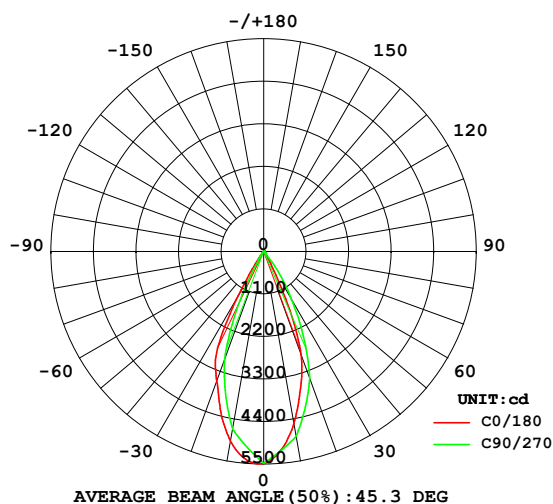


LUMINAIRE PHOTOMETRIC TEST REPORT

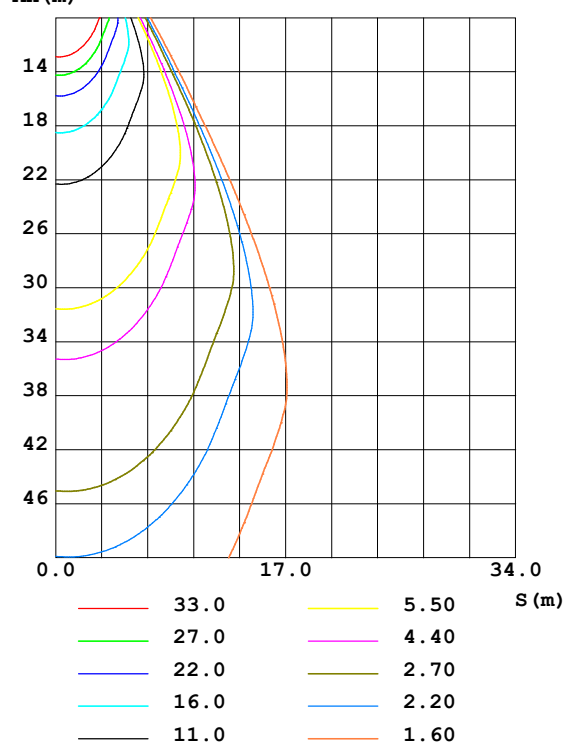
Test:U:240.1V I:0.1479A P:34.16W PF:0.9625 Lamp Flux:3350x1 lm		
NAME: Cary	TYPE:	WEIGHT:
DIM.:	SPEC.:SLM GEN5 1205 830	SERIAL No.:1#
MFR.: ELEKO	SUR.:	PROTECTION ANGLE:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 80.27 lm/W			
MODEL		I _{max} (cd)	5491	S/MH (C0/180)	0.76
NOMINAL POWER(W)	36	LOR(%)	81.9	S/MH (C90/270)	0.64
RATED VOLTAGE(V)	240	TOTAL FLUX(lm)	2742.0	η UP,DN(C0-180)	0.0,37.0
NOMINAL FLUX(lm)	3350	CIE CLASS	DIRECT	η UP,DN(C180-360)	0.0,44.8
LAMPS INSIDE	1	η up (%)	0.0	CIBSE SHR NOM	0.50
TEST VOLTAGE(V)	240.0	η down (%)	81.9	CIBSE SHR MAX	0.70

LUMINOUS INTENSITY DISTRIBUTION DIAGRAM



C0 PLANE ISOLUX DIAGRAM (UNIT:lx)



C Range: 0 - 360DEG
 C Interval: 5.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:SU
 Test Date:2016-12-27

γ Range: 0 - 90DEG
 γ Interval: 0.5DEG
 Test System:EVERFINE GO-2000B_V1 SYSTEM V1.0.257
 Humidity:65.0%
 Test Distance:8.750m [K=1.0000]
 Remarks:

ZONAL FLUX DIAGRAM

ZONAL FLUX DIAGRAM:

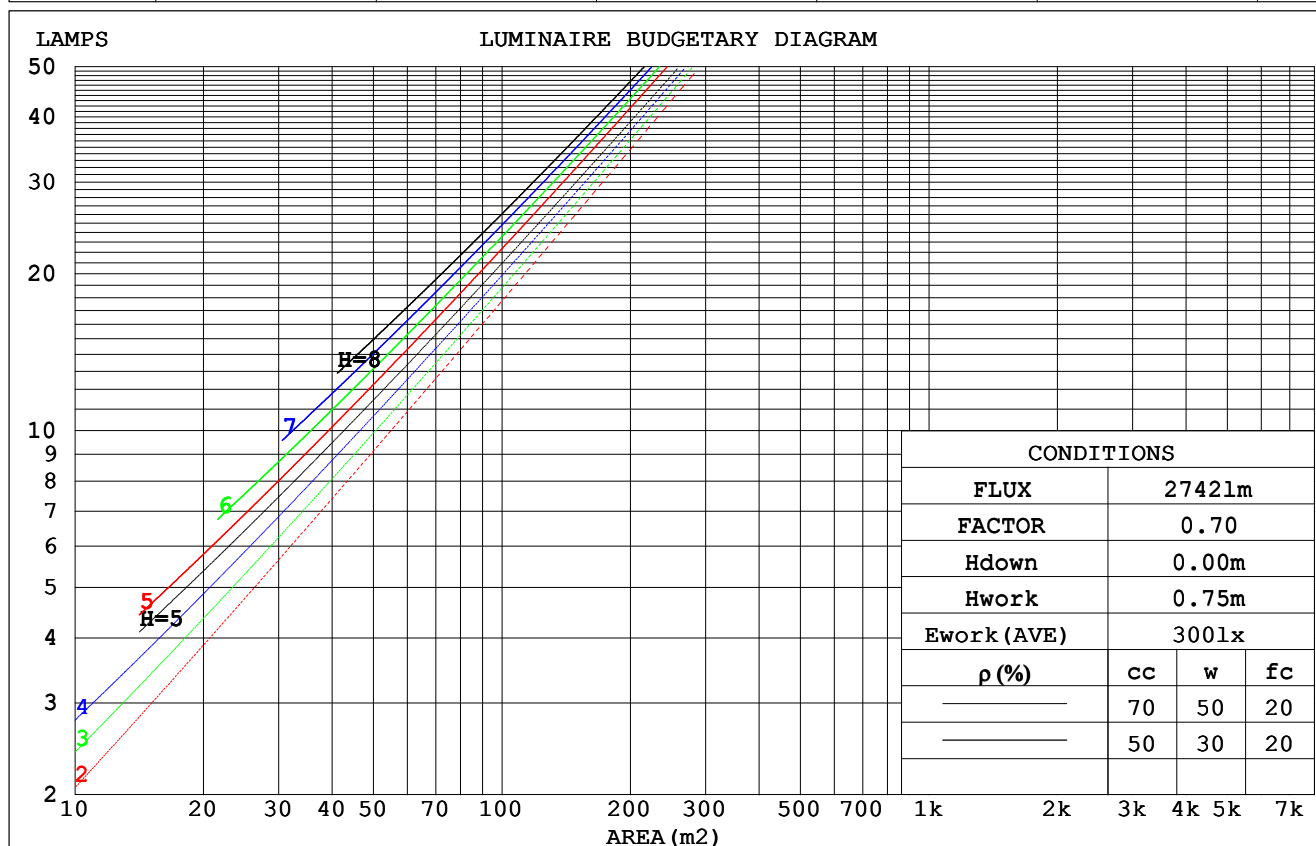
γ	C0	C45	C90	C135	C180	C225	C270	C315	γ	Φ zone	Φ total	%lum, lamp
5	5396	5179	5070	4998	5155	5079	5167	5242	0- 5	126.1	126.1	4.6,3.76
10	4972	4735	4662	4351	4522	4567	4855	4851	5- 10	350.2	476.3	17.4,14.2
15	4296	4106	3817	3564	3681	3934	4170	4292	10- 15	510.2	986.5	36,29.4
20	3557	3156	2972	2403	2849	3116	3484	3580	15- 20	582.5	1569	57.2,46.8
25	2885	2055	1656	1116	1351	2026	2464	2960	20- 25	548.6	2118	77.2,63.2
30	1312	894.0	339.9	347.4	365.9	797.9	1444	1852	25- 30	368.3	2486	90.7,74.2
35	294.1	258.0	185.2	124.3	119.2	218.3	763.6	687.9	30- 35	159.5	2645	96.5,79
40	67.34	41.45	30.61	34.55	42.16	50.90	82.83	120.6	35- 40	56.19	2702	98.5,80.6
45	25.16	21.51	20.16	17.94	18.38	24.15	49.39	45.89	40- 45	15.93	2717	99.1,81.1
50	13.55	11.14	9.700	9.026	9.815	11.77	15.96	16.35	45- 50	7.572	2725	99.4,81.3
55	8.830	7.685	7.120	6.296	6.383	8.266	12.37	10.96	50- 55	4.475	2730	99.5,81.5
60	5.968	5.082	4.540	4.260	4.432	6.037	8.776	7.559	55- 60	3.270	2733	99.7,81.6
65	4.187	3.607	3.339	3.033	3.133	5.373	8.068	6.346	60- 65	2.524	2735	99.8,81.7
70	2.908	2.424	2.138	2.014	2.076	5.264	7.361	5.764	65- 70	2.083	2737	99.8,81.7
75	1.922	1.505	1.239	1.126	1.143	5.620	7.034	5.738	70- 75	1.766	2739	99.9,81.8
80	1.063	0.6446	0.3397	0.4480	0.2386	5.741	6.707	5.625	75- 80	1.531	2741	100,81.8
85	0.1583	0.0622	0	0.0398	0.0457	2.386	0	2.287	80- 85	1.067	2742	100,81.8
90	0.0610	0	0	0	0.0436	0	0	0	85- 90	0.2285	2742	100,81.9
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		

