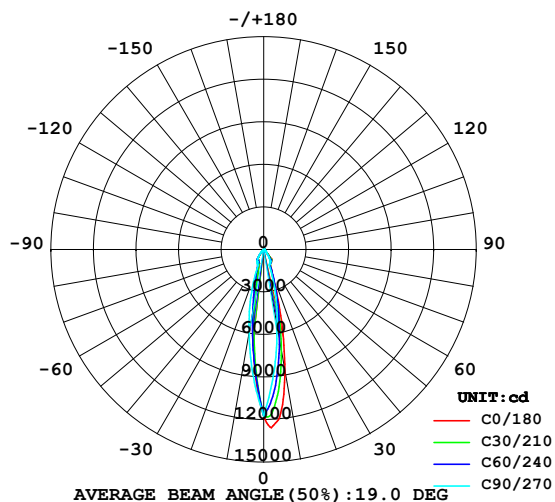


LUMINAIRE PHOTOMETRIC TEST REPORT

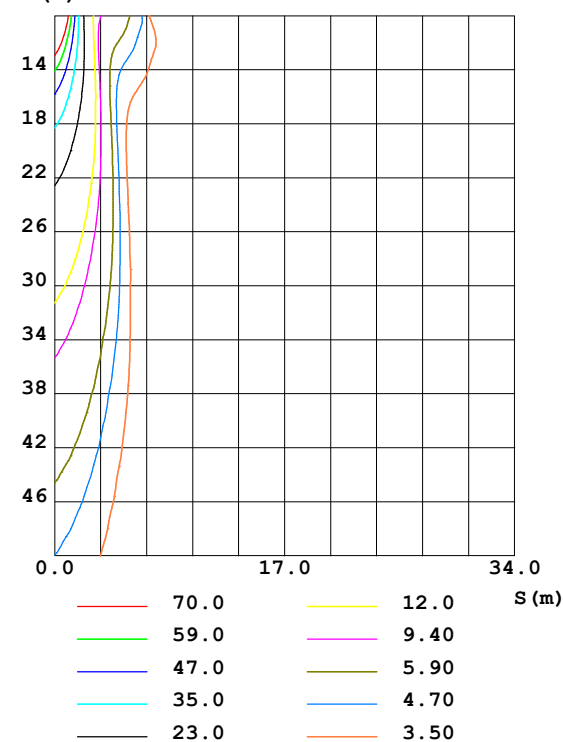
Test:U:229.4V I:0.1301A P:28.97W PF:0.9709 Lamp Flux:8200x1 lm		
NAME: Luxon	TYPE:	WEIGHT:
DIM.:	SPEC.:	SERIAL No.:
MFR.: ELEKO	SUR.:	PROTECTION ANGLE:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 92.64 lm/W			
MODEL		I _{max} (cd)	12581	S/MH (C0/180)	0.25
NOMINAL POWER (W)	30	LOR (%)	32.7	S/MH (C90/270)	0.34
RATED VOLTAGE (V)	230	TOTAL FLUX (lm)	2683.9	η UP, DN (C0-180)	0.0, 16.4
NOMINAL FLUX (lm)	8200	CIE CLASS	DIRECT	η UP, DN (C180-360)	0.0, 16.3
LAMPS INSIDE	1	η up (%)	0.0	CIBSE SHR NOM	0.00
TEST VOLTAGE (V)	229.3	η down (%)	32.7	CIBSE SHR MAX	1.00

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: 2019-05-14

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:

