

Report No.: 01

Test Time: 2016/10/20 09:16

Luminaire Property

Luminaire Manufacturer:

Luminaire Category: Synthesis LED Linear

Luminaire Description: Synthesis Direct HO 28CM 307 mA 2700K 15degree

Luminous Length (mm): 304

Luminous Width (mm): 50

Luminous Height (mm): 2

Voltage: 119.9 V

Current: 0.094 A

Power: 10.83 W

Power Factor: 0.963

Photometric Results

CIE Class: Direct

Measurement Flux: 1341.6 lm

Downward Ratio: 96%

Horizontal Diffuse Angle(50%): H17.6

Vertical Diffuse Angle(50%): V17.5

Luminaire Efficacy Rating (LER): 124

Max. Intensity: 9227.8 cd

Total Rated Lamp Lumens: 1341.6 lm

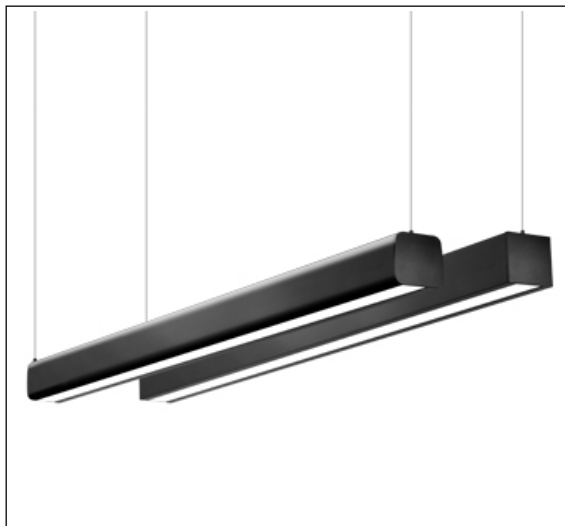
Efficiency: 100%

Upward Ratio: 4%

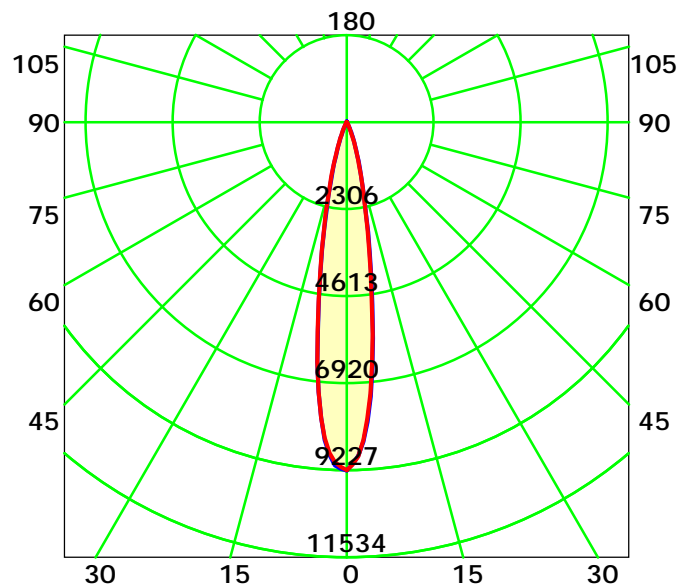
Central Intensity: 9227.8 cd

Pos of Max. Intensity: H0 V0

Picture Of Luminaire



Luminous Intensity Distribution Curve