C Range: 0 - 360DEG
 C Interval: 5.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:SU
 Test Date:2016-12-27

γ Range: 0 - 90DEG
 γ Interval: 0.5DEG
 Test System:EVERFINE GO-2000B_V1 SYSTEM V1.0.257
 Humidity:65.0%
 Test Distance:8.750m [K=1.0000]
 Remarks:

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	.97	.97	.97	.95	.95	.95	.91	.91	.91	.87	.87	.87	.84	.84	.84	.82
1.0	.92	.90	.88	.90	.88	.87	.87	.85	.84	.83	.83	.82	.81	.80	.79	.78
2.0	.86	.83	.81	.85	.82	.80	.82	.80	.78	.80	.78	.77	.78	.76	.75	.74
3.0	.82	.78	.75	.81	.77	.75	.78	.76	.74	.77	.74	.72	.75	.73	.71	.70
4.0	.77	.74	.71	.77	.73	.70	.75	.72	.69	.73	.71	.69	.72	.70	.68	.67
5.0	.74	.70	.67	.73	.69	.66	.71	.68	.66	.70	.67	.65	.69	.67	.65	.64
6.0	.70	.66	.63	.69	.66	.63	.68	.65	.62	.67	.64	.62	.66	.64	.62	.61
7.0	.67	.63	.60	.66	.62	.60	.65	.62	.59	.64	.61	.59	.64	.61	.59	.58
8.0	.64	.60	.57	.63	.60	.57	.63	.59	.57	.62	.59	.56	.61	.58	.56	.55
9.0	.61	.57	.54	.61	.57	.54	.60	.57	.54	.59	.56	.54	.59	.56	.54	.53
10.0	.59	.55	.52	.58	.54	.52	.58	.54	.52	.57	.54	.52	.57	.54	.51	.51



C Range: 0 - 360DEG
 C Interval: 5.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:SU
 Test Date:2016-12-27

γ Range: 0 - 90DEG
 γ Interval: 0.5DEG
 Test System:EVERFINE GO-2000B_V1 SYSTEM V1.0.257
 Humidity:65.0%
 Test Distance:8.750m [K=1.0000]
 Remarks:

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	.129	.073	.023	.123	.070	.022	.113	.065	.021	.103	.060	.019	.095	.055	.018		
2.0	.121	.066	.020	.116	.064	.020	.108	.060	.019	.100	.056	.018	.093	.052	.017		
3.0	.114	.061	.018	.110	.059	.018	.103	.056	.017	.096	.053	.016	.090	.050	.015		
4.0	.108	.056	.017	.105	.055	.016	.099	.052	.016	.093	.050	.015	.088	.048	.015		
5.0	.103	.052	.015	.100	.051	.015	.095	.049	.015	.090	.047	.014	.085	.045	.014		
6.0	.098	.049	.014	.096	.048	.014	.091	.047	.014	.087	.045	.013	.083	.043	.013		
7.0	.094	.046	.013	.092	.046	.013	.087	.044	.013	.084	.043	.012	.080	.042	.012		
8.0	.090	.044	.012	.088	.043	.012	.084	.042	.012	.081	.041	.012	.078	.040	.012		
9.0	.086	.042	.012	.084	.041	.012	.081	.040	.011	.078	.039	.011	.075	.038	.011		
10.0	.083	.040	.011	.081	.039	.011	.078	.038	.011	.076	.038	.011	.073	.037	.011		

