

Report No.: 01

Test Time: 2016/11/24 12:20

## Luminaire Property

Luminaire Manufacturer: Synthesis LED Linear

Luminaire Category: Synthesis Direct SO 28CM 180 mA 2700K 15degree

Luminous Length (mm): 290

Luminous Width (mm): 50

Luminous Height (mm): 40

Voltage: 119.8 V

Current: 0.058 A

Power: 6.79 W

Power Factor: 0.983

## Photometric Results

CIE Class: Direct

Measurement Flux: 841.5 lm

Downward Ratio: 100%

Horizontal Diffuse Angle(50%): H17.6

Vertical Diffuse Angle(50%): V17.4

Luminaire Efficacy Rating (LER): 124

Max. Intensity: 5881.78 cd

Total Rated Lamp Lumens: 841.5 lm

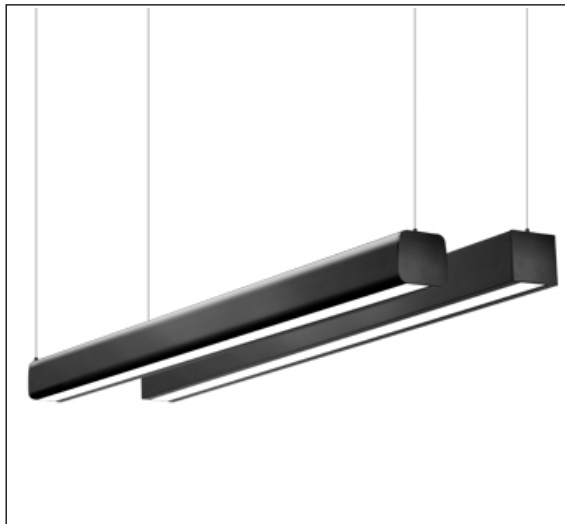
Efficiency: 100%

Upward Ratio: 0%

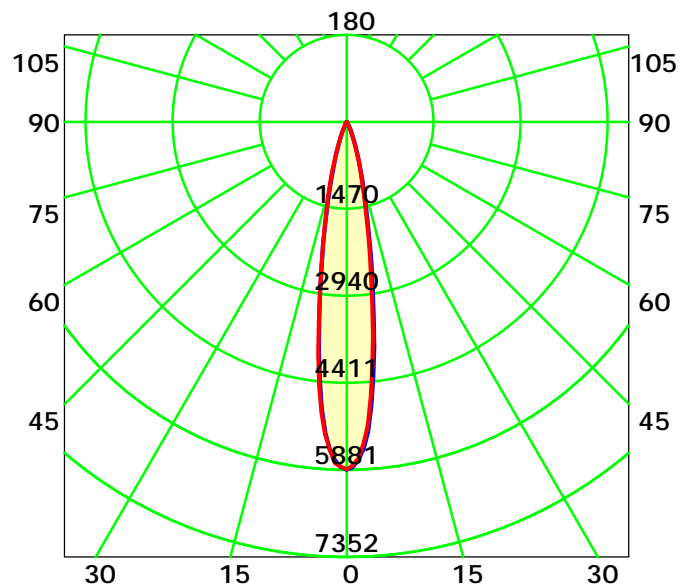
Central Intensity: 5871.9 cd

Pos of Max. Intensity: H30 V0

Picture Of Luminaire



Luminous Intensity Distribution Curve



Average Diffuse Angle(50%): 17.5° 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 (°):0.0-90.0: 1.0