Average Diffuse Angle(50%): 17.6° Unit: cd

— C0-C180 — C90-C270

C Plane (°):0.0-360.0: 30.0

Test Lab: ACOLYTE

Test Type: TYPE C

Temperature: 25°C

Operator: leo

Gamma Plane (°):0.0-180.0: 1.0

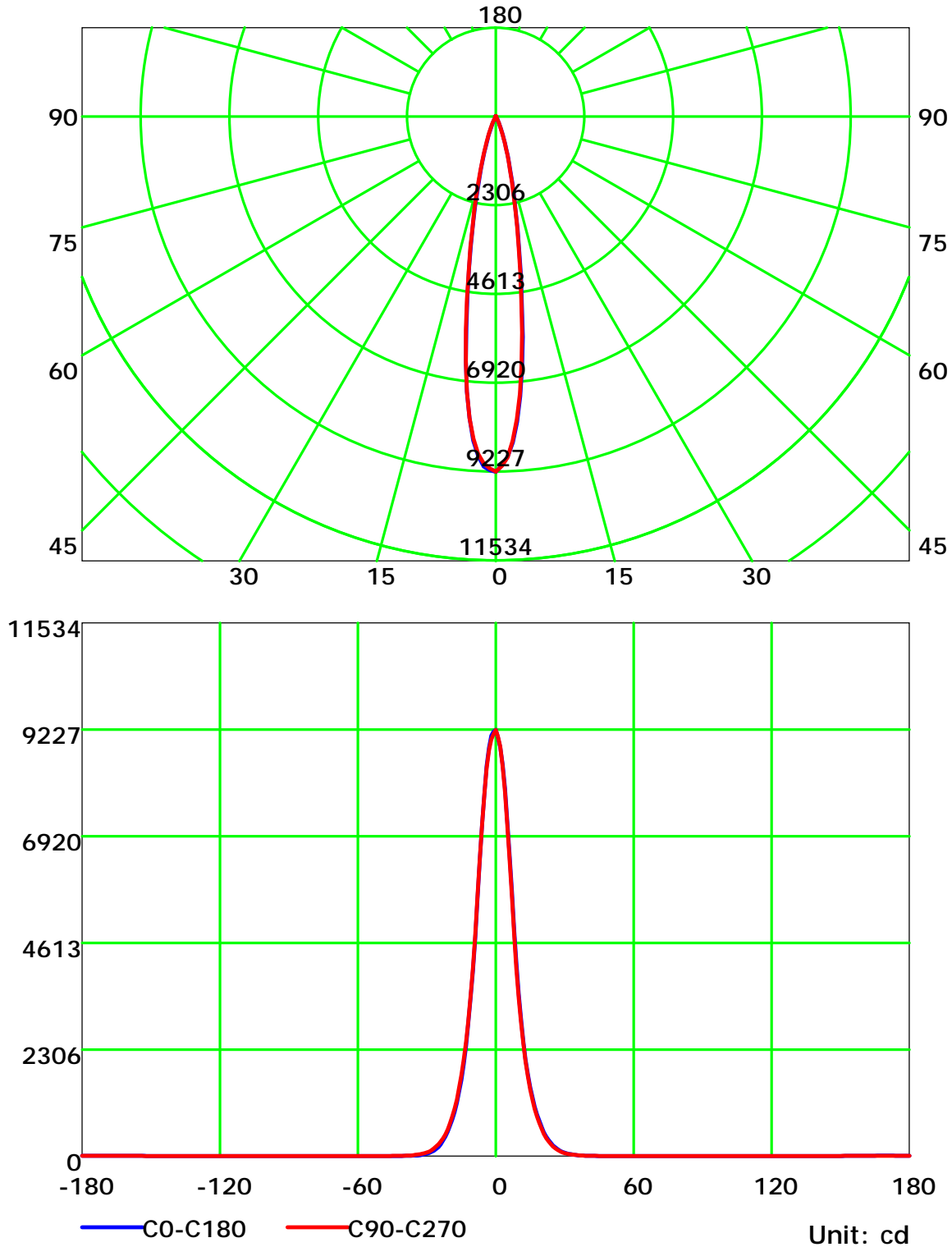
Test Device: GPM-1800B

Distance: 9.028 m

Humidity: 60%

Inspector:

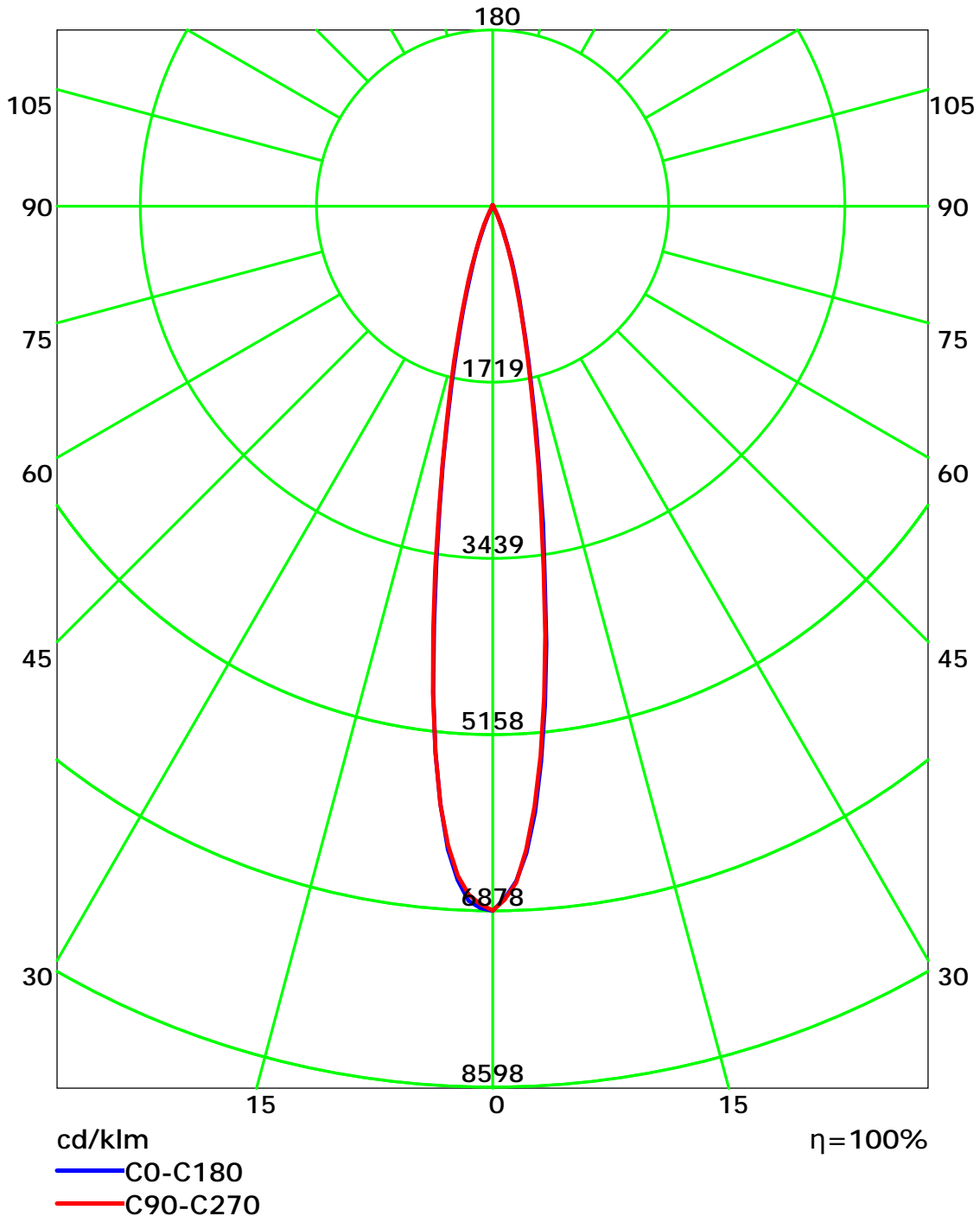
Luminous Intensity Distribution Curve



C Plane (°):0.0-360.0: 30.0
Test Lab: ACOLYTE
Test Type: TYPE C
Temperature: 25°C
Operator: leo

Gamma Plane (°):0.0-180.0:1.0
Test Device: GPM-1800B
Distance: 9.028 m
Humidity: 60%
Inspector:

Luminous Intensity Distribution Curve(cd/klm)



C Plane (°):0.0-360.0: 30.0
Test Lab: ACOLYTE
Test Type: TYPE C
Temperature: 25°C
Operator: leo

Gamma Plane (°):0.0-180.0:1.0
Test Device: GPM-1800B
Distance: 9.028 m
Humidity: 60%
Inspector:

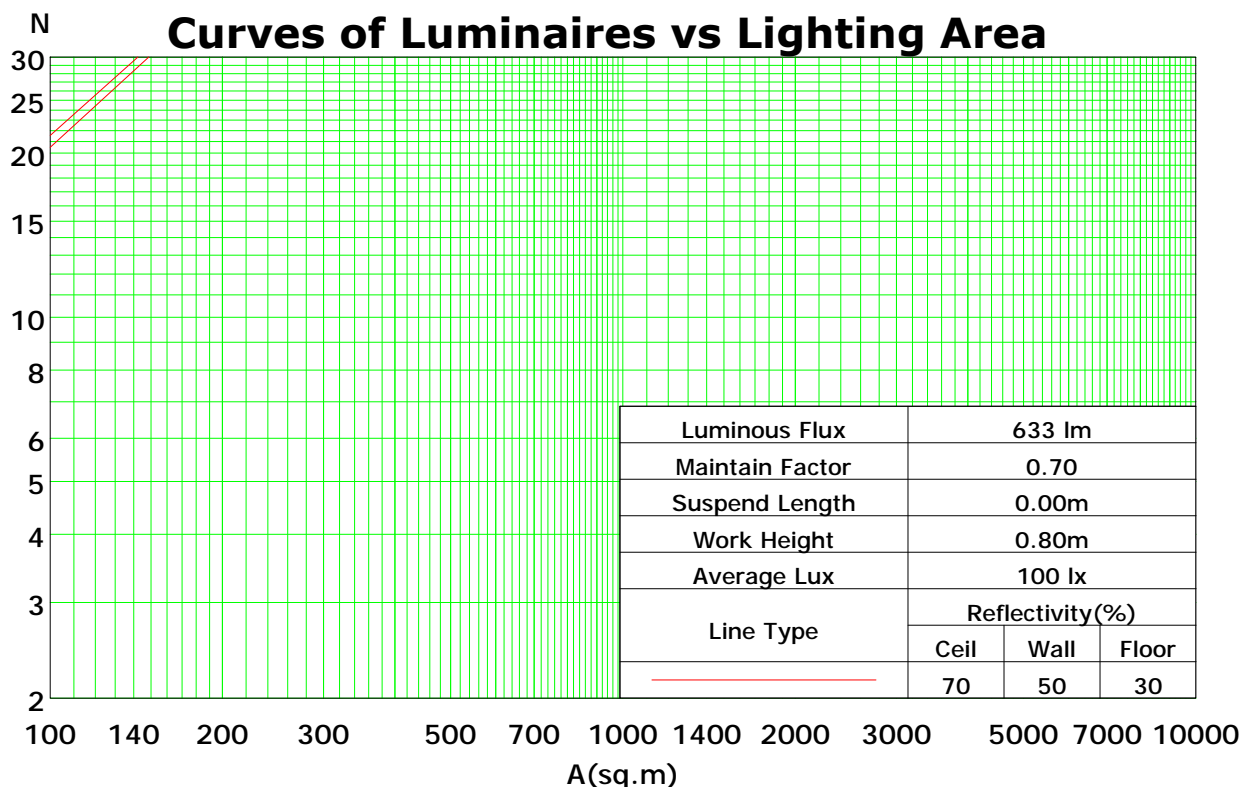
Coefficients Of Utilization - Zonal Cavity Method

RC	0.8	0.8	0.8	0.8	0.7	0.7	0.7	0.7	0.5	0.5	0.5	0.3	0.3	0.3	0.1	0.1	0.1	0
RW	0.7	0.5	0.3	0.1	0.7	0.5	0.3	0.1	0.5	0.3	0.1	0.5	0.3	0.1	0.5	0.3	0.1	0
RCR	RF = 0.2																	
0	118	118	118	118	115	115	115	115	109	109	109	103	103	103	98	98	98	96
1	114	111	109	108	111	109	107	105	104	103	101	100	99	98	96	95	94	92
2	110	106	103	100	107	104	101	99	100	98	96	97	95	94	94	92	91	89
3	106	102	98	95	104	100	97	94	97	94	92	94	92	90	91	90	88	87
4	103	98	94	91	101	96	93	90	94	91	89	92	89	87	89	87	86	84
5	100	94	90	87	99	93	89	87	91	88	86	89	87	85	87	85	83	82
6	98	91	87	84	96	90	87	84	89	85	83	87	84	82	86	83	81	80
7	95	89	85	82	94	88	84	81	87	83	81	85	82	80	84	81	79	78
8	93	86	82	80	92	86	82	79	84	81	79	83	80	78	82	80	78	77
9	91	84	80	78	90	84	80	77	82	79	77	81	79	76	81	78	76	75
10	89	82	78	76	88	82	78	76	81	77	75	80	77	75	79	76	75	74