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	.156	.156	.156	.133	.133	.133	.091	.091	.091	.052	.052	.052	.017	.017	.017		
1.0	.139	.129	.120	.119	.111	.103	.081	.076	.071	.047	.044	.041	.015	.014	.013		
2.0	.125	.109	.094	.107	.093	.082	.074	.065	.057	.042	.038	.033	.014	.012	.011		
3.0	.114	.093	.076	.098	.080	.066	.067	.056	.046	.039	.032	.027	.012	.011	.009		
4.0	.105	.081	.062	.090	.070	.054	.062	.048	.038	.036	.028	.022	.012	.009	.007		
5.0	.097	.071	.051	.083	.061	.045	.057	.043	.032	.033	.025	.019	.011	.008	.006		
6.0	.090	.063	.043	.078	.054	.038	.054	.038	.027	.031	.022	.016	.010	.007	.005		
7.0	.085	.056	.037	.073	.049	.032	.050	.034	.023	.029	.020	.013	.009	.007	.004		
8.0	.080	.051	.031	.069	.044	.027	.048	.031	.019	.028	.018	.012	.009	.006	.004		
9.0	.076	.047	.027	.065	.041	.024	.045	.029	.017	.026	.017	.010	.009	.006	.003		
10.0	.072	.043	.024	.062	.037	.021	.043	.026	.015	.025	.016	.009	.008	.005	.003		

C Range: 0 - 360DEG
 C Interval: 5.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:SU
 Test Date:2016-12-27

γ Range: 0 - 90DEG
 γ Interval: 0.5DEG
 Test System:EVERFINE GO-2000B_V1 SYSTEM V1.0.257
 Humidity:65.0%
 Test Distance:8.750m [K=1.0000]
 Remarks:

Uncorrected UGR 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	16.3	17.1	16.5	17.2	17.4	12.6	13.4	12.8	13.6	13.7
3H	16.2	16.9	16.4	17.1	17.3	12.5	13.2	12.7	13.4	13.6
4H	16.1	16.8	16.4	17.0	17.2	12.4	13.1	12.7	13.3	13.6
6H	16.0	16.7	16.3	16.9	17.1	12.4	13.0	12.6	13.2	13.5
8H	16.0	16.6	16.3	16.8	17.1	12.3	12.9	12.6	13.2	13.4
12H	15.9	16.5	16.2	16.8	17.1	12.3	12.9	12.6	13.1	13.4
4H 2H	16.1	16.8	16.3	17.0	17.2	12.4	13.1	12.7	13.3	13.5
3H	15.9	16.5	16.2	16.8	17.1	12.3	12.9	12.6	13.2	13.4
4H	15.8	16.4	16.2	16.7	17.0	12.2	12.8	12.6	13.1	13.4
6H	15.8	16.3	16.1	16.6	16.9	12.2	12.7	12.5	13.0	13.3
8H	15.7	16.2	16.1	16.5	16.9	12.1	12.6	12.5	12.9	13.3
12H	15.7	16.1	16.1	16.5	16.8	12.1	12.5	12.5	12.8	13.2
8H 4H	15.7	16.2	16.1	16.5	16.9	12.1	12.6	12.5	12.9	13.3
6H	15.6	16.0	16.0	16.4	16.8	12.0	12.4	12.5	12.8	13.2
8H	15.6	15.9	16.0	16.3	16.8	12.0	12.3	12.4	12.7	13.2
12H	15.5	15.8	16.0	16.2	16.7	11.9	12.2	12.4	12.6	13.1
12H 4H	15.7	16.1	16.1	16.4	16.8	12.1	12.5	12.5	12.9	13.2
6H	15.6	15.9	16.0	16.3	16.7	12.0	12.3	12.4	12.7	13.2
8H	15.5	15.8	16.0	16.2	16.7	11.9	12.2	12.4	12.6	13.1
Variations with the observer position at spacings:										
S = 1.0H	+ 4.6 / - 6.1					+ 3.5 / - 7.0				
1.5H	+ 7.0 / - 5.5					+ 5.9 / - 6.1				
2.0H	+ 3.6 / - 1.9					+ 3.2 / - 2.0				

CIE Pub.117 Corrected 3350 lm Total Lamp Luminous Flux.(8log(F/F0) = 4.2)

C Range: 0 - 360DEG
 C Interval: 5.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:SU
 Test Date:2016-12-27

γ Range: 0 - 90DEG
 γ Interval: 0.5DEG
 Test System:EVERFINE GO-2000B_V1 SYSTEM V1.0.257
 Humidity:65.0%
 Test Distance:8.750m [K=1.0000]
 Remarks:

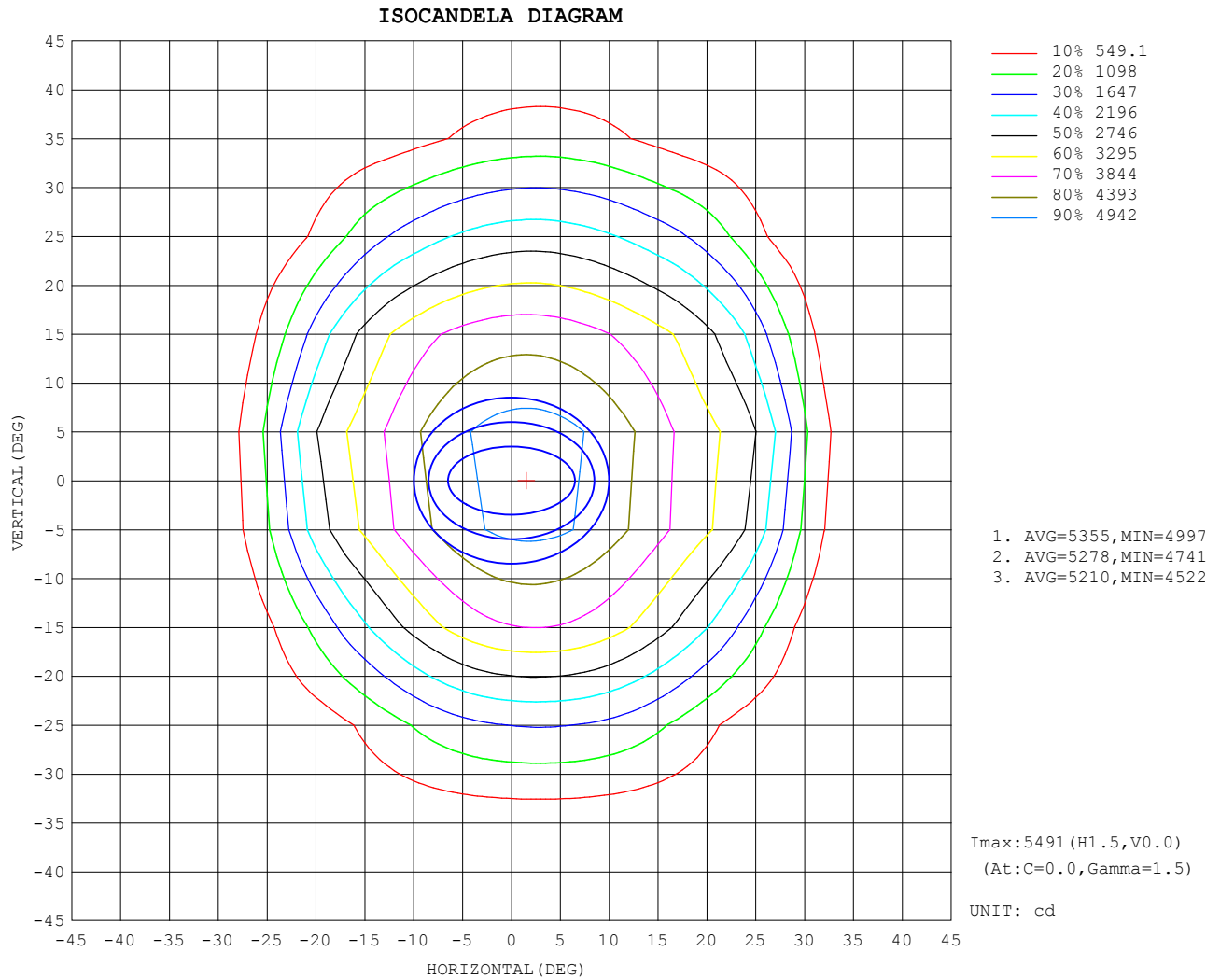
UTILIZATION FACTORS TABLE

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) $k(RI) \times RCR = 5$									
$k = 0.60$	74	69	67	74	69	67	73	69	67	64
0.80	80	76	73	79	75	73	78	75	72	70
1.00	83	79	76	82	79	76	81	78	76	73
1.25	86	82	80	85	82	79	84	81	79	75
1.50	88	84	82	87	84	82	85	83	81	77
2.00	90	87	84	89	86	84	86	84	82	78
2.50	91	88	86	90	87	85	87	85	84	79
3.00	92	90	88	91	88	87	88	86	85	80
4.00	94	92	90	92	90	89	89	88	87	81
5.00	95	93	92	93	91	90	90	89	88	82
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: 25.3DEG
 Operators: SU
 Test Date: 2016-12-27