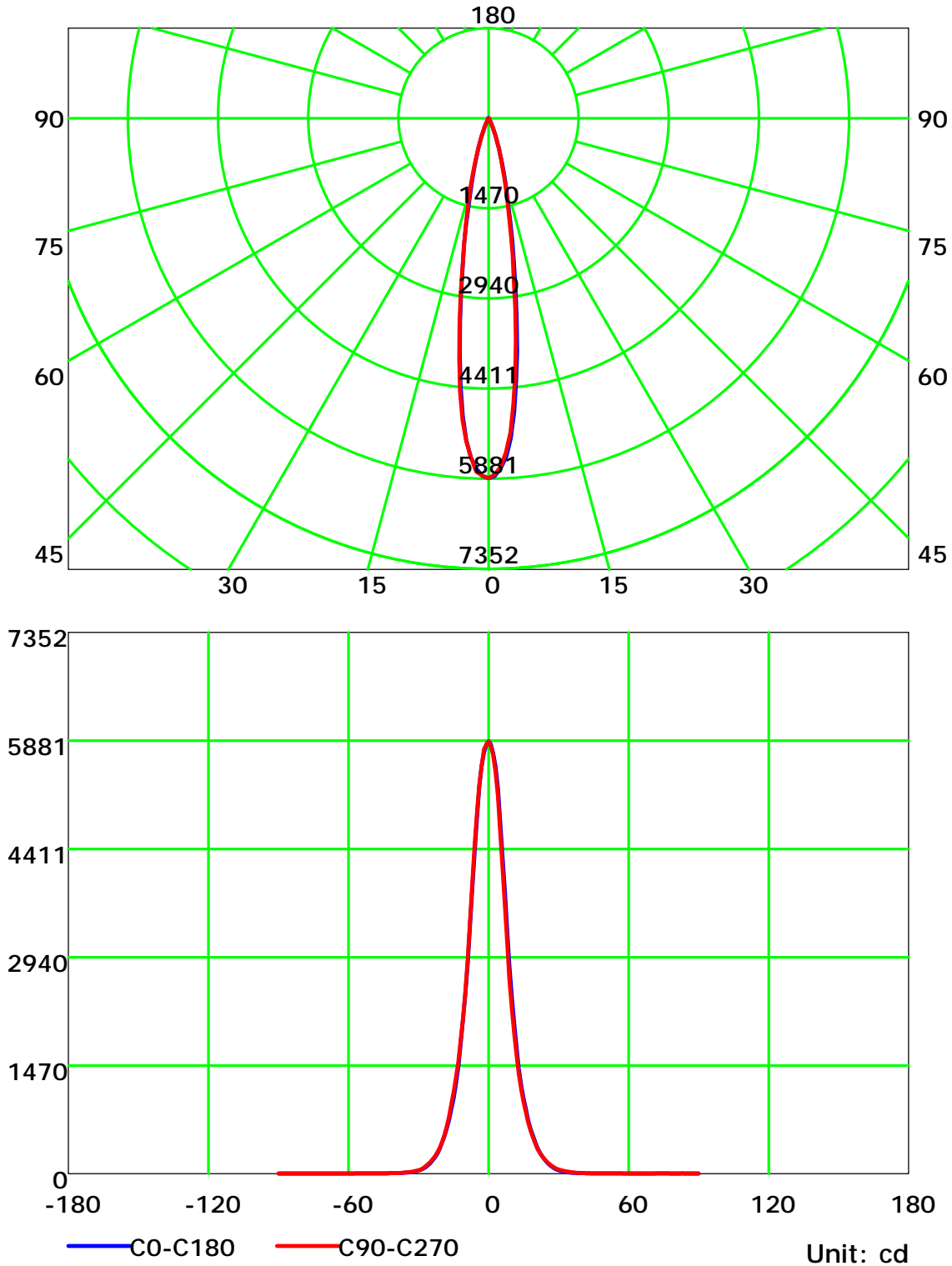
Test Device: GPM-1800B

Distance: 9.028 m

Humidity: 60%

Inspector:

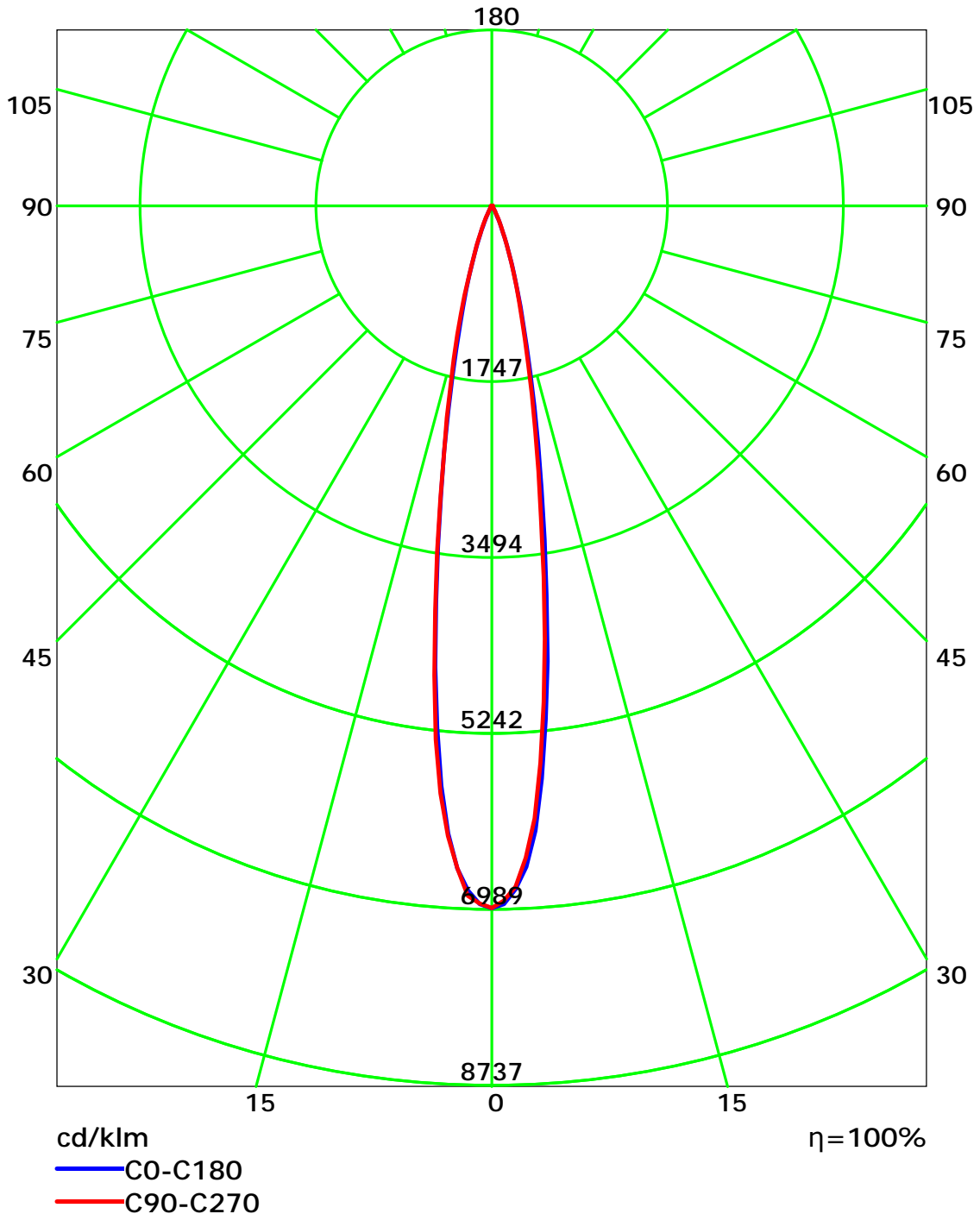
## Luminous Intensity Distribution Curve



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

Gamma Plane (°):0.0-90.0:1.0  
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 (°):0.0-90.0:1.0  
Test Device: GPM-1800B  
Distance: 9.028 m  
Humidity: 60%  
Inspector:

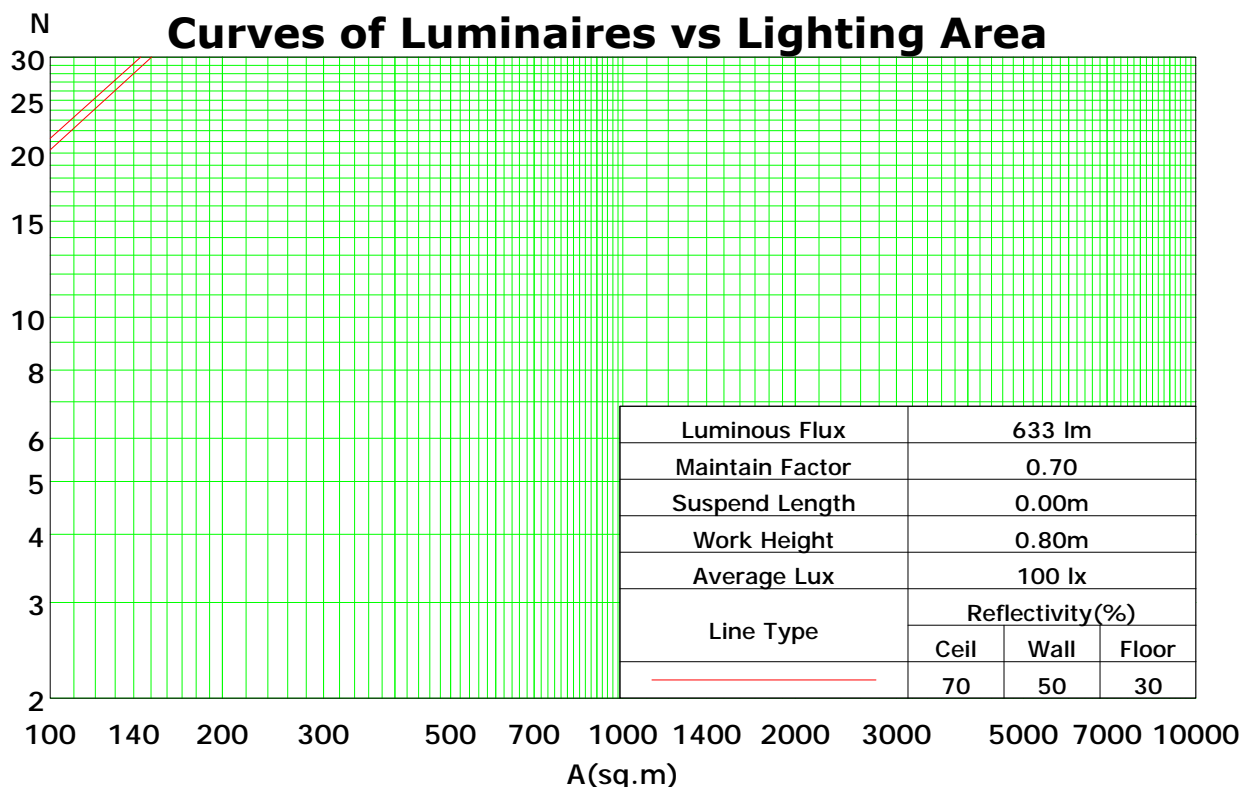
## Coefficients Of Utilization - Zonal Cavity Method

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	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100
1	115	112	110	108	112	110	108	107	106	105	103	102	101	100	99	98	97	96
2	111	107	104	101	109	105	102	100	102	100	98	99	97	96	97	95	94	92
3	107	102	99	96	105	101	98	95	99	96	94	96	94	92	94	92	91	89
4	104	99	95	92	103	98	94	91	96	92	90	94	91	89	92	90	88	87
5	101	95	91	88	100	94	91	88	93	90	87	91	89	86	90	88	86	84
6	99	92	88	85	97	92	88	85	90	87	84	89	86	84	88	85	83	82
7	96	90	86	83	95	89	85	83	88	85	82	87	84	82	86	83	81	80
8	94	87	83	81	93	87	83	80	86	83	80	85	82	80	84	82	80	79
9	92	85	81	79	91	85	81	78	84	81	78	83	80	78	83	80	78	77
10	90	83	79	77	89	83	79	77	82	79	77	82	78	76	81	78	76	75