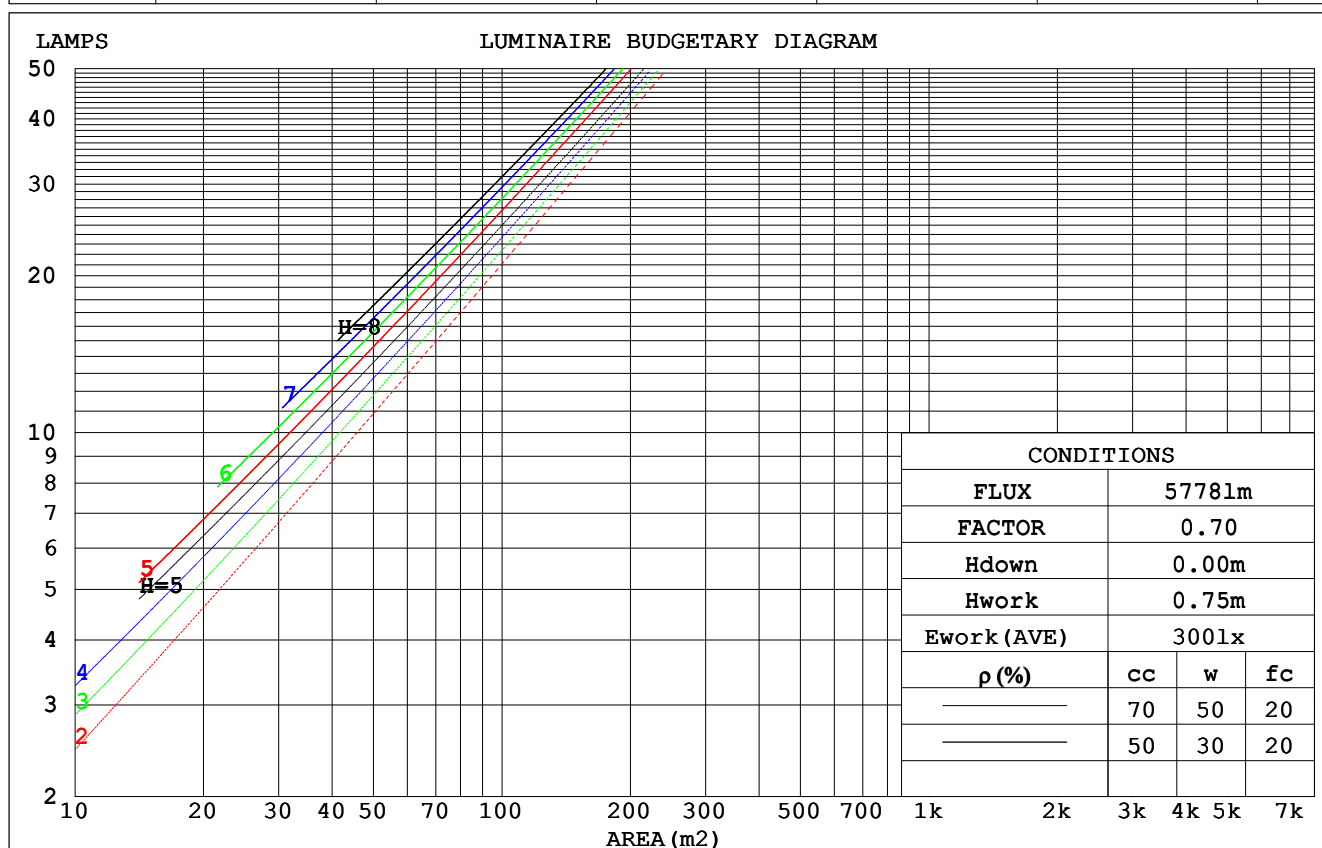
γ	C0	C45	C90	C135	C180	C225	C270	C315	γ	Φ zone	Φ total	%lum, lamp
5	779.7	755.8	882.7	1023	1206	1004	857.8	742.6	0- 5	239.7	239.7	8.93,2.92
10	370.4	397.1	591.9	724.1	868.4	685.0	542.2	377.2	5- 10	509.0	748.6	27.9,9.13
15	151.8	182.5	357.6	409.4	440.5	369.7	330.3	170.5	10- 15	487.9	1237	46.1,15.1
20	107.2	117.2	123.3	202.5	177.9	188.5	118.4	113.5	15- 20	346.0	1583	59,19.3
25	98.27	100.9	108.4	115.7	111.2	113.3	105.2	98.69	20- 25	247.5	1830	68.2,22.3
30	87.08	87.86	93.50	96.94	99.60	96.92	92.07	84.94	25- 30	248.8	2079	77.5,25.4
35	61.86	59.85	65.13	85.42	88.15	86.08	65.37	57.44	30- 35	246.0	2325	86.6,28.4
40	11.55	20.37	36.75	62.54	70.97	63.92	38.66	19.23	35- 40	185.4	2510	93.5,30.6
45	6.073	6.677	20.98	25.70	19.55	26.70	22.06	6.490	40- 45	91.56	2602	96.9,31.7