γ Range: 0 - 90DEG
 γ Interval: 0.5DEG
 Test System: EVERFINE GO-2000B_V1 SYSTEM V1.0.257
 Humidity: 65.0%
 Test Distance: 8.750m [K=1.0000]
 Remarks:

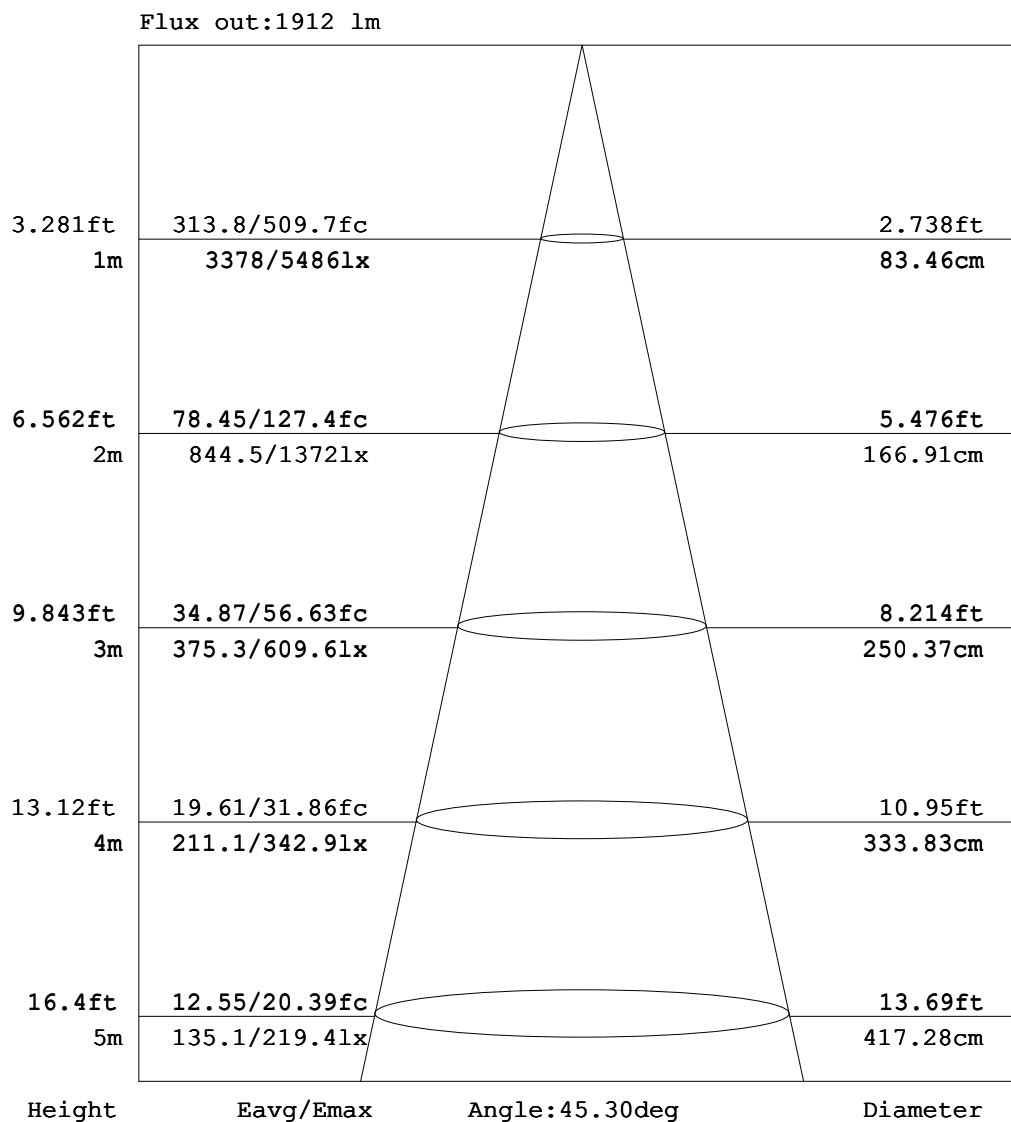
ISOCANDELA DIAGRAM



C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:SU
Test Date:2016-12-27

γ Range: 0 - 90DEG
 γ Interval: 0.5DEG
Test System:EVERFINE GO-2000B_V1 SYSTEM V1.0.257
Humidity:65.0%
Test Distance:8.750m [K=1.0000]
Remarks:

AAI Figure

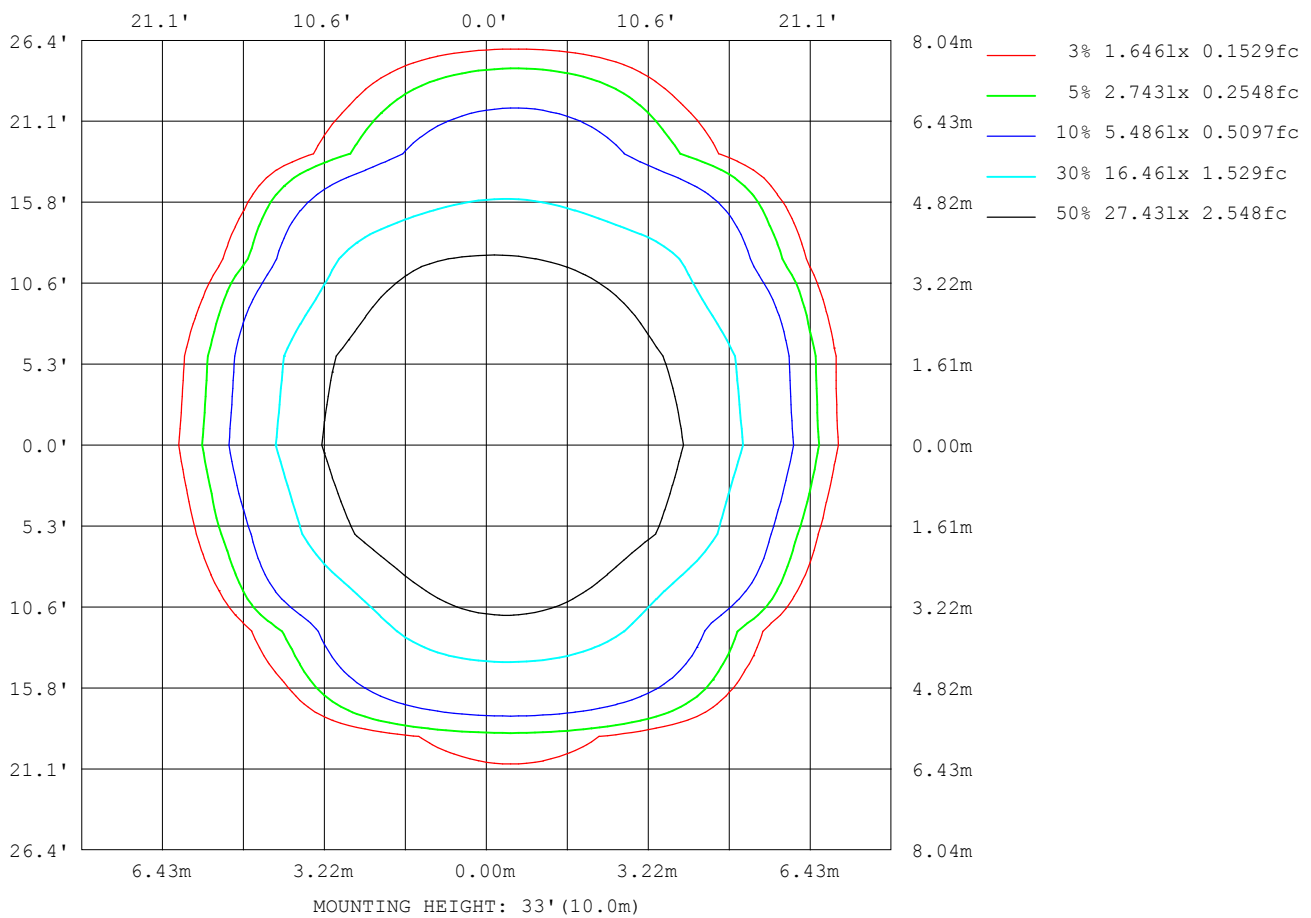


Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:SU
Test Date:2016-12-27

γ Range: 0 - 90DEG
 γ Interval: 0.5DEG
Test System:EVERFINE GO-2000B_V1 SYSTEM V1.0.257
Humidity:65.0%
Test Distance:8.750m [K=1.0000]
Remarks:

ISOLUX DIAGRAM



C Range: 0 - 360DEG
 C Interval: 5.0DEG
 Test Speed: HIGH
 Temperature: 25.3DEG
 Operators: SU
 Test Date: 2016-12-27