Spacing Criteria (0-180): 0.30

Spacing Criteria (90-270): 0.30

Spacing Criteria (Diagonal): 0.31



C Plane (°):0.0-360.0: 30.0

Test Lab: ACOLYTE

Test Type: TYPE C

Temperature: 25°C

Operator: leo

Gamma Plane (°):0.0-180.0: 1.0

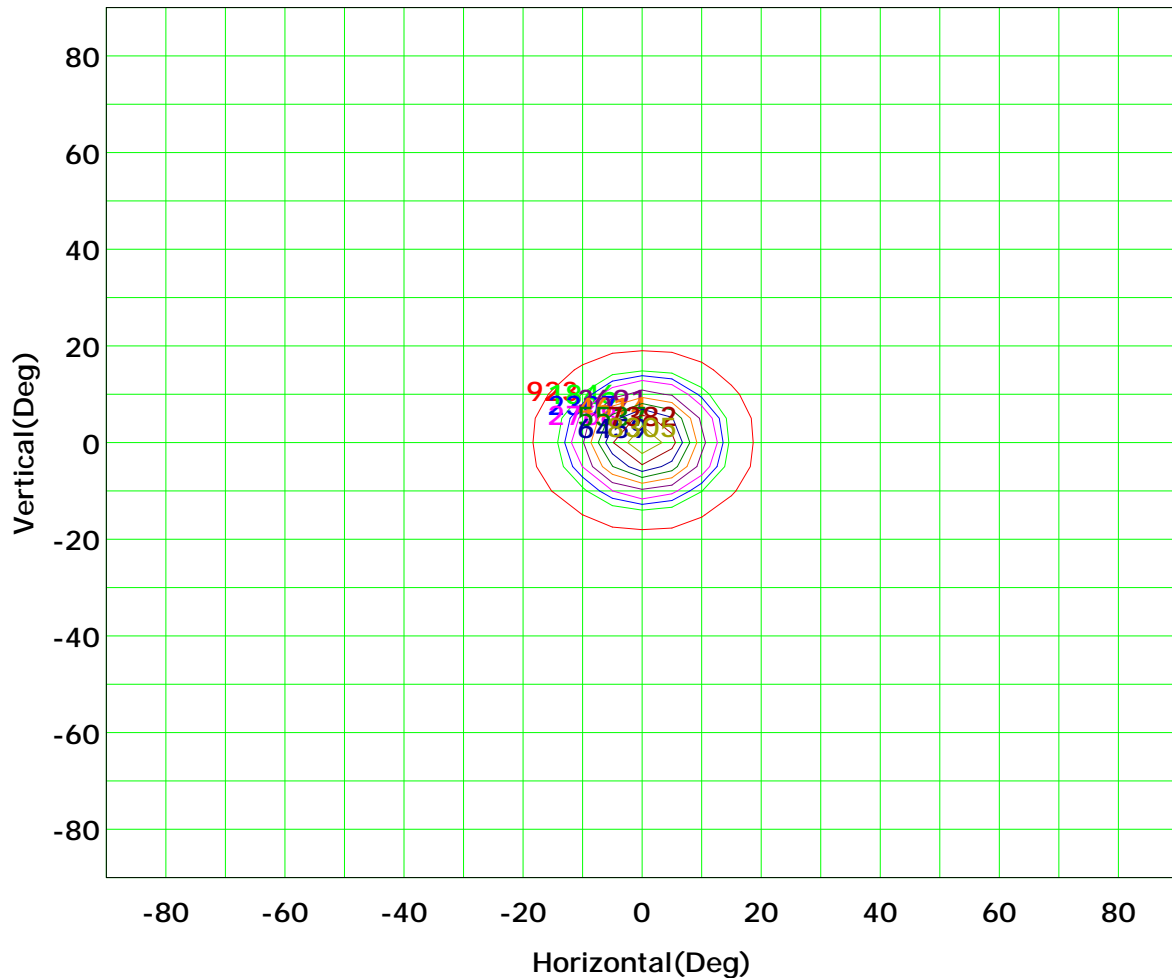
Test Device: GPM-1800B

Distance: 9.028 m

Humidity: 60%

Inspector:

Isocandela (rectangle)



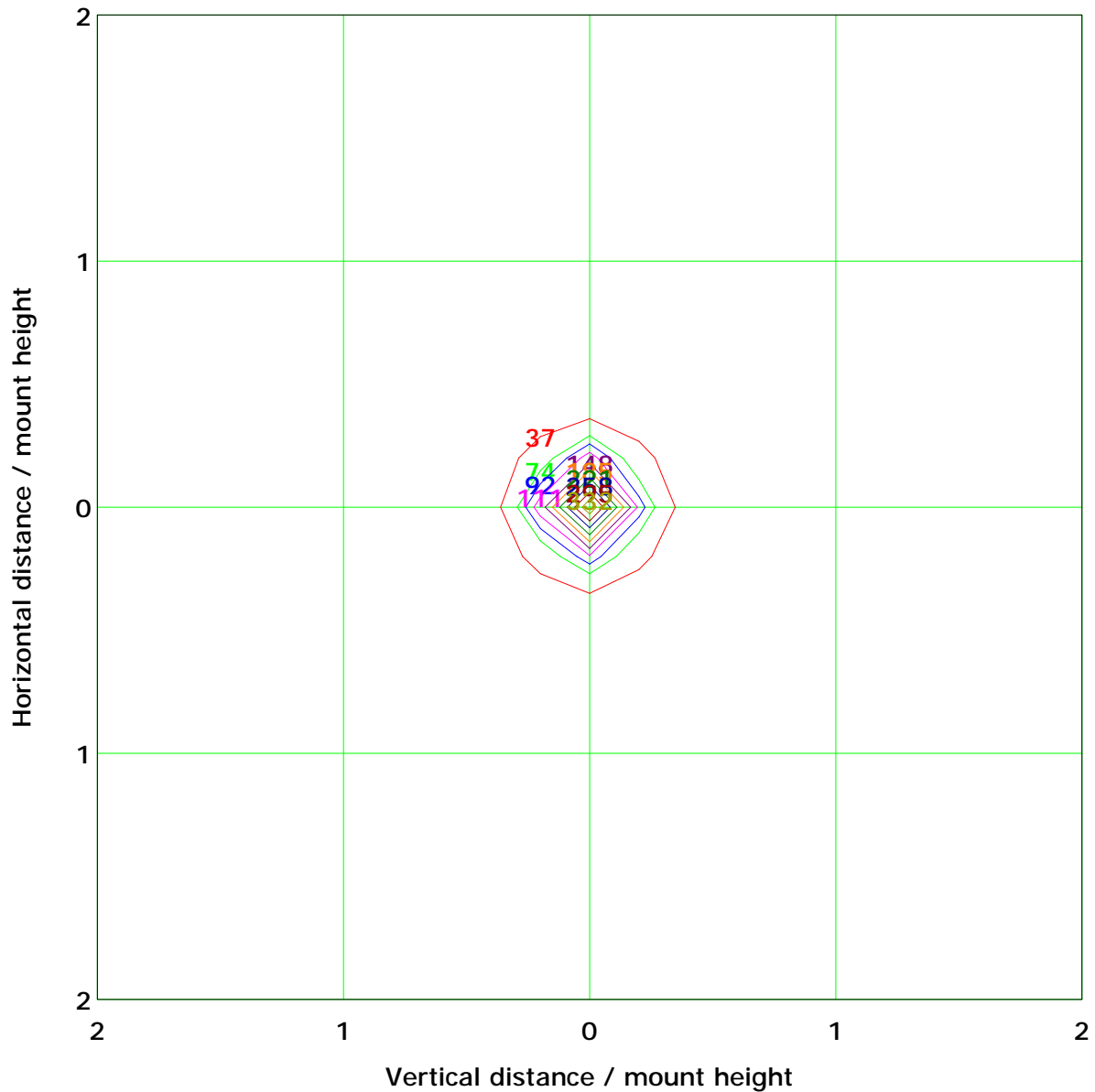
Imax (100%): 9228 cd

(10%): 923 cd	(20%): 1846 cd
(25%): 2307 cd	(30%): 2768 cd
(40%): 3691 cd	(50%): 4614 cd
(60%): 5537 cd	(70%): 6459 cd
(80%): 7382 cd	(90%): 8305 cd

C Plane (°):0.0-360.0: 30.0
Test Lab: ACOLYTE
Test Type: TYPE C
Temperature: 25°C
Operator: leo