50	4.091	4.493	5.205	5.977	6.449	5.989	5.450	4.560	45- 50	35.38	2637	98.3,32.2
55	1.983	2.465	3.274	4.099	4.658	4.237	3.603	2.599	50- 55	18.83	2656	99,32.4
60	0.8540	0.9906	1.342	2.175	2.395	2.402	1.756	1.179	55- 60	11.52	2667	99.4,32.5
65	0.4506	0.5635	0.8680	1.132	1.038	1.351	1.492	0.7584	60- 65	6.043	2674	99.6,32.6
70	0.3121	0.3622	0.3940	0.5602	0.5164	0.8072	1.228	0.6255	65- 70	3.758	2677	99.8,32.6
75	0.2433	0.2815	0.2480	0.3680	0.3567	0.6634	1.046	0.6873	70- 75	2.811	2680	99.9,32.7
80	0.0072	0.1087	0.1020	0.1850	0.2770	0.8173	0.8630	0.5321	75- 80	2.207	2682	99.9,32.7
85	0.0059	0.0015	0	0.0311	0.0143	0.3816	0	0.1774	80- 85	1.354	2684	100,32.7
90	0.0059	0	0	0	0.0015	0	0	0	85- 90	0.2163	2684	100,32.7
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:×10cd									UNIT:lm		