γ Range: 0 - 90DEG
 γ Interval: 0.5DEG
 Test System: EVERFINE GO-2000B_V1 SYSTEM V1.0.257
 Humidity: 65.0%
 Test Distance: 8.750m [K=1.0000]
 Remarks:

Average Luminance Table (CIBSE)

Parameter description for average Luminance	Symbol	Value	Unit
Luminance in Azimuth Plane	Bc	refer Table 2	cd/sq.m.
Intensity at angle Gamma in given azimuth plane	I	from data	cd/klm
Number of lamps	N	1	
Output of each lamp (initial lumens as specified)	F	3350	lm
Multiplying factor	K	1	
Luminous area in horizontal plane used in calculations	A	0.003	sq.m.
Angle to the downward vertical from light centre	Gamma	from data	deg

Table 1. Calculation parameters for determination of CIBSE LG3:1996 Average Luminance

G deg	C plane (deg)																		
	0	10	20	30	40	50	60	70	80	90	100	110	120	130	140	150	160	170	180
55	5132	4897	4768	4626	4470	4381	4180	4167	4168	4138	3983	3824	3624	3685	3585	3552	3554	3593	3710
60	3979	3855	3769	3595	3506	3413	3421	3254	3088	3027	2977	3002	2983	2896	2855	2806	2814	2862	2954
65	3302	3196	3093	2970	2894	2781	2726	2682	2636	2634	2535	2466	2402	2380	2373	2334	2338	2396	2471
70	2834	2722	2643	2506	2408	2360	2300	2193	2100	2084	2010	1998	2010	1957	1932	1929	1935	1926	2024
75	2475	2325	2242	2068	2009	1882	1804	1703	1614	1596	1506	1463	1503	1456	1392	1388	1367	1386	1472
80	2041	1769	1642	1464	1355	1132	1029	860	708	652	572	502	658	817	813	409	539	433	458
85	605	519	698	402	277	209	179	84	20	0	16	38	74	126	191	287	333	276	175

Table 2. Average Luminance (cd/sq.m.) for defined C plane, Gamma angle

CIBSE Category	Gamma (deg)	Average Luminance		Patch Luminance	
		maximum calculated	specified maximum	maximum measured	specified maximum
Category 1	55 to 90	5132	200	---	500
Category 2	65 to 90	3302	200	---	500
Category 3	75 to 90	2475	200	---	500

Table 3. Tabulation of Average and Patch Luminance (cd/sq.m.) for defined CIBSE categories

No match

C Range: 0 - 360DEG
 C Interval: 5.0DEG
 Test Speed: HIGH
 Temperature: 25.3DEG
 Operators: SU
 Test Date: 2016-12-27

γ Range: 0 - 90DEG
 γ Interval: 0.5DEG
 Test System: EVERFINE GO-2000B_V1 SYSTEM V1.0.257
 Humidity: 65.0%
 Test Distance: 8.750m [K=1.0000]
 Remarks:

LUMINOUS DISTRIBUTION INTENSITY DATA

Table--1

UNIT: cd

[illegible]

C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:SU
Test Date:2016-12-27

```

γ Range: 0 - 90DEG
γ Interval: 0.5DEG
Test System:EVERFINE GO-2000B_V1 SYSTEM V1.0.257
Humidity:65.0%
Test Distance:8.750m [K=1.0000]
Remarks:

```

LUMINOUS DISTRIBUTION INTENSITY DATA

Table--2

UNIT: cd

[illegible]

C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators: SU
Test Date: 2016-12-27

```

γ Range: 0 - 90DEG
γ Interval: 0.5DEG
Test System:EVERFINE GO-2000B_V1 SYSTEM V1.0.257
Humidity:65.0%
Test Distance:8.750m [K=1.0000]
Remarks:

```

LUMINOUS DISTRIBUTION INTENSITY DATA

Table--3

UNIT: cd

[illegible]

C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators: SU
Test Date: 2016-12-27

```

γ Range: 0 - 90DEG
γ Interval: 0.5DEG
Test System:EVERFINE GO-2000B_V1 SYSTEM V1.0.257
Humidity:65.0%
Test Distance:8.750m [K=1.0000]
Remarks:

```

LUMINOUS DISTRIBUTION INTENSITY DATA

Table--4

UNIT: cd

[illegible]

C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators: SU
Test Date: 2016-12-27

```

γ Range: 0 - 90DEG
γ Interval: 0.5DEG
Test System:EVERFINE GO-2000B_V1 SYSTEM V1.0.257
Humidity:65.0%
Test Distance:8.750m [K=1.0000]
Remarks:

```