Spacing Criteria (0-180): 0.30

Spacing Criteria (90-270): 0.30

Spacing Criteria (Diagonal): 0.32



C Plane (°):0.0-360.0: 30.0

Test Lab: ACOLYTE

Test Type: TYPE C

Temperature: 25°C

Operator: leo

Gamma Plane (°):0.0-90.0: 1.0

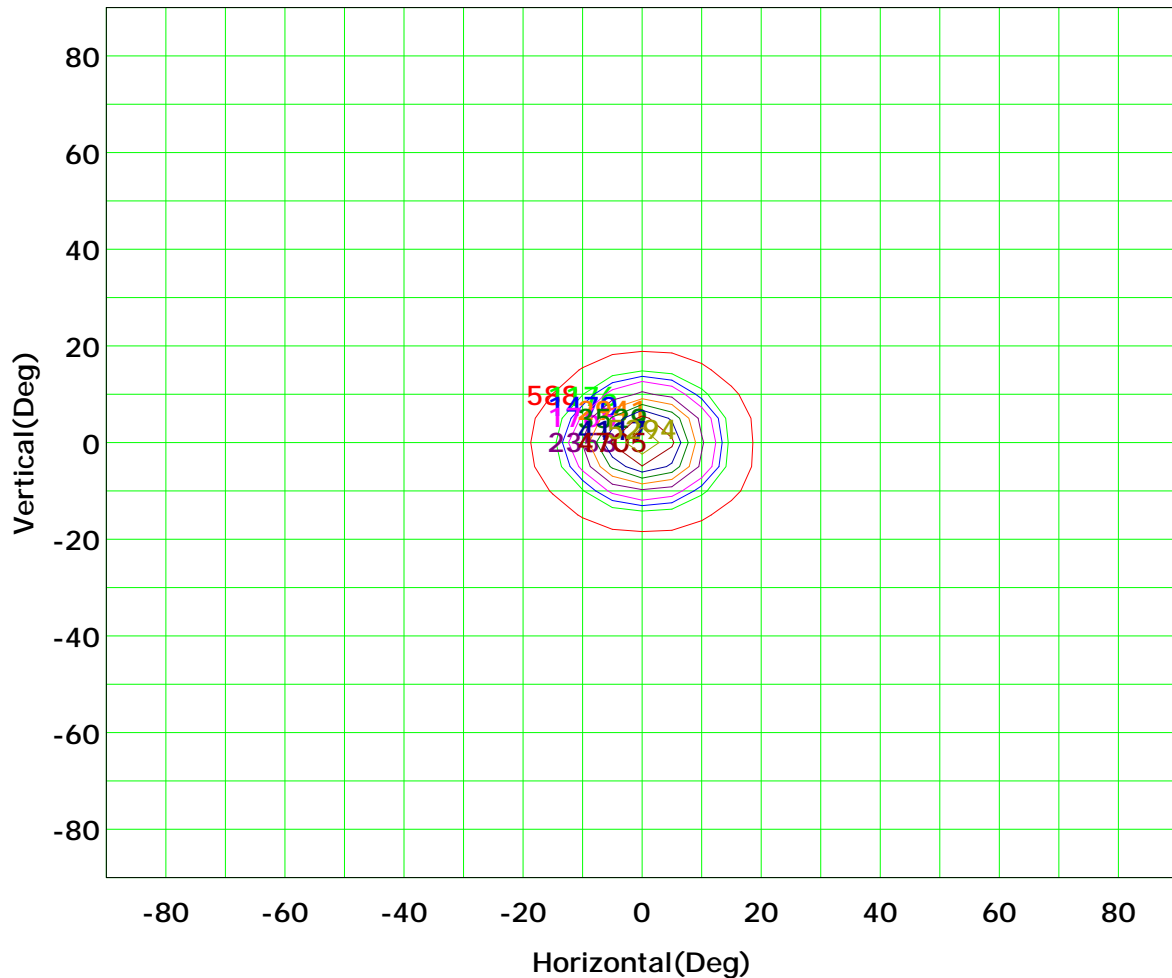
Test Device: GPM-1800B

Distance: 9.028 m

Humidity: 60%

Inspector:

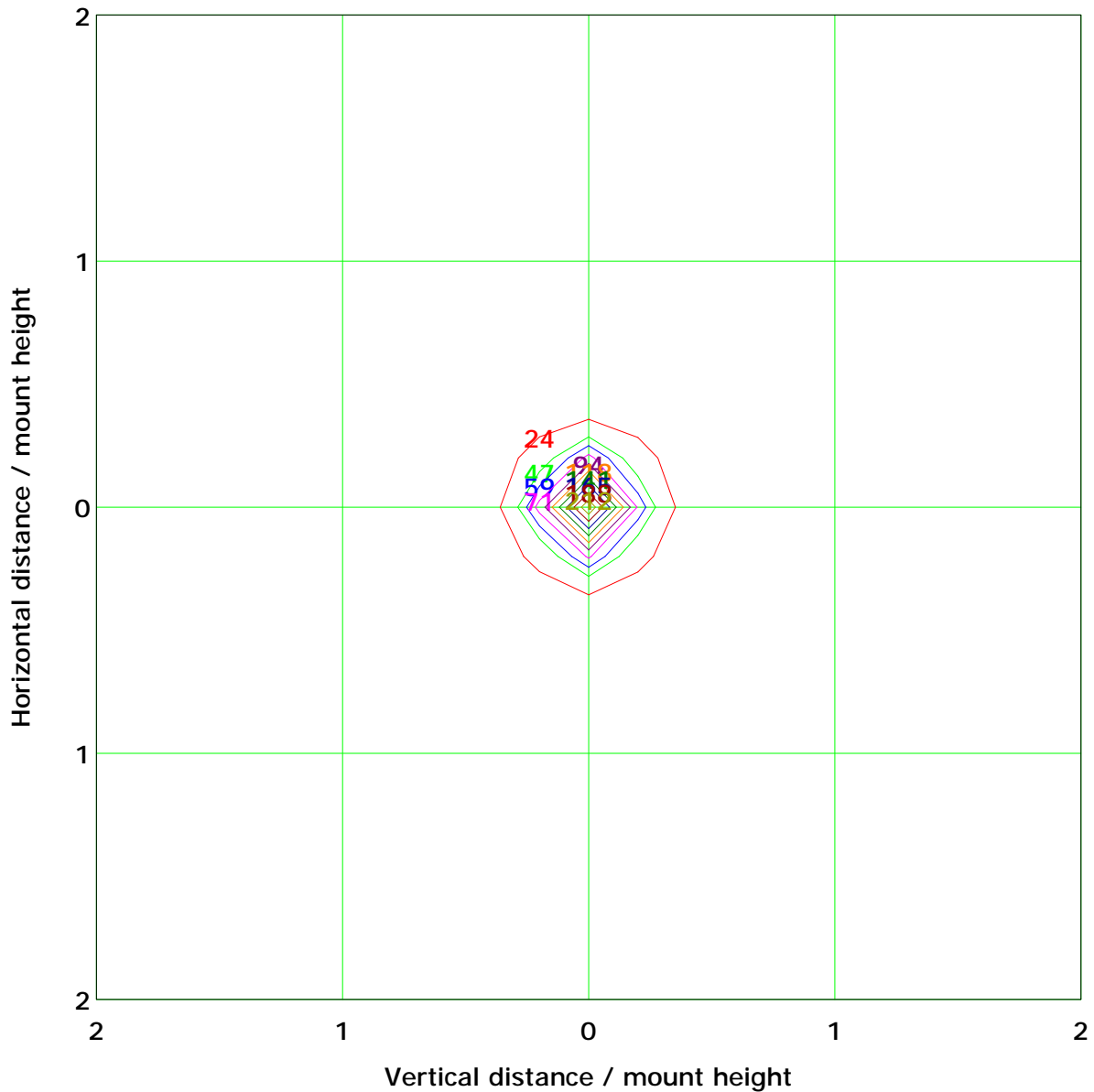
## Isocandela (rectangle)