Gamma Plane (°):0.0-180.0: 1.0
Test Device: GPM-1800B
Distance: 9.028 m
Humidity: 60%
Inspector:

IsoLux Plot



Mounting Height: 5.0m		Max Lux(100%): 369.1 lx	
(10%): 36.9 lx		(20%): 73.8 lx	
(25%): 92.3 lx		(30%): 110.7 lx	
(40%): 147.6 lx		(50%): 184.6 lx	
(60%): 221.5 lx		(70%): 258.4 lx	
(80%): 295.3 lx		(90%): 332.2 lx	

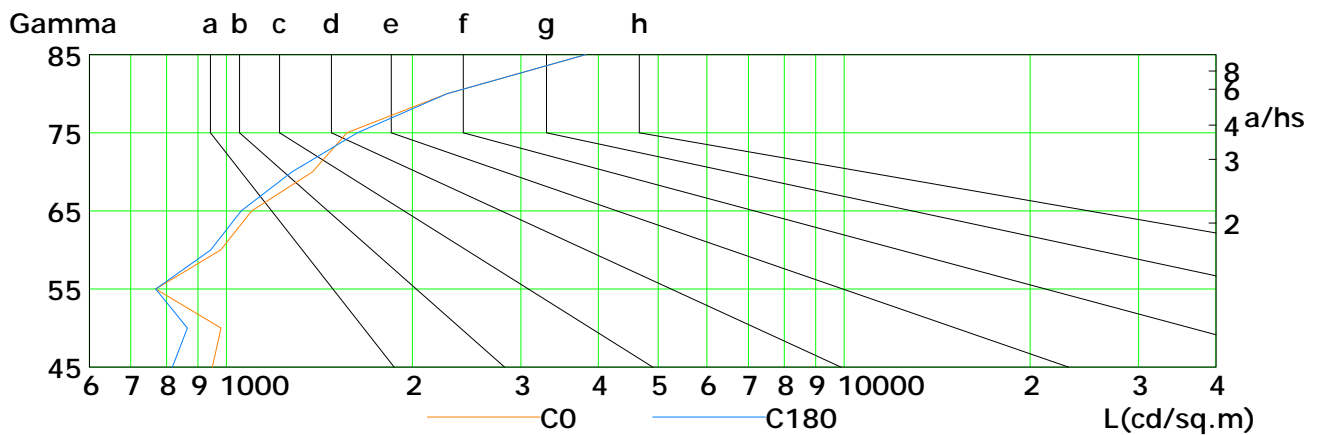
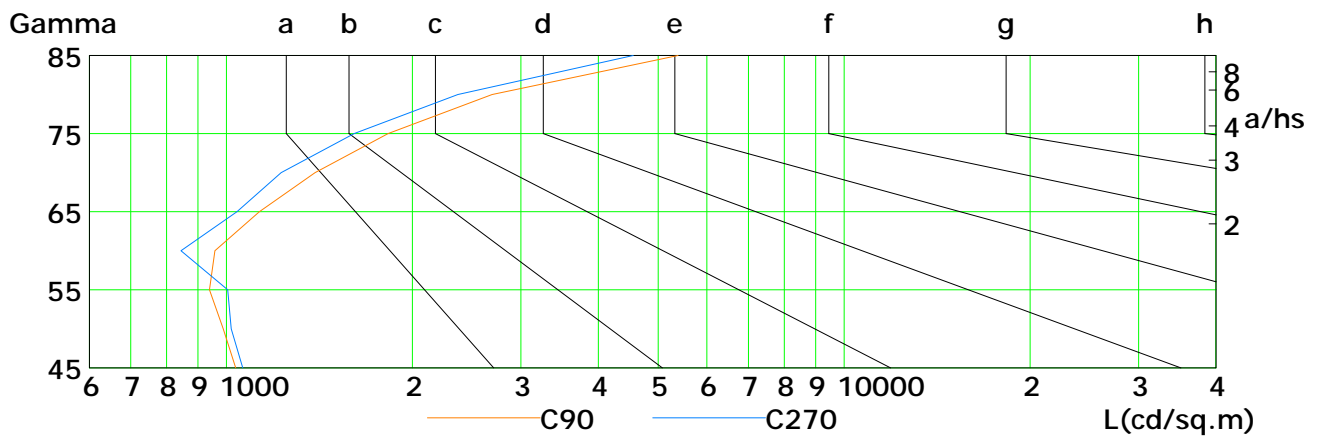
C Plane (°):0.0-360.0: 30.0
Test Lab: ACOLYTE
Test Type: TYPE C
Temperature: 25°C
Operator: leo

Gamma Plane (°):0.0-180.0:1.0
Test Device: GPM-1800B
Distance: 9.028 m
Humidity: 60%
Inspector:

Lum Limit Curve

Dazzle	Quality	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

a b c d e f g h

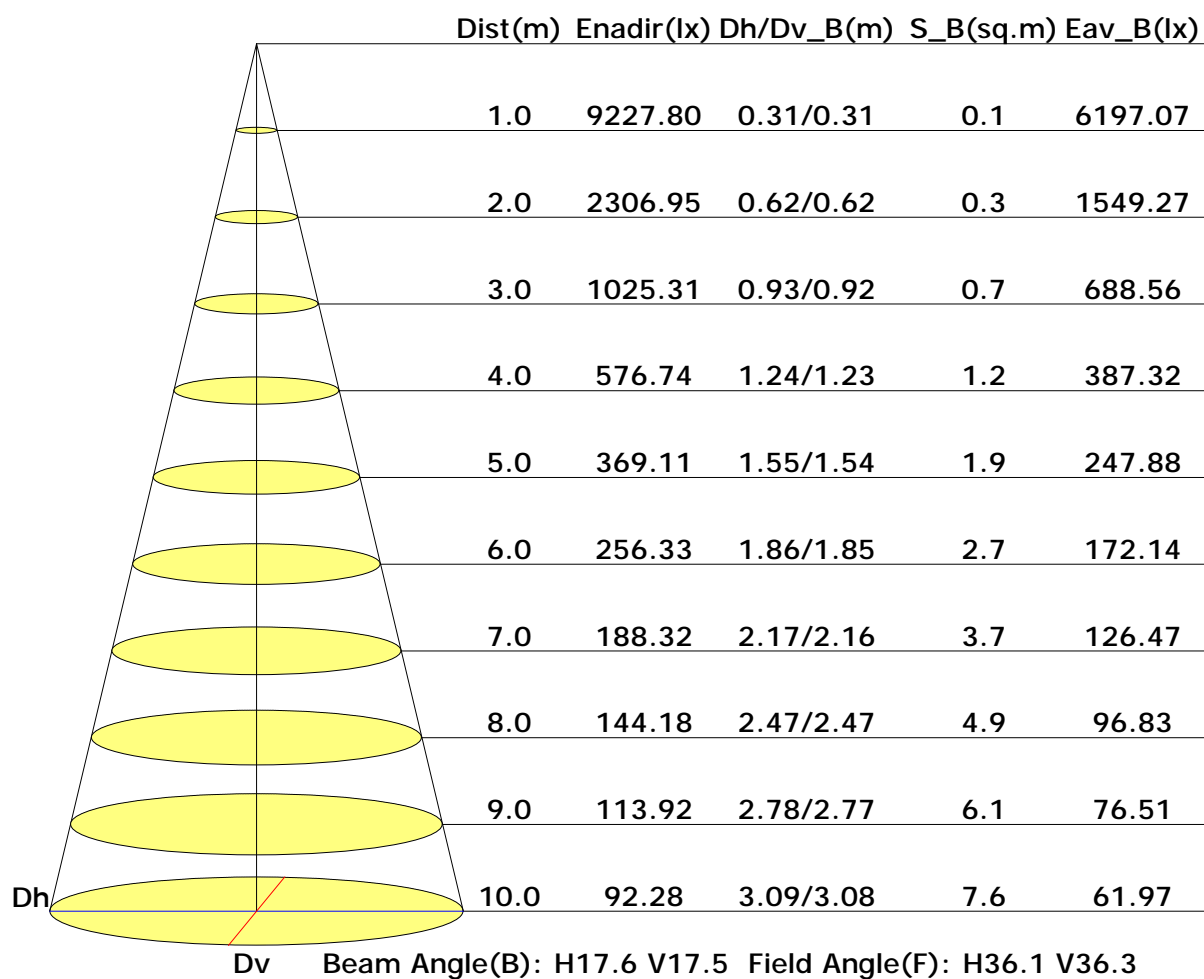


L(cd/sq.m)	G45	G50	G55	G60	G65	G70	G75	G80	G85
C0	949	980	768	980	1100	1380	1566	2276	3818
C90	1035	988	939	959	1131	1392	1828	2692	5385
C180	818	865	768	944	1057	1277	1630	2276	3818
C270	1063	1019	1006	844	1041	1226	1610	2370	4556

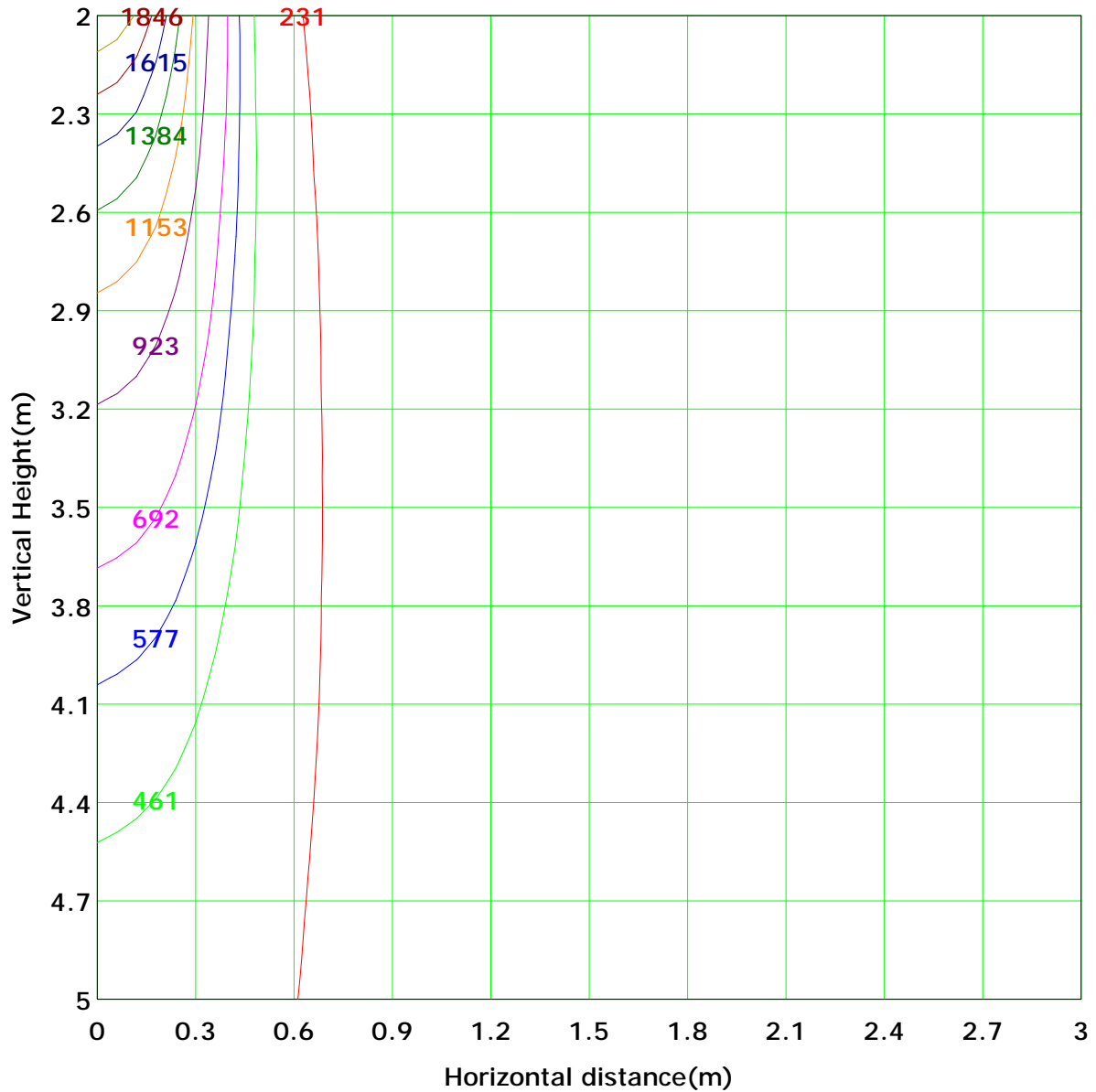
C Plane (°):0.0-360.0: 30.0
Test Lab: ACOLYTE
Test Type: TYPE C
Temperature: 25°C
Operator: leo