C Range: 0 - 360DEG
 C Interval: 5.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:SU
 Test Date:2019-05-14

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	.39	.39	.39	.38	.38	.38	.36	.36	.36	.35	.35	.35	.33	.33	.33	.33
1.0	.37	.36	.35	.36	.35	.35	.35	.34	.34	.33	.33	.33	.32	.32	.32	.31
2.0	.34	.33	.32	.34	.33	.32	.33	.32	.31	.32	.31	.31	.31	.30	.30	.29
3.0	.33	.31	.30	.32	.31	.30	.31	.30	.29	.30	.30	.29	.30	.29	.28	.28
4.0	.31	.29	.28	.30	.29	.28	.30	.29	.28	.29	.28	.27	.29	.28	.27	.26
5.0	.29	.28	.26	.29	.27	.26	.28	.27	.26	.28	.27	.26	.27	.26	.26	.25
6.0	.28	.26	.25	.28	.26	.25	.27	.26	.25	.27	.26	.25	.26	.25	.24	.24
7.0	.27	.25	.24	.26	.25	.24	.26	.25	.24	.26	.24	.24	.25	.24	.23	.23
8.0	.26	.24	.23	.25	.24	.23	.25	.24	.23	.25	.23	.23	.24	.23	.22	.22
9.0	.25	.23	.22	.24	.23	.22	.24	.23	.22	.24	.23	.22	.24	.22	.22	.21
10.0	.24	.22	.21	.23	.22	.21	.23	.22	.21	.23	.22	.21	.23	.22	.21	.20



C Range: 0 - 360DEG
 C Interval: 5.0DEG
 Test Speed: HIGH
 Temperature: 25.3DEG
 Operators: SU
 Test Date: 2019-05-14