Imax (100%): 5882 cd

( 10%): 588 cd	( 20%): 1176 cd
( 25%): 1470 cd	( 30%): 1765 cd
( 40%): 2353 cd	( 50%): 2941 cd
( 60%): 3529 cd	( 70%): 4117 cd
( 80%): 4705 cd	( 90%): 5294 cd

## IsoLux Plot



Mounting Height: 5.0m		Max Lux(100%): 235.3 lx
( 10%): 23.5 lx	( 20%): 47.1 lx	
( 25%): 58.8 lx	( 30%): 70.6 lx	
( 40%): 94.1 lx	( 50%): 117.6 lx	
( 60%): 141.2 lx	( 70%): 164.7 lx	
( 80%): 188.2 lx	( 90%): 211.7 lx	

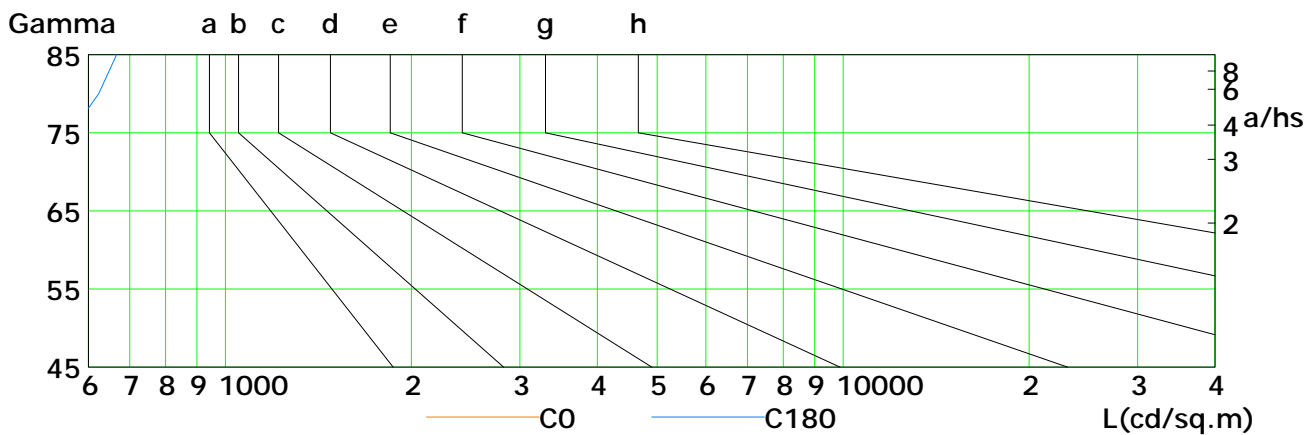
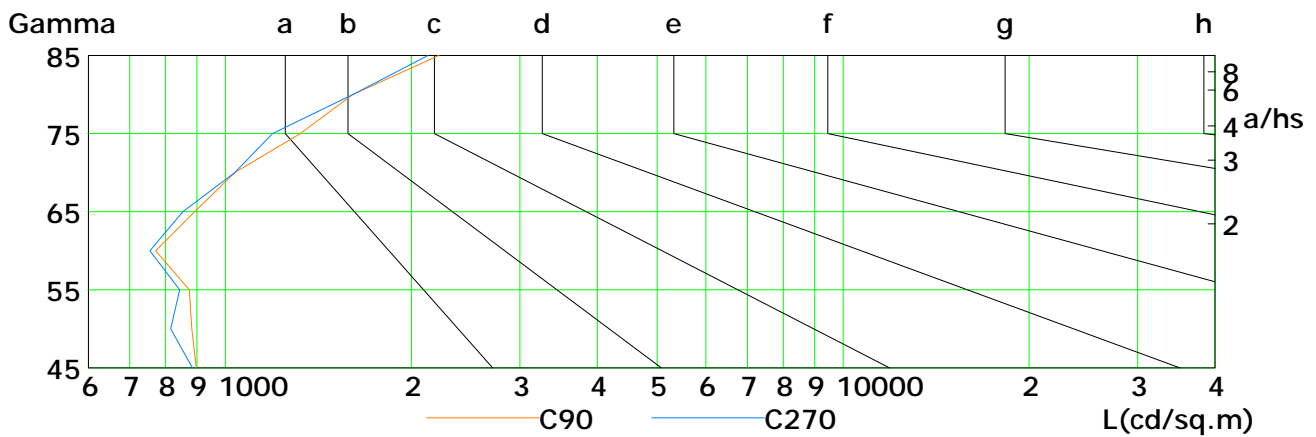
C Plane (°):0.0-360.0: 30.0  
Test Lab: ACOLYTE  
Test Type: TYPE C  
Temperature: 25°C  
Operator: leo

Gamma Plane (°):0.0-90.0:1.0  
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	503	518	464	460	478	502	513	560	575
C90	897	883	874	772	892	1035	1323	1609	2217
C180	527	510	447	469	487	511	562	624	667
C270	885	815	844	755	854	1035	1193	1609	2128