Gamma Plane (°):0.0-180.0:1.0
Test Device: GPM-1800B
Distance: 9.028 m
Humidity: 60%
Inspector:

Illuminance at a Distance



Vertical IsoLux Plot



Lowest(m): 2.0m	Highest(m): 5.0m	Max Lux: 2306.9 lx
(10%): 230.7 lx	(20%): 461.4 lx	
(25%): 576.7 lx	(30%): 692.1 lx	
(40%): 922.8 lx	(50%): 1153.5 lx	
(60%): 1384.2 lx	(70%): 1614.9 lx	
(80%): 1845.6 lx	(90%): 2076.3 lx	

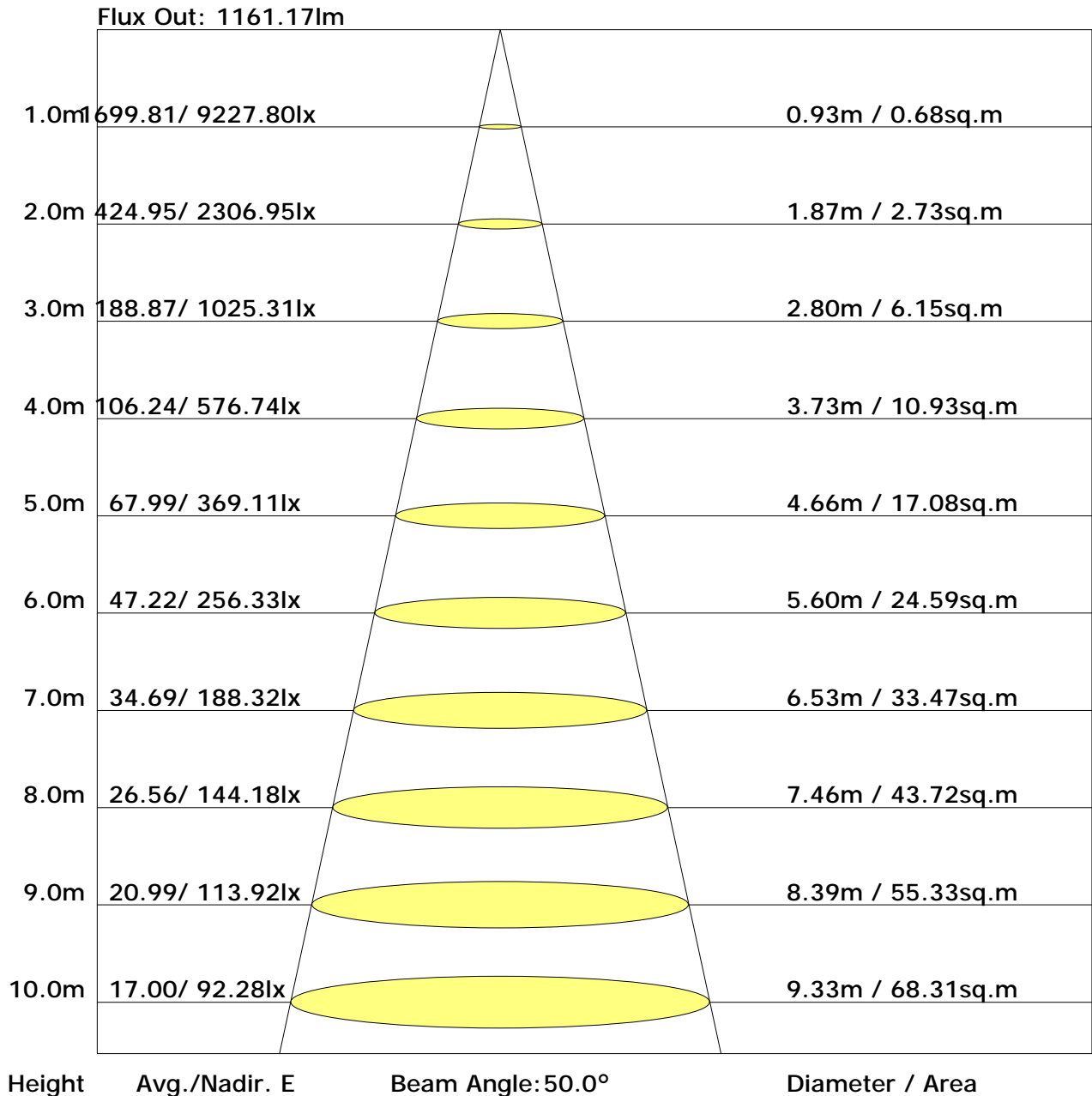
C Plane (°): 0.0-360.0: 30.0
Test Lab: ACOLYTE
Test Type: TYPE C
Temperature: 25°C
Operator: leo

Gamma Plane (°): 0.0-180.0: 1.0
Test Device: GPM-1800B
Distance: 9.028 m
Humidity: 60%
Inspector:

Unit: 1m

Gamma Plane (°):0.0-180.0:1.0
Test Device: GPM-1800B
Distance: 9.028 m
Humidity: 60%
Inspector:

The Average Illuminance Effective Figure



UGR Table

Reflectance:										
Ceiling (cavity)	0.7	0.7	0.5	0.5	0.3	0.7	0.7	0.5	0.5	0.3
Wall	0.5	0.3	0.5	0.3	0.3	0.5	0.3	0.5	0.3	0.3
Reference 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	-0.2	0.7	0.2	1.1	1.5	2.1	3.0	2.6	3.4	3.9
3H	3.2	4.0	3.7	4.4	4.9	4.0	4.8	4.5	5.2	5.7
4H	4.9	5.6	5.4	6.1	6.6	5.4	6.1	5.9	6.5	7.0
6H	6.9	7.5	7.4	8.0	8.5	7.0	7.7	7.5	8.1	8.6
8H	8.0	8.6	8.5	9.1	9.6	7.9	8.6	8.4	9.0	9.5
12H	9.2	9.8	9.7	10.3	10.8	9.0	9.6	9.5	10.1	10.6
X=4H Y=2H	0.8	1.5	1.3	2.0	2.5	2.5	3.3	3.0	3.7	4.2
3H	4.4	5.0	4.9	5.5	6.0	5.0	5.6	5.4	6.0	6.5
4H	6.3	6.8	6.8	7.3	7.8	6.6	7.1	7.1	7.6	8.1
6H	8.4	8.9	8.9	9.4	10.0	8.5	8.9	9.0	9.5	10.0
8H	9.6	10.0	10.1	10.5	11.1	9.5	9.9	10.1	10.5	11.0
12H	10.9	11.3	11.5	11.8	12.4	10.7	11.1	11.3	11.6	12.2
X=8H Y=4H	7.0	7.4	7.5	8.0	8.5	7.3	7.7	7.8	8.2	8.8
6H	9.4	9.8	10.0	10.3	10.9	9.5	9.8	10.1	10.4	11.0
8H	10.8	11.1	11.4	11.7	12.3	10.7	11.0	11.3	11.6	12.2
12H	12.3	12.6	12.9	13.1	13.8	12.1	12.4	12.7	13.0	13.6
X=12H Y=4H	7.2	7.6	7.8	8.1	8.7	7.4	7.8	8.0	8.4	8.9
6H	9.7	10.0	10.3	10.6	11.2	9.8	10.1	10.4	10.7	11.3
8H	11.2	11.5	11.8	12.0	12.7	11.2	11.4	11.8	12.0	12.7

Calculate in accordance with CIE 190:2010

C Plane (°):0.0-360.0: 30.0
 Test Lab: ACOLYTE
 Test Type: TYPE C
 Temperature: 25°C
 Operator: leo

Gamma Plane (°):0.0-180.0:1.0
 Test Device: GPM-1800B
 Distance: 9.028 m
 Humidity: 60%
 Inspector:

Utilisation Factor Table(Floor cavity)

Utilisation Factors UF(F)			SHR NOM = 0.50								
Room Reflectance			Room Index(RI)								
Ceiling	Wall	Floor	0.75	1.00	1.25	1.50	2.00	2.50	3.00	4.00	5.00
0.70	0.50	0.20	0.99	1.03	1.06	1.08	1.11	1.13	1.14	1.16	1.18
	0.30		0.95	0.99	1.02	1.05	1.08	1.10	1.12	1.14	1.16
	0.20		0.92	0.97	1.00	1.02	1.06	1.08	1.10	1.12	1.14
0.50	0.50	0.20	0.97	1.01	1.03	1.05	1.08	1.09	1.10	1.12	1.13
	0.30		0.94	0.98	1.01	1.02	1.05	1.07	1.08	1.10	1.11
	0.20		0.92	0.96	0.98	1.00	1.03	1.05	1.07	1.09	1.10
0.30	0.50	0.20	0.96	0.99	1.01	1.02	1.04	1.05	1.06	1.07	1.08
	0.30		0.93	0.96	0.99	1.00	1.02	1.04	1.05	1.06	1.07
	0.20		0.91	0.94	0.97	0.98	1.01	1.02	1.04	1.05	1.06
0.00	0.00	0.00	0.89	0.92	0.94	0.95	0.97	0.98	0.99	1.00	1.00
<p>Rating: 11W Photometrically tested without ceiling board.</p> <p>Multiply UF values by service correction factors</p> <p>Calculate in accordance with CIBSE Technical Memorandum NO.5 1980</p>											

Utilisation Factor Table(Wall)

Utilisation Factors UF(W)			SHR NOM = 0.50								
Room Reflectance			Room Index(RI)								
Ceiling	Wall	Floor	0.75	1.00	1.25	1.50	2.00	2.50	3.00	4.00	5.00
0.70	0.50	0.20	0.46	0.39	0.33	0.29	0.23	0.20	0.17	0.13	0.11
	0.30		0.39	0.33	0.29	0.26	0.21	0.18	0.16	0.12	0.10
	0.20		0.33	0.29	0.26	0.23	0.19	0.16	0.14	0.12	0.10
0.50	0.50	0.20	0.43	0.35	0.30	0.26	0.21	0.22	0.15	0.12	0.10
	0.30		0.36	0.31	0.26	0.23	0.19	0.16	0.14	0.11	0.09
	0.20		0.32	0.27	0.24	0.21	0.18	0.15	0.13	0.11	0.09
0.30	0.50	0.20	0.40	0.32	0.27	0.24	0.19	0.15	0.13	0.10	0.08
	0.30		0.34	0.28	0.24	0.21	0.17	0.14	0.12	0.10	0.08
	0.20		0.30	0.25	0.22	0.20	0.16	0.14	0.12	0.09	0.08
0.00	0.00	0.00	0.14	0.11	0.09	0.08	0.06	0.05	0.04	0.03	0.03
Rating: 11W Photometrically tested without ceiling board. Multiply UF values by service correction factors Calculate in accordance with CIBSE Technical Memorandum NO.5 1980											

Utilisation Factor Table(Ceiling cavity)

Utilisation Factors UF(C)			SHR NOM = 0.50								
Room Reflectance			Room Index(RI)								
Ceiling	Wall	Floor	0.75	1.00	1.25	1.50	2.00	2.50	3.00	4.00	5.00
0.70	0.50	0.20	0.16	0.18	0.20	0.21	0.22	0.23	0.24	0.25	0.26
	0.30		0.13	0.15	0.17	0.18	0.20	0.21	0.22	0.24	0.25
	0.20		0.11	0.13	0.15	0.16	0.18	0.20	0.21	0.22	0.23
0.50	0.50	0.20	0.16	0.18	0.19	0.20	0.22	0.23	0.23	0.24	0.25
	0.30		0.13	0.15	0.16	0.18	0.19	0.21	0.22	0.23	0.24
	0.20		0.11	0.13	0.14	0.16	0.18	0.19	0.20	0.22	0.23
0.30	0.50	0.20	0.15	0.17	0.18	0.19	0.21	0.22	0.22	0.23	0.24
	0.30		0.13	0.15	0.16	0.17	0.19	0.20	0.21	0.22	0.23
	0.20		0.11	0.13	0.14	0.16	0.17	0.19	0.20	0.21	0.22
0.00	0.00	0.00	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04
<p>Rating: 11W Photometrically tested without ceiling board.</p> <p>Multiply UF values by service correction factors</p> <p>Calculate in accordance with CIBSE Technical Memorandum NO.5 1980</p>											