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	.052	.030	.009	.050	.028	.009	.046	.026	.008	.042	.024	.008	.039	.022	.007	
2.0	.049	.027	.008	.047	.026	.008	.044	.024	.008	.041	.023	.007	.038	.021	.007	
3.0	.047	.025	.007	.045	.024	.007	.042	.023	.007	.039	.022	.007	.037	.020	.006	
4.0	.044	.023	.007	.043	.022	.007	.040	.021	.006	.038	.020	.006	.036	.019	.006	
5.0	.042	.021	.006	.041	.021	.006	.038	.020	.006	.036	.019	.006	.035	.018	.006	
6.0	.040	.020	.006	.039	.019	.006	.037	.019	.005	.035	.018	.005	.033	.018	.005	
7.0	.038	.019	.005	.037	.018	.005	.035	.018	.005	.034	.017	.005	.032	.017	.005	
8.0	.036	.018	.005	.035	.017	.005	.034	.017	.005	.032	.016	.005	.031	.016	.005	
9.0	.034	.017	.005	.034	.016	.005	.032	.016	.005	.031	.016	.004	.030	.015	.004	
10.0	.033	.016	.004	.032	.016	.004	.031	.015	.004	.030	.015	.004	.029	.015	.004	

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	.062	.062	.062	.053	.053	.053	.036	.036	.036	.021	.021	.021	.007	.007	.007	
1.0	.056	.052	.048	.048	.044	.041	.033	.030	.028	.019	.018	.017	.006	.006	.005	
2.0	.050	.043	.038	.043	.037	.033	.029	.026	.023	.017	.015	.013	.005	.005	.004	
3.0	.046	.037	.030	.039	.032	.026	.027	.022	.018	.016	.013	.011	.005	.004	.004	
4.0	.042	.032	.025	.036	.028	.021	.025	.019	.015	.014	.011	.009	.005	.004	.003	
5.0	.039	.028	.020	.033	.024	.018	.023	.017	.013	.013	.010	.007	.004	.003	.002	
6.0	.036	.025	.017	.031	.022	.015	.022	.015	.011	.012	.009	.006	.004	.003	.002	
7.0	.034	.023	.015	.029	.020	.013	.020	.014	.009	.012	.008	.005	.004	.003	.002	
8.0	.032	.020	.013	.028	.018	.011	.019	.012	.008	.011	.007	.005	.004	.002	.002	
9.0	.030	.019	.011	.026	.016	.010	.018	.011	.007	.010	.007	.004	.003	.002	.001	
10.0	.029	.017	.010	.025	.015	.008	.017	.010	.006	.010	.006	.004	.003	.002	.001	

C Range: 0 - 360DEG
 C Interval: 5.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:SU
 Test Date:2019-05-14

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	19.4	20.2	19.6	20.4	20.6	20.2	21.0	20.4	21.1	21.3
3H	19.3	20.0	19.5	20.2	20.4	20.0	20.8	20.3	21.0	21.2
4H	19.2	19.9	19.5	20.1	20.3	20.0	20.7	20.2	20.9	21.1
6H	19.1	19.8	19.4	20.0	20.3	19.9	20.5	20.2	20.8	21.0
8H	19.1	19.7	19.4	20.0	20.2	19.8	20.5	20.1	20.7	21.0
12H	19.0	19.6	19.3	19.9	20.2	19.8	20.4	20.1	20.7	20.9
4H 2H	19.2	19.9	19.5	20.1	20.3	19.9	20.7	20.2	20.9	21.1
3H	19.0	19.7	19.4	19.9	20.2	19.8	20.4	20.1	20.7	20.9
4H	19.0	19.5	19.3	19.8	20.1	19.7	20.3	20.0	20.6	20.9
6H	18.9	19.4	19.2	19.7	20.0	19.6	20.1	20.0	20.4	20.8
8H	18.8	19.3	19.2	19.6	20.0	19.6	20.0	19.9	20.4	20.7
12H	18.8	19.2	19.2	19.5	19.9	19.5	19.9	19.9	20.3	20.7
8H 4H	18.8	19.3	19.2	19.6	20.0	19.6	20.0	19.9	20.4	20.7
6H	18.7	19.1	19.1	19.5	19.9	19.5	19.8	19.9	20.2	20.6
8H	18.6	19.0	19.1	19.4	19.8	19.4	19.7	19.8	20.2	20.6
12H	18.6	18.9	19.1	19.3	19.8	19.3	19.6	19.8	20.1	20.5
12H 4H	18.8	19.2	19.2	19.5	19.9	19.5	19.9	19.9	20.3	20.7
6H	18.6	19.0	19.1	19.4	19.8	19.4	19.7	19.8	20.2	20.6
8H	18.6	18.9	19.1	19.3	19.8	19.3	19.6	19.8	20.1	20.5
Variations with the observer position at spacings:										
S = 1.0H	+ 4.2 / -10.1					+ 3.9 / - 9.5				
1.5H	+ 6.5 / - 7.3					+ 6.0 / - 8.5				
2.0H	+ 3.9 / - 5.8					+ 8.7 / - 9.0				

