	26
0.80	49	42	37	48	42	37	47	41	37	33
1.00	55	48	44	54	48	44	53	48	43	39
1.25	60	53	49	59	53	49	57	52	48	44
1.50	63	57	53	62	56	52	60	55	52	47
2.00	67	62	58	66	61	58	63	60	56	52
2.50	69	65	61	68	64	60	65	62	59	54
3.00	71	67	64	70	66	63	67	64	62	56
4.00	73	70	67	72	69	66	69	67	65	59
5.00	75	72	70	73	71	69	70	68	66	60
ROOM INDEX	UF (total)									Direct
According to DIN EN 13032-2 2004 SuspendedSHRNM = 1.25										

C Range: 0 - 360DEG
 C Interval: 45.0DEG
 Test Speed: HIGH
 Temperature: 25.3DEG
 Operators: Rinno
 Test Date: 2016-08-04

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System: EVERFINE GO-2000A_V1 SYSTEM V2.0.362
 Humidity: 65.0%
 Test Distance: 7.954m [K=1.0000]
 Remarks:



ISOCANDELA DIAGRAM

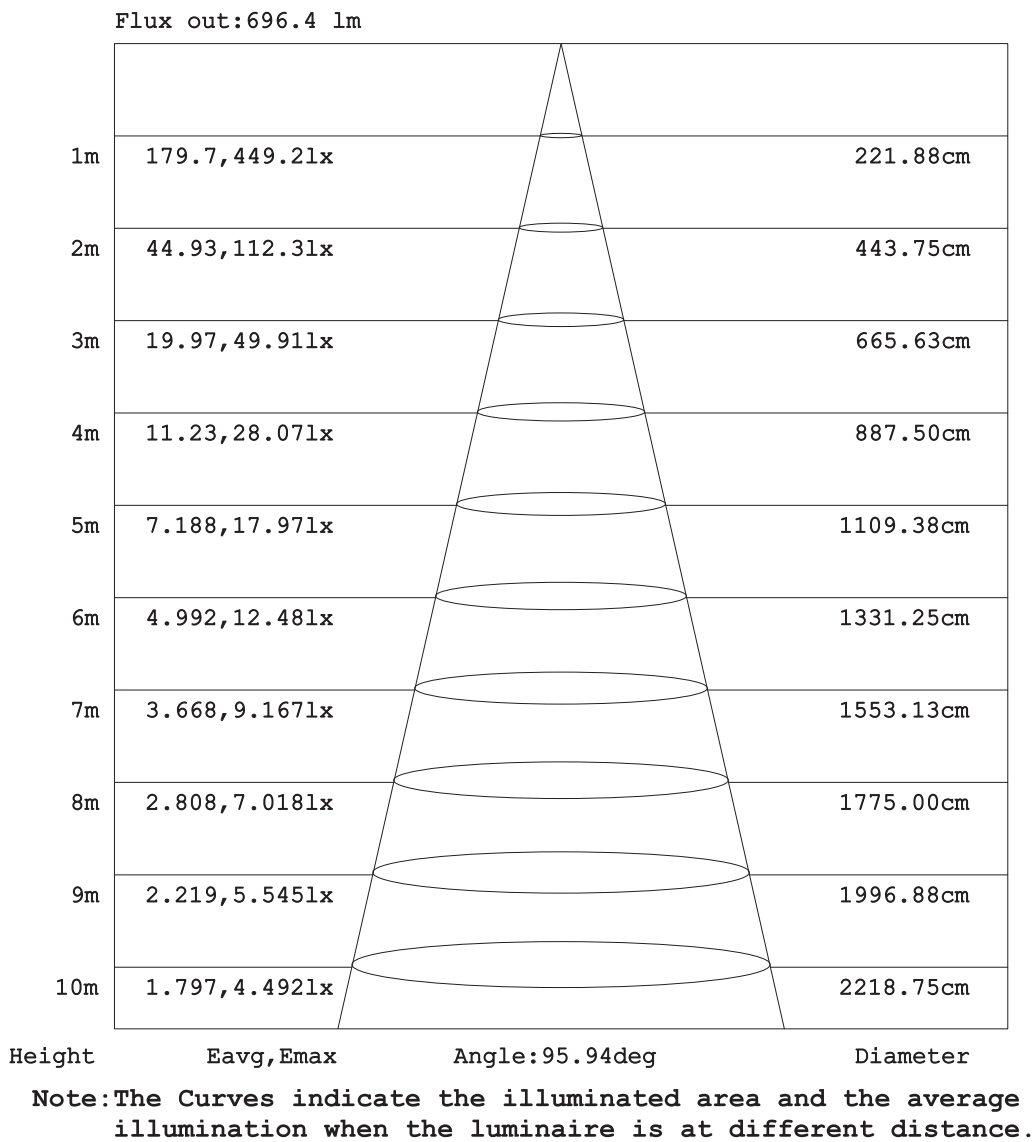


C Range: 0 - 360DEG
C Interval: 45.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators: Rinno
Test Date: 2016-08-04