C Plane (°):0.0-360.0: 30.0

Test Lab: ACOLYTE

Test Type: TYPE C

Temperature: 25°C

Operator: leo

Gamma Plane (°):0.0-90.0:1.0

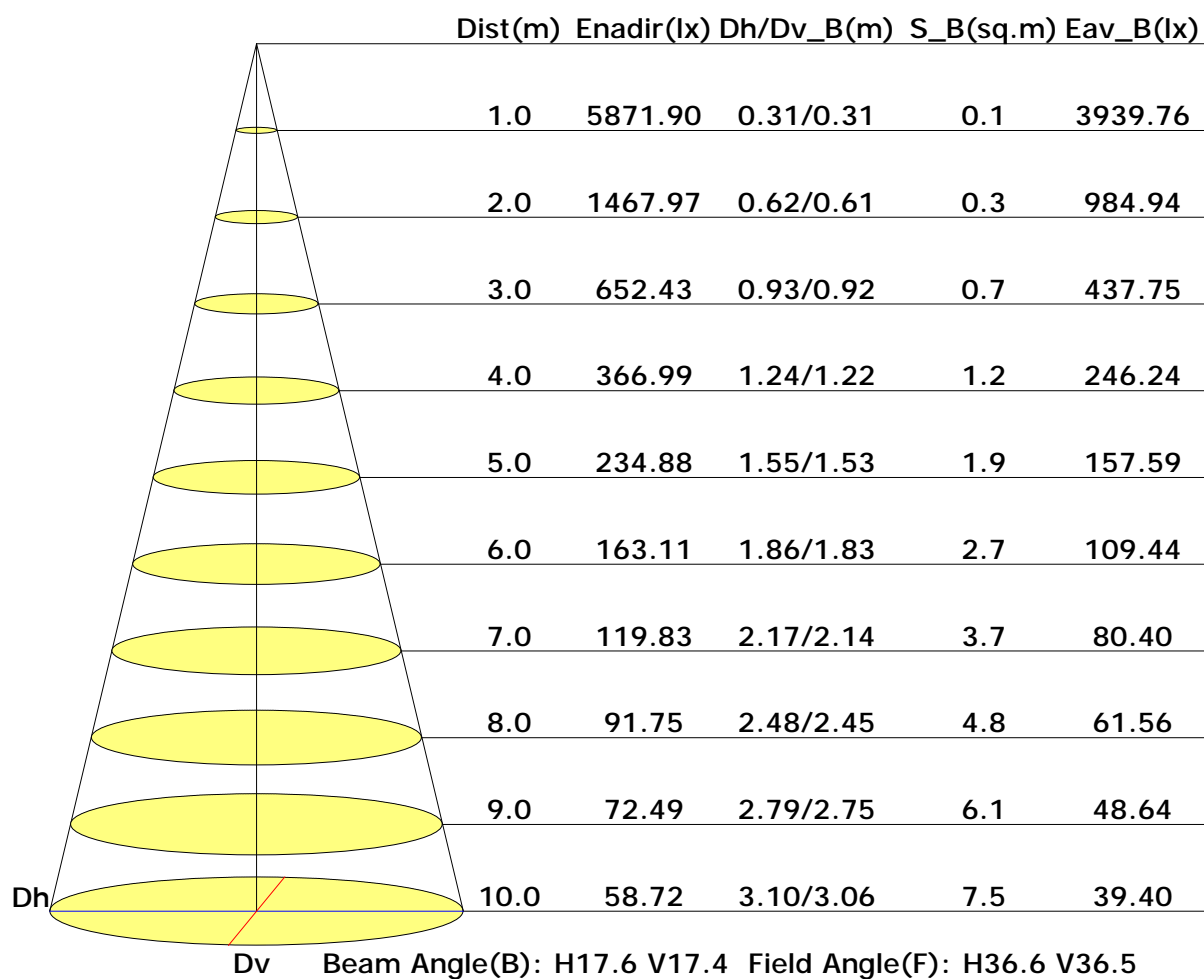
Test Device: GPM-1800B

Distance: 9.028 m

Humidity: 60%

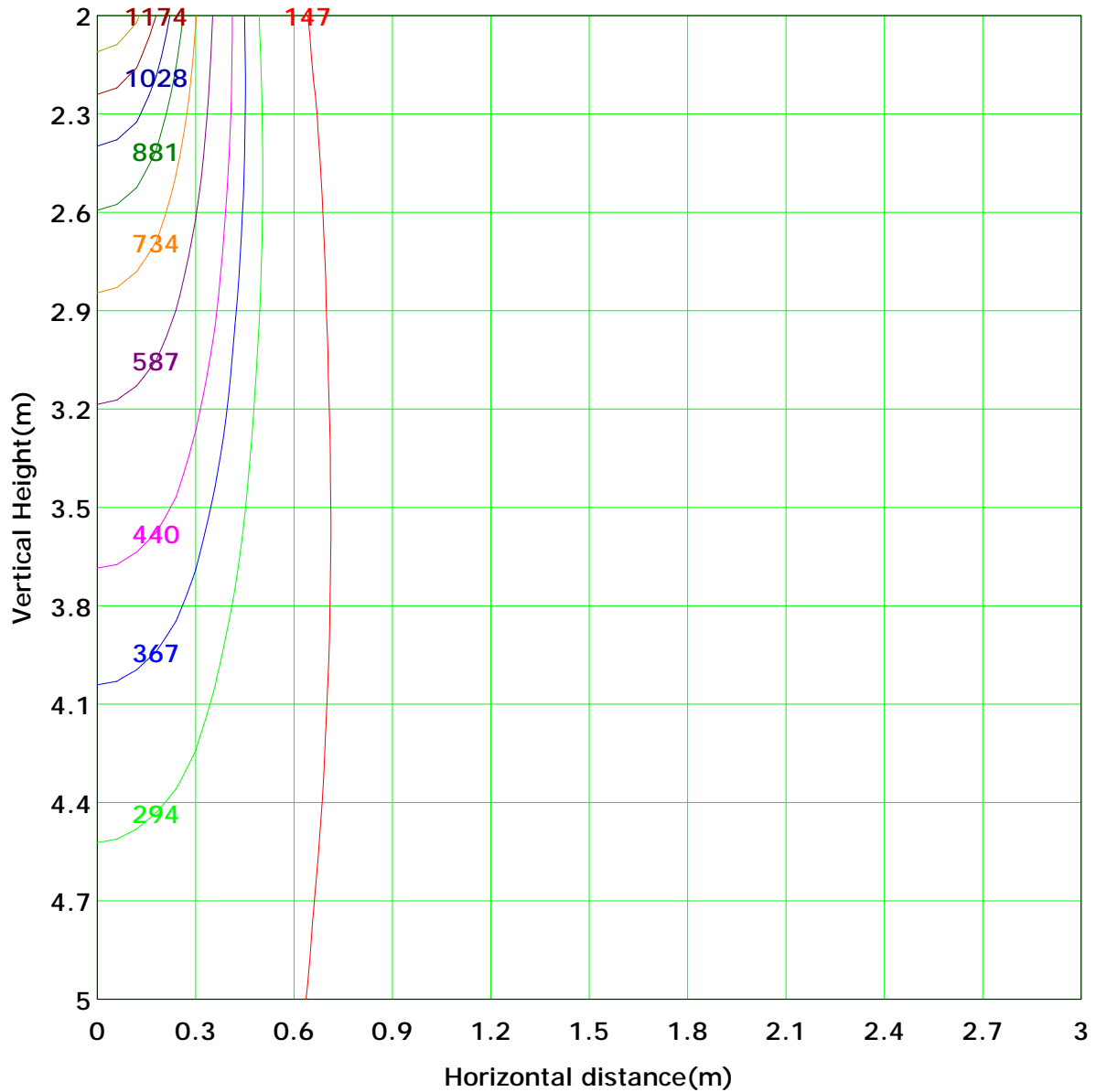
Inspector:

## Illuminance at a Distance





## Vertical IsoLux Plot



Lowest(m): 2.0m	Highest(m): 5.0m	Max Lux: 1468.0 lx
( 10%): 146.8 lx	( 20%): 293.6 lx	
( 25%): 367.0 lx	( 30%): 440.4 lx	
( 40%): 587.2 lx	( 50%): 734.0 lx	
( 60%): 880.8 lx	( 70%): 1027.6 lx	
( 80%): 1174.4 lx	( 90%): 1321.2 lx	

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

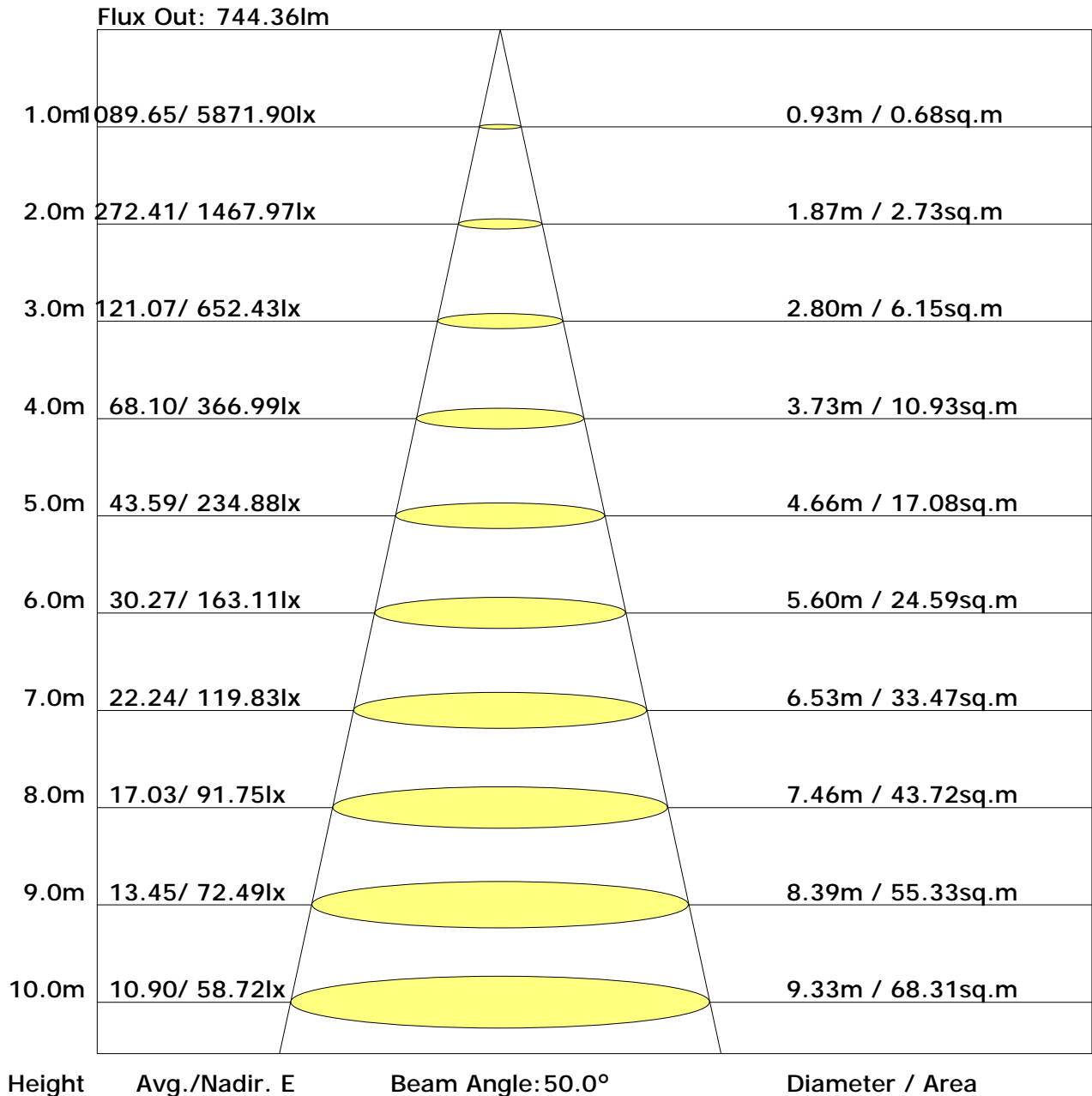
Gamma Plane (°):0.0-90.0:1.0  
Test Device: GPM-1800B  
Distance: 9.028 m  
Humidity: 60%  
Inspector:

## Unit: 1m

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

Gamma Plane (°):0.0-90.0:1.0  
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	1.5	2.4	1.8	2.7	3.0	2.8	3.8	3.2	4.1	4.4
3H	4.9	5.7	5.3	6.0	6.4	4.3	5.2	4.7	5.5	5.9
4H	6.6	7.4	7.0	7.7	8.1	5.4	6.2	5.8	6.5	6.9
6H	8.5	9.2	8.9	9.5	9.9	6.5	7.2	6.9	7.6	8.0
8H	9.4	10.1	9.8	10.5	10.9	7.0	7.7	7.5	8.1	8.5
12H	10.4	11.0	10.8	11.4	11.8	7.6	8.2	8.0	8.6	9.0
X=4H Y=2H	2.1	2.8	2.5	3.2	3.6	3.1	3.9	3.5	4.3	4.7
3H	5.6	6.2	6.0	6.6	7.0	5.1	5.8	5.5	6.2	6.6
4H	7.4	8.0	7.9	8.4	8.9	6.4	7.0	6.8	7.4	7.8
6H	9.4	9.9	9.9	10.4	10.9	7.7	8.2	8.2	8.6	9.1
8H	10.5	10.9	11.0	11.4	11.9	8.3	8.8	8.8	9.3	9.7
12H	11.6	12.0	12.1	12.5	12.9	9.0	9.4	9.5	9.9	10.4
X=8H Y=4H	7.8	8.2	8.3	8.7	9.2	6.9	7.4	7.4	7.8	8.3
6H	9.9	10.3	10.5	10.8	11.3	8.5	8.9	9.0	9.4	9.9
8H	11.1	11.4	11.6	12.0	12.5	9.3	9.6	9.8	10.2	10.7
12H	12.4	12.7	12.9	13.2	13.7	10.2	10.4	10.7	10.9	11.5
X=12H Y=4H	7.8	8.2	8.3	8.7	9.2	7.1	7.5	7.6	8.0	8.4
6H	10.1	10.4	10.6	10.9	11.4	8.7	9.1	9.3	9.5	10.1
8H	11.3	11.6	11.8	12.1	12.7	9.7	9.9	10.2	10.4	11.0

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 (°):0.0-90.0:1.0  
 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	1.01	1.05	1.08	1.10	1.13	1.15	1.16	1.18	1.20
	0.30		0.97	1.01	1.04	1.07	1.10	1.12	1.14	1.16	1.18
	0.20		0.94	0.98	1.02	1.04	1.07	1.10	1.12	1.14	1.16
0.50	0.50	0.20	0.99	1.03	1.06	1.08	1.10	1.12	1.13	1.14	1.15
	0.30		0.96	1.00	1.03	1.05	1.08	1.09	1.11	1.13	1.14
	0.20		0.94	0.98	1.00	1.02	1.05	1.07	1.09	1.11	1.12
0.30	0.50	0.20	0.98	1.02	1.04	1.05	1.07	1.08	1.09	1.10	1.11
	0.30		0.95	0.99	1.01	1.03	1.05	1.07	1.08	1.09	1.10
	0.20		0.93	0.97	0.99	1.01	1.04	1.05	1.06	1.08	1.09
0.00	0.00	0.00	0.92	0.95	0.97	0.98	1.00	1.02	1.02	1.03	1.04
Rating: 7W 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(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	0.47	0.39	0.34	0.29	0.24	0.20	0.17	0.14	0.11
	0.30		0.39	0.33	0.29	0.26	0.22	0.18	0.16	0.13	0.11
	0.20		0.34	0.29	0.26	0.23	0.20	0.17	0.15	0.12	0.10
0.50	0.50	0.20	0.45	0.37	0.31	0.27	0.22	0.23	0.16	0.12	0.10
	0.30		0.38	0.32	0.28	0.24	0.20	0.17	0.15	0.12	0.10
	0.20		0.33	0.28	0.25	0.22	0.18	0.16	0.14	0.11	0.09
0.30	0.50	0.20	0.42	0.34	0.29	0.25	0.20	0.17	0.14	0.11	0.09
	0.30		0.36	0.30	0.26	0.23	0.18	0.16	0.13	0.11	0.09
	0.20		0.32	0.27	0.23	0.21	0.17	0.15	0.13	0.10	0.08
0.00	0.00	0.00	0.16	0.13	0.11	0.09	0.07	0.06	0.05	0.04	0.04
Rating: 7W 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	0.12	0.14	0.16	0.17	0.19	0.20	0.20	0.22	0.22
	0.30		0.09	0.11	0.13	0.14	0.16	0.18	0.19	0.20	0.21
	0.20		0.07	0.09	0.11	0.12	0.14	0.16	0.17	0.19	0.20
0.50	0.50	0.20	0.12	0.14	0.15	0.16	0.18	0.19	0.20	0.21	0.21
	0.30		0.09	0.11	0.13	0.14	0.16	0.17	0.18	0.19	0.20
	0.20		0.07	0.09	0.11	0.12	0.14	0.15	0.17	0.18	0.19
0.30	0.50	0.20	0.12	0.13	0.15	0.16	0.17	0.18	0.19	0.20	0.20
	0.30		0.09	0.11	0.12	0.14	0.15	0.17	0.17	0.19	0.19
	0.20		0.07	0.09	0.10	0.12	0.14	0.15	0.16	0.18	0.18
0.00	0.00	0.00	NA	NA	NA	NA	NA	NA	NA	NA	NA
<p>Rating: 7W 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>											