CIE Pub.117 Corrected 8200 lm Total Lamp Luminous Flux.(8log(F/F0) = 7.3)

C Range: 0 - 360DEG
 C Interval: 5.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:SU
 Test Date:2019-05-14

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:

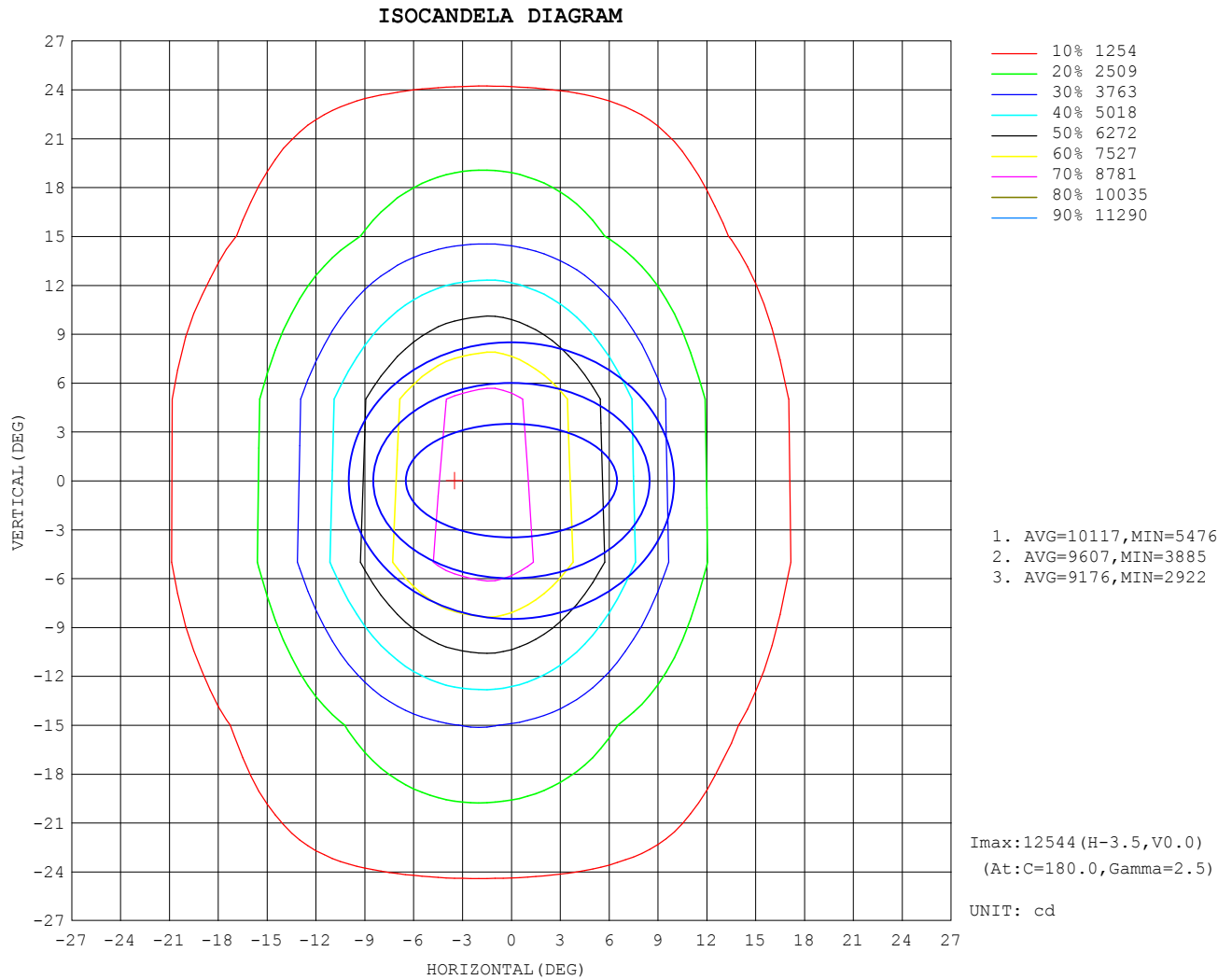
UTILIZATION FACTORS TABLE

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) $k(RI) \times RCR = 5$									
$k = 0.60$	29	27	25	28	27	25	28	26	25	24
0.80	31	29	28	31	29	28	30	29	28	27
1.00	33	31	30	32	31	29	32	31	29	28
1.25	34	32	31	33	32	31	33	32	31	29
1.50	35	33	32	34	33	32	34	32	32	30
2.00	36	34	33	35	34	33	34	33	32	31
2.50	36	35	34	36	34	34	35	34	33	31
3.00	37	36	35	36	35	34	35	34	34	31
4.00	37	36	36	37	36	35	35	35	34	32
5.00	38	37	36	37	36	36	36	35	35	32
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: 2019-05-14

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:

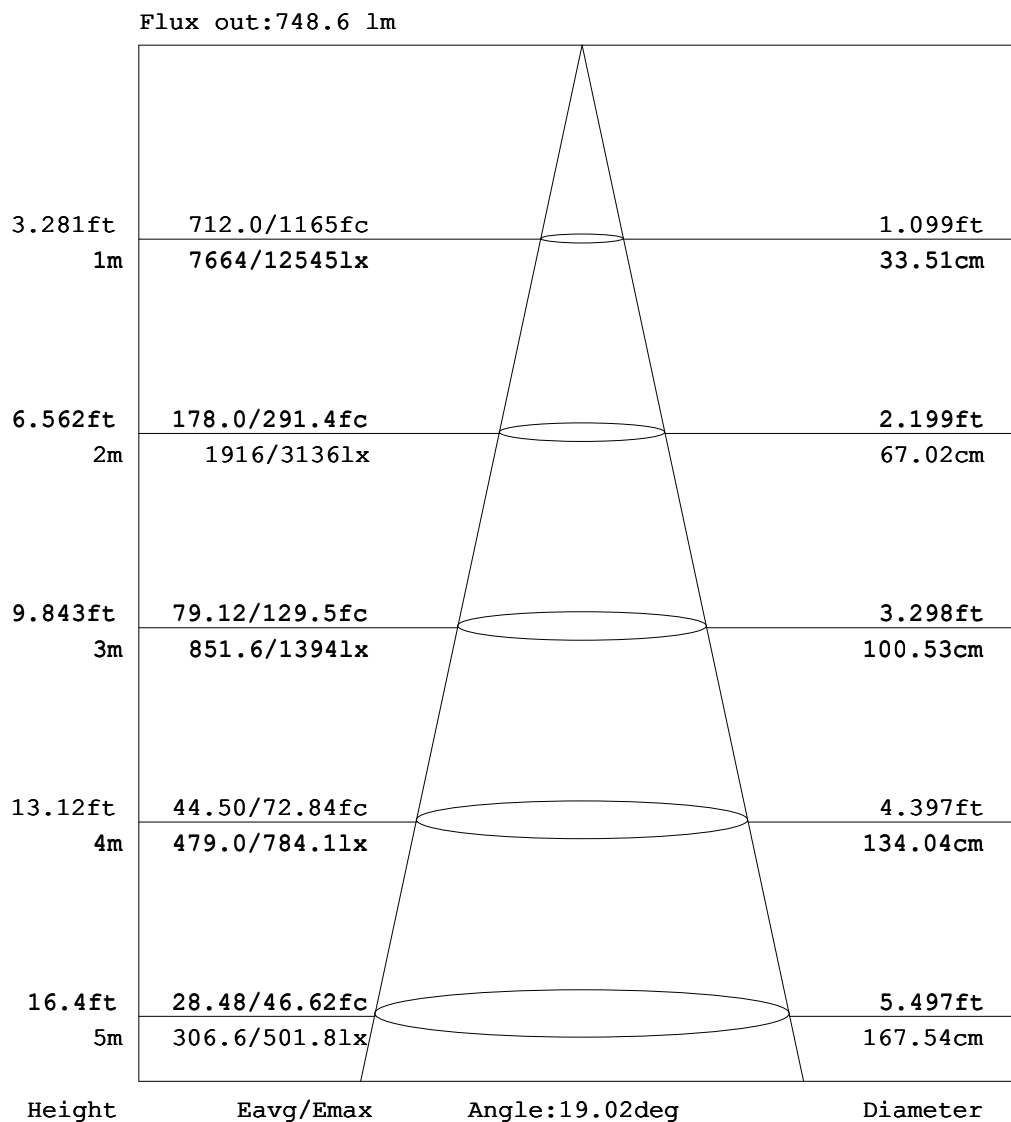
ISOCANDELA DIAGRAM



C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:SU
Test Date:2019-05-14

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

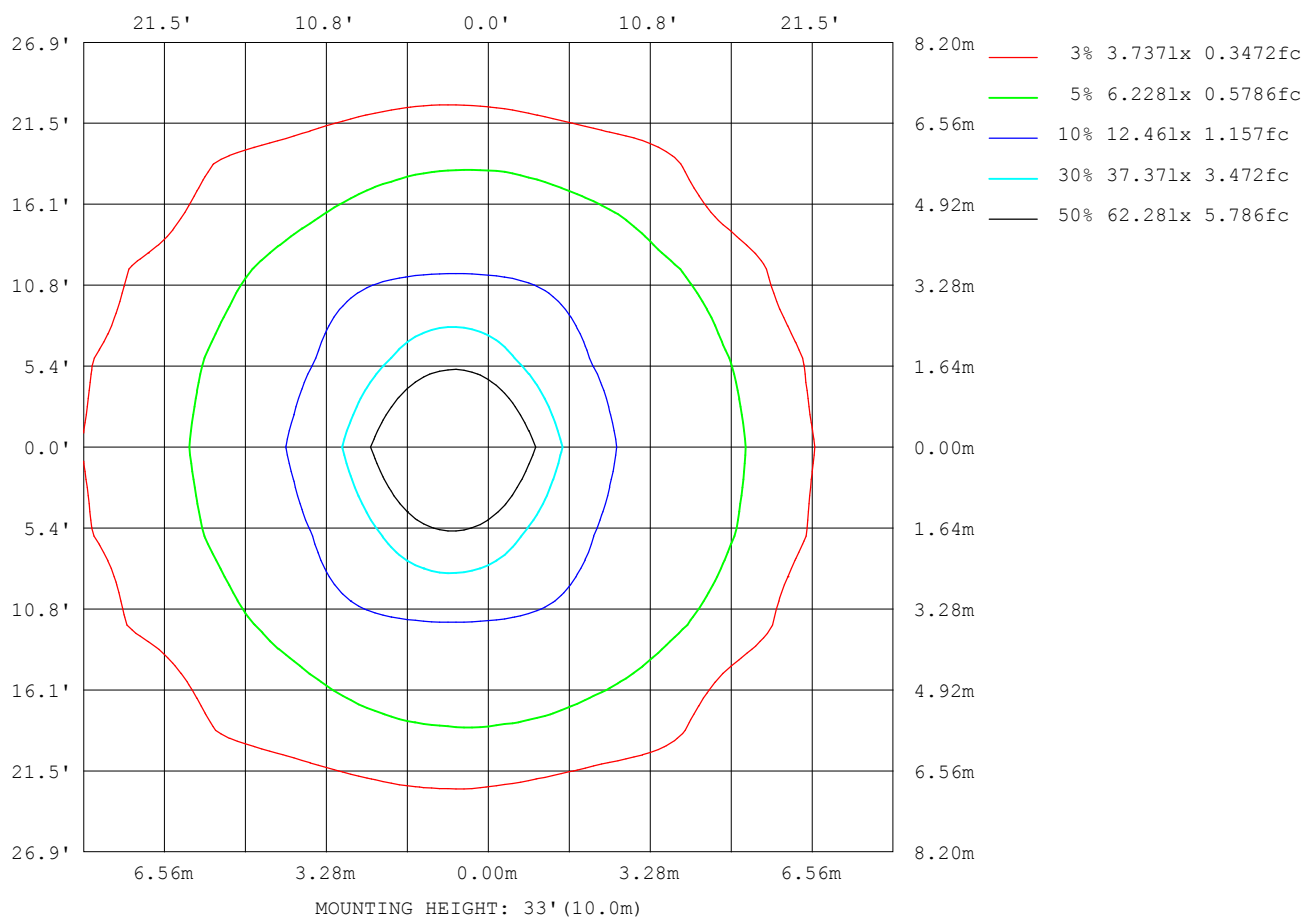


Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:SU
Test Date:2019-05-14

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: 2019-05-14

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	8200	lm
Multiplying factor	K	1	
Luminous area in horizontal plane used in calculations	A	0.0047	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	7355	7301	7578	8109	8716	9106	9689	11129	11719	12144	12816	13768	14322	14453	16140	16346	16898	17169	17277
60	3634	3550	3642	3844	4357	4919	5817	5819	5525	5711	6485	7807	9161	9636	9733	10086	10240	10131	10193
65	2268	2147	2217	2410	2638	2811	2879	3480	3989	4370	4638	4775	4625	5170	5681	5629	5462	5271	5224
70	1942	1802	1987	2141	2189	2389	2621	2656	2543	2451	2658	3082	3385	3537	3355	3567	3453	3329	3212
75	2000	1897	1978	2080	1951	2456	2092	1837	1865	2038	2231	2390	2466	2797	3130	3035	3114	3104	2932
80	88	78	131	53	1191	1156	695	403	694	1249	1654	1900	2030	2195	2449	3328	3336	3524	3394
85	144	94	97	103	53	29	16	16	19	0	49	216	485	750	596	184	1548	848	349

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	17277	200	---	500
Category 2	65 to 90	5681	200	---	500
Category 3	75 to 90	3524	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: 2019-05-14

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: $\times 10 \text{cd}$ [illegible]

C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators: SU
Test Date: 2019-05-14

```

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: $\times 10\text{cd}$ [illegible]

C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators: SU
Test Date: 2019-05-14

```

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: $\times 10\text{cd}$ [illegible]

C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators: SU
Test Date: 2019-05-14

```

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: $\times 10 \text{cd}$ [illegible]

C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators: SU
Test Date: 2019-05-14

```

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:

```