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
Test System: EVERFINE GO-2000A_V1 SYSTEM V2.0.362
Humidity: 65.0%
Test Distance: 7.954m [K=1.0000]
Remarks:



AAI Figure

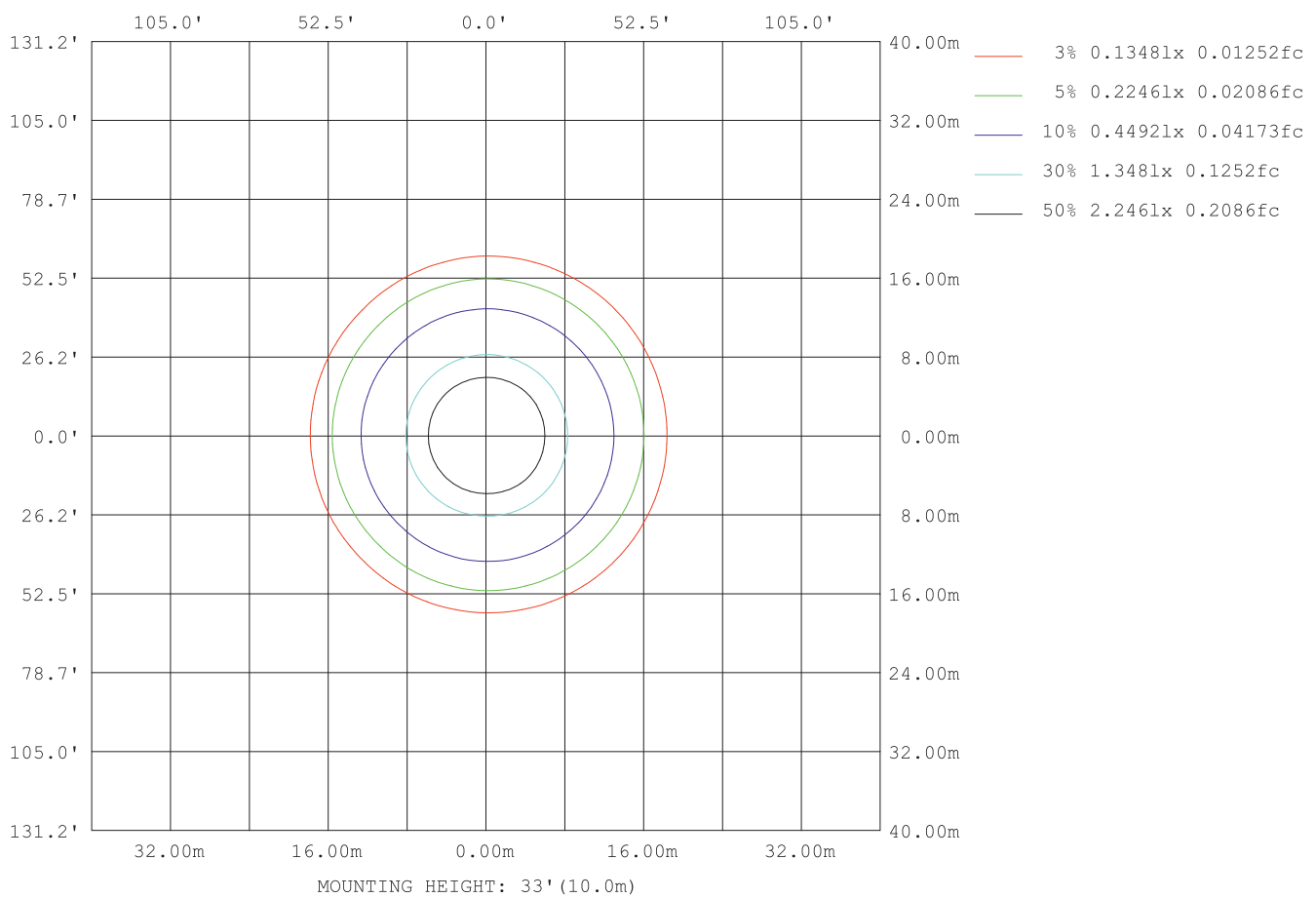


C Range: 0 - 360DEG
 C Interval: 45.0DEG
 Test Speed: HIGH
 Temperature: 25.3DEG
 Operators: Rinno
 Test Date: 2016-08-04

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System: EVERFINE GO-2000A_V1 SYSTEM V2.0.362
 Humidity: 65.0%
 Test Distance: 7.954m [K=1.0000]
 Remarks:



ISOLUX DIAGRAM



C Range: 0 - 360DEG
C Interval: 45.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators: Rinno
Test Date: 2016-08-04

γ Range: 0 - 180DEG
γ Interval: 1.0DEG
Test System: EVERFINE GO-2000A_V1 SYSTEM V2.0.362
Humidity: 65.0%
Test Distance: 7.954m [K=1.0000]
Remarks:



LED Avg.L Report

AvgL	cd/m2
L_0~180 (65) av	9839
L_0~180 (75) av	4337
L_0~180 (85) av	3407
L_90~270 (65) av	9813
L_90~270 (75) av	4259
L_90~270 (85) av	3370
L_45 (65) av	9888
L_45 (75) av	4985
L_45 (85) av	3355

Standard: GB/T 29293-2012

C Range: 0 - 360DEG
C Interval: 45.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators: Rinno
Test Date: 2016-08-04

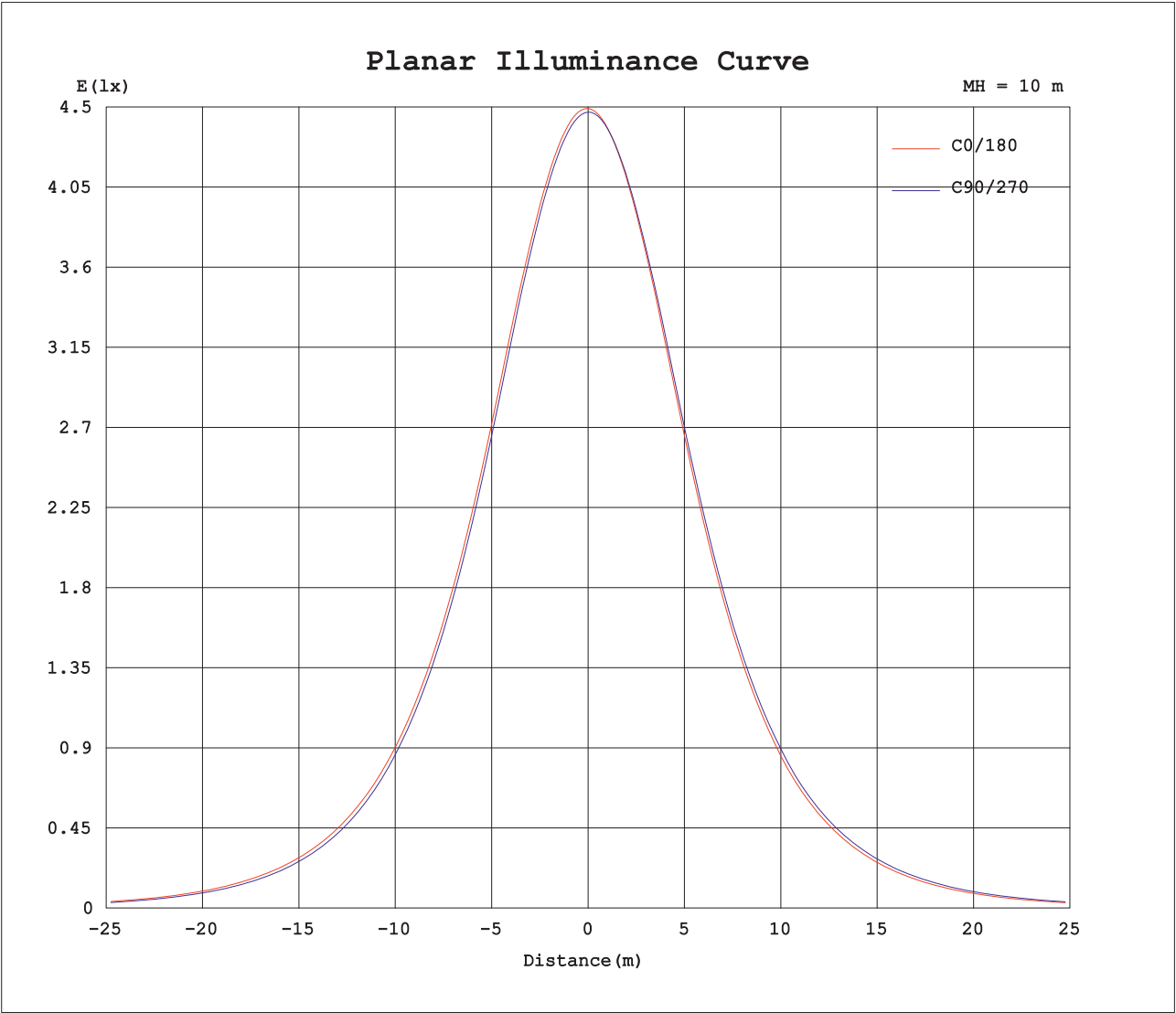
γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
Test System: EVERFINE GO-2000A_V1 SYSTEM V2.0.362
Humidity: 65.0%
Test Distance: 7.954m [K=1.0000]
Remarks:



IDEA

/BOJ (06.79.0021.__)

Planar Illuminance Curve



C Range: 0 - 360DEG	γ Range: 0 - 180DEG
C Interval: 45.0DEG	γ Interval: 1.0DEG
Test Speed: HIGH	Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.362
Temperature:25.3DEG	Humidity:65.0%
Operators:Rinno	Test Distance:7.954m [K=1.0000]
Test Date:2016-08-04	Remarks:



LUMINOUS DISTRIBUTION INTENSITY DATA

Table--1

UNIT: cd

C (DEG) γ (DEG)	0	45	90	135	180	225	270	315										
0	449	448	447	446	449	448	447	446										
5	448	446	444	443	446	445	445	445										
10	441	439	436	435	438	437	439	439										
15	430	427	424	422	425	425	427	427										
20	413	411	406	404	406	408	411	412										
25	389	390	380	382	380	386	386	391										
30	360	362	350	352	350	357	357	364										
35	327	328	317	317	317	322	325	330										
40	293	291	281	279	281	284	290	294										
45	255	252	244	239	242	245	253	255										
50	217	211	204	199	202	204	213	215										
55	177	170	164	158	161	163	173	175										
60	136	130	123	118	120	123	132	134										
65	94.3	91.7	83.1	80.7	80.3	84.1	91.1	94.7										
70	56.2	56.4	46.7	47.4	44.6	50.0	53.2	59.0										
75	25.4	29.1	22.2	23.7	21.8	25.0	24.0	30.6										
80	15.5	14.9	13.3	12.5	12.7	13.1	14.7	15.5										
85	7.39	6.94	5.68	5.01	5.08	5.33	6.66	7.29										
90	0.89	0.60	0.36	0.47	0.57	0.64	0.53	0.84										
95	0.33	0.32	0.33	0.41	0.51	0.44	0.37	0.33										
100	0.39	0.41	0.42	0.46	0.50	0.43	0.41	0.38										
105	0.52	0.56	0.57	0.62	0.62	0.57	0.55	0.51										
110	0.72	0.77	0.79	0.83	0.82	0.78	0.74	0.70										
115	0.97	0.99	1.03	1.06	1.06	1.01	0.96	0.92										
120	1.19	1.23	1.25	1.32	1.31	1.25	1.21	1.16										
125	1.43	1.48	1.51	1.56	1.55	1.49	1.46	1.43										
130	1.68	1.73	1.76	1.81	1.79	1.74	1.70	1.68										
135	1.94	1.97	2.02	2.04	2.03	2.01	1.94	1.89										
140	2.16	2.20	2.23	2.26	2.27	2.21	2.18	2.15										
145	2.39	2.43	2.48	2.48	2.49	2.42	2.41	2.36										
150	2.61	2.64	2.66	2.69	2.70	2.66	2.61	2.57										
155	2.82	2.84	2.87	2.88	2.89	2.84	2.81	2.77										
160	2.99	3.03	3.05	3.07	3.06	3.01	3.00	2.95										
165	3.19	3.21	3.21	3.23	3.23	3.19	3.18	3.13										
170	3.36	3.38	3.36	3.39	3.40	3.36	3.34	3.32										
175	3.51	3.51	3.50	3.51	3.53	3.50	3.49	3.45										
180	3.59	3.59	3.58	3.57	3.61	3.58	3.58	3.58										

C Range: 0 - 360DEG
 C Interval: 45.0DEG
 Test Speed: HIGH
 Temperature: 25.3DEG
 Operators: Rinno
 Test Date: 2016-08-04

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System: EVERFINE GO-2000A_V1 SYSTEM V2.0.362
 Humidity: 65.0%
 Test Distance: 7.954m [K=1.0000]
 Remarks: