

Report No.: 1

Test Time: 2018/4/1 09:32

Luminaire Property

Luminaire Manufacturer:

Luminaire Description: 5524

Current: 0.100 A

Power Factor: 0.922

Voltage: 220.2 V

Power: 20.40 W

Photometric Results

CIE Class: Direct

Measurement Flux: 1749.7 lm

Downward Ratio: 99%

Horizontal Diffuse Angle(50%): H30.8

Vertical Diffuse Angle(50%): V30.6

Luminaire Efficacy Rating (LER): 85.82

Max. Intensity: 3763.78 cd

S/MH(C0/C180): 0.51

Total Rated Lamp Lumens: 1749.7 lm

Efficiency: 100%

Upward Ratio: 1%

Central Intensity: 3749.75 cd

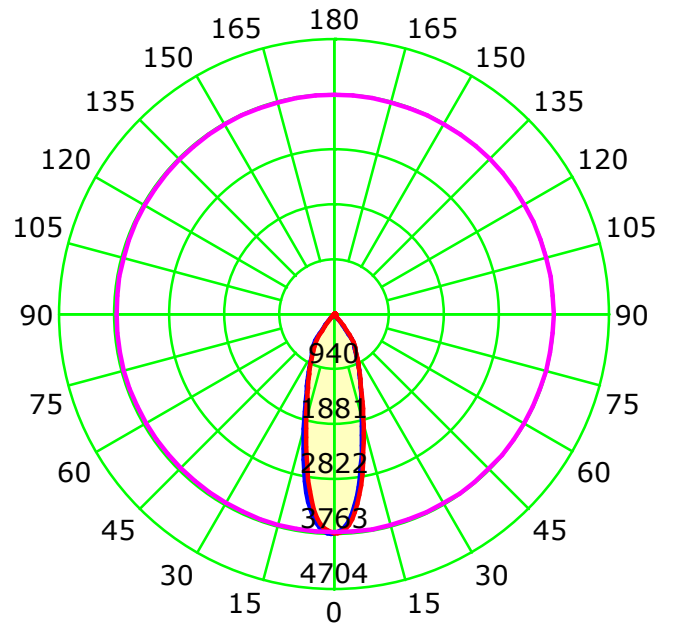
Pos of Max. Intensity: H135 V1

S/MH(C90/C270): 0.50

Picture Of Luminaire



Luminous Intensity Distribution Curve



Unit: cd

Average Diffuse Angle(50%): 30.6°

— C0-C180 — C90-C270 — G1

C Plane (°):0.0-360.0: 45.0

Test Lab: Inventfine instruments

Test Type: TYPE C

Temperature: 26

Operator: Jacky tang

Gamma Plane (°):0.0-180.0:1.0

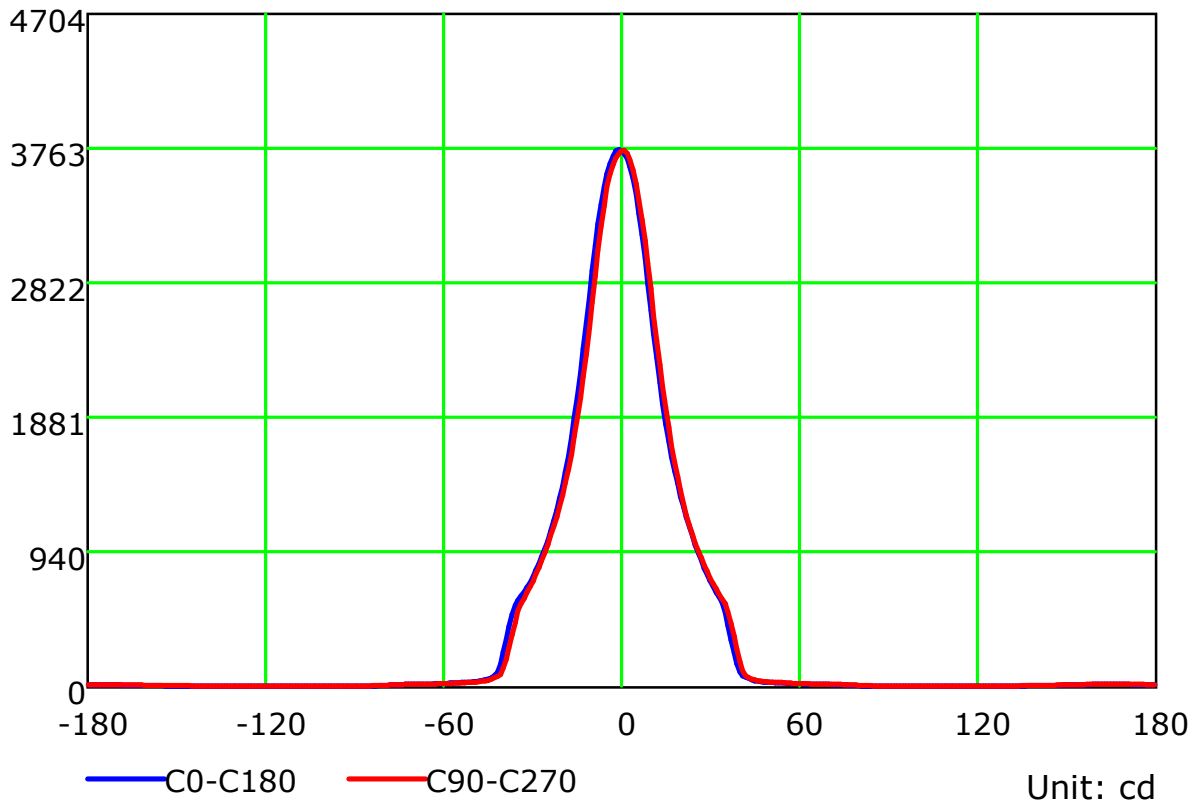
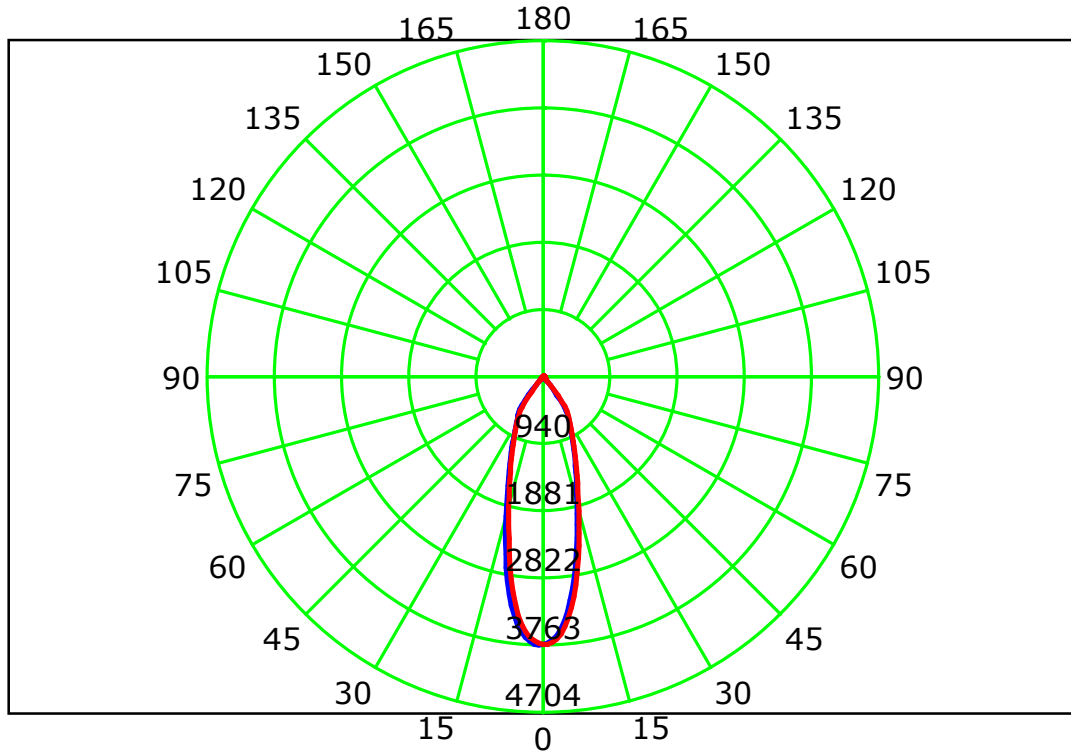
Test Device: GPM-1800B

Distance: 8.030 m

Humidity: 58

Inspector:

Luminous Intensity Distribution Curve



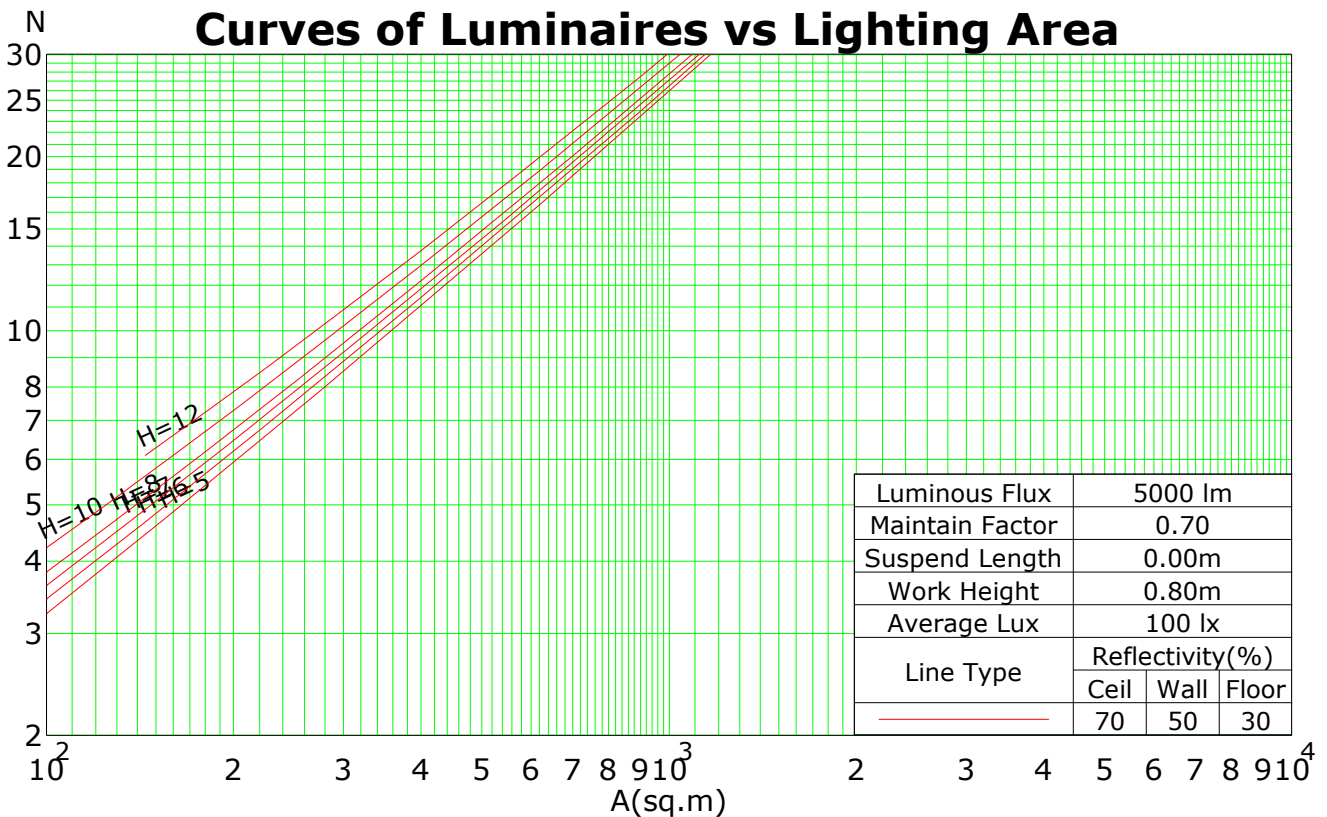
C Plane (°):0.0-360.0: 45.0
 Test Lab: Inventfine instruments
 Test Type: TYPE C
 Temperature: 26
 Operator: Jacky tang

Gamma Plane (°):0.0-180.0:1.0
 Test Device: GPM-1800B
 Distance: 8.030 m
 Humidity: 58
 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	110	110	110	106	106	106	101	101	101	99
1	113	111	108	106	111	108	106	104	104	102	101	100	99	98	97	96	95	93
2	108	103	100	96	106	102	98	95	98	95	93	95	93	91	92	90	89	87
3	103	97	92	88	101	95	91	88	93	89	86	90	87	85	88	85	83	82
4	98	91	86	82	97	90	85	81	88	84	80	86	82	79	84	81	78	77
5	94	86	81	77	92	85	80	76	83	79	75	81	78	75	80	77	74	72
6	90	81	76	72	88	81	75	72	79	74	71	78	74	70	76	73	70	69
7	86	77	72	68	85	77	71	68	75	71	67	74	70	67	73	69	66	65
8	82	73	68	64	81	73	68	64	72	67	64	71	66	63	70	66	63	62
9	79	70	64	61	78	69	64	61	68	64	60	68	63	60	67	63	60	59
10	76	67	61	58	75	66	61	58	65	61	58	65	60	57	64	60	57	56

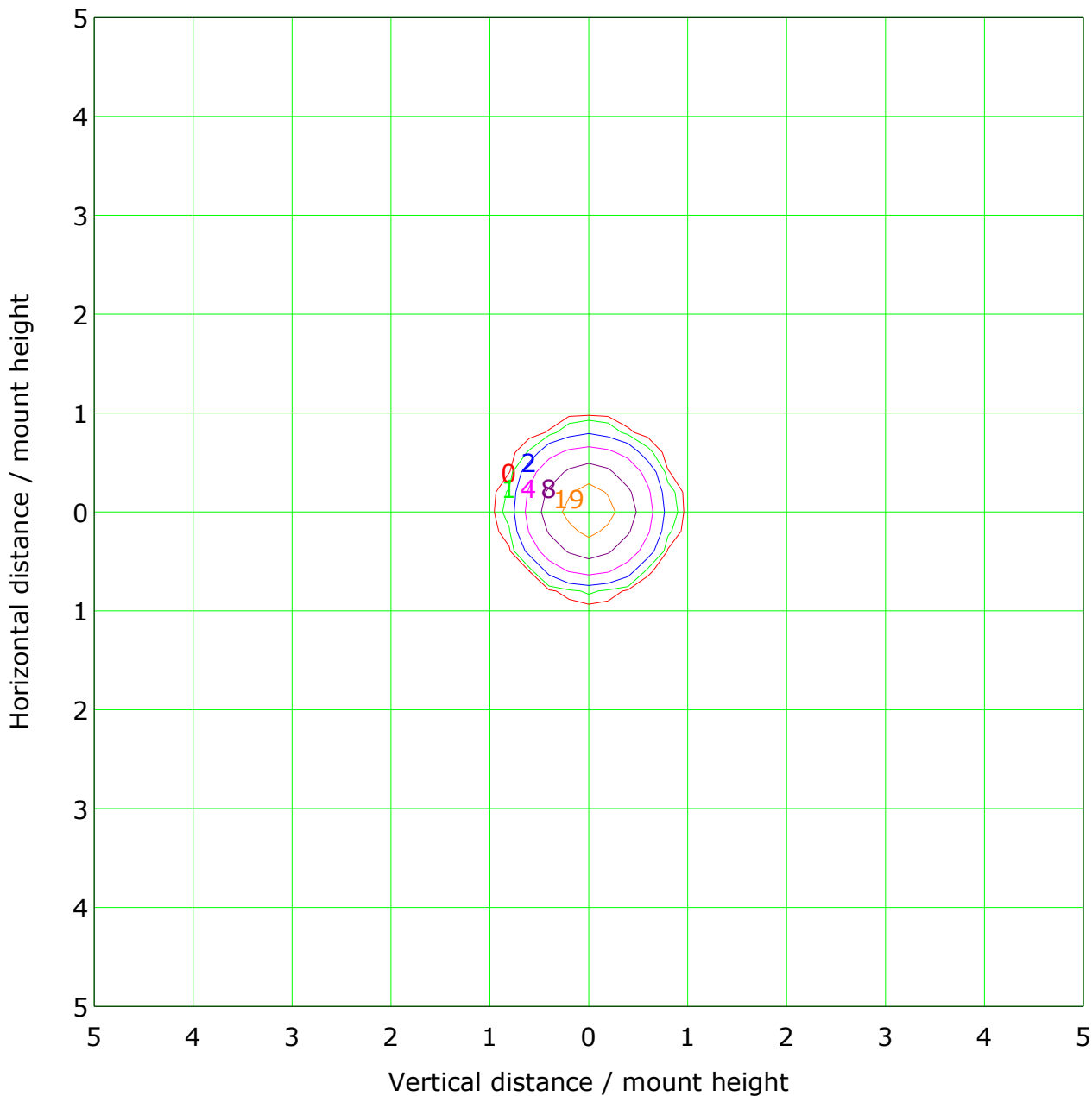
Spacing Criteria (0-180): 0.51
 Spacing Criteria (90-270): 0.50
 Spacing Criteria (Diagonal): 0.58



C Plane (°):0.0-360.0: 45.0
 Test Lab: Inventfine instruments
 Test Type: TYPE C
 Temperature: 26
 Operator: Jacky tang

Gamma Plane (°):0.0-180.0:1.0
 Test Device: GPM-1800B
 Distance: 8.030 m
 Humidity: 58
 Inspector:

IsoLux Plot



Mounting Height: 10.0m		Max Lux(100%): 37.6 lx	
— (1%):	0.4 lx	— (2%):	0.8 lx
— (5%):	1.9 lx	— (10%):	3.8 lx
— (20%):	7.5 lx	— (50%):	18.8 lx
— (100%):	37.6 lx		

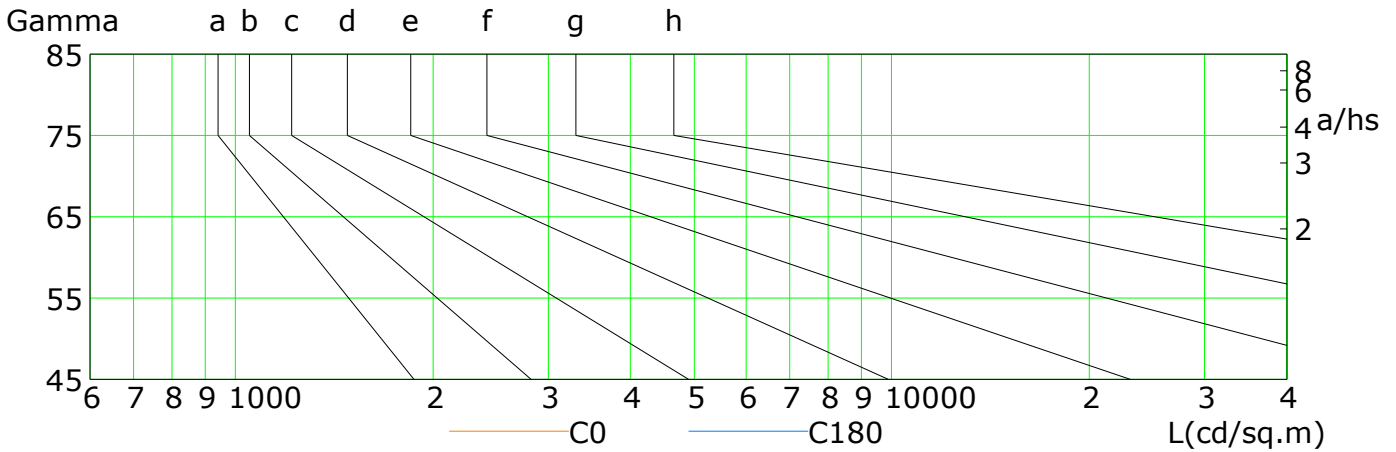
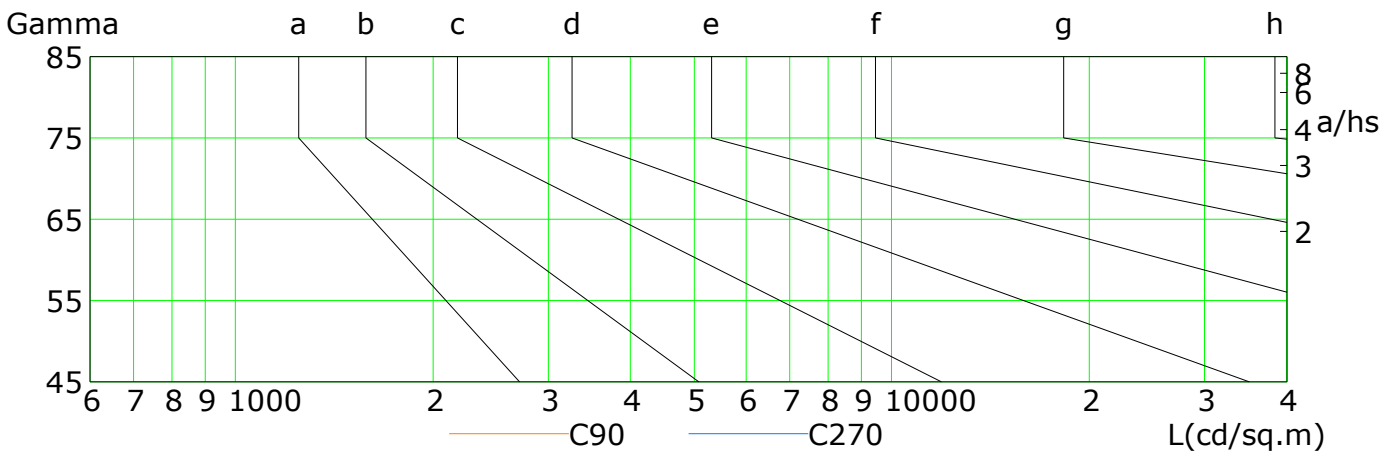
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Gamma Plane (°):0.0-180.0:1.0
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 Inspector:

Lum Limit Curve

Dazzle	Quality	Illuminance (lx)							
		2000	1000	500	<=300				
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

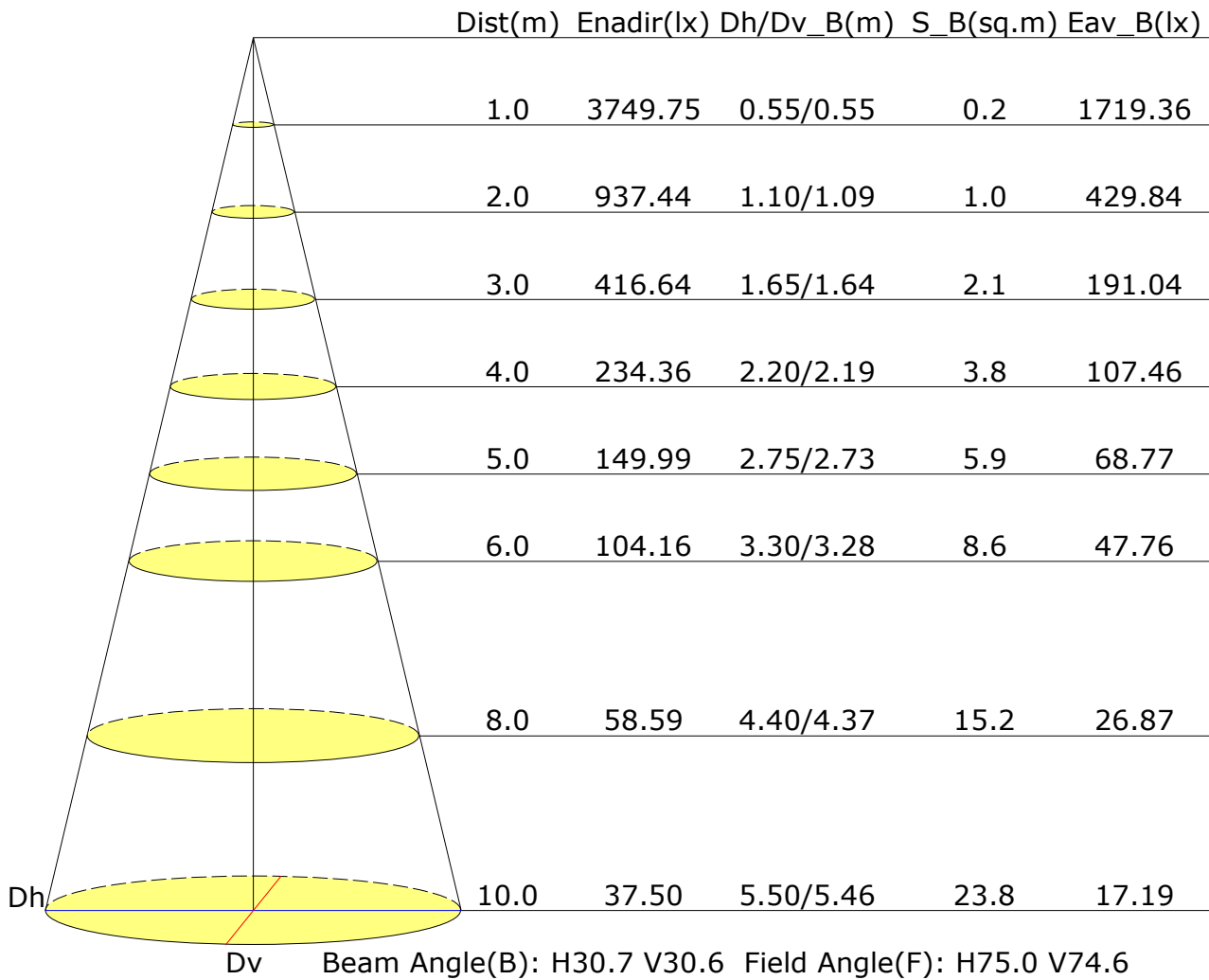


L(cd/sq.m)	G45	G50	G55	G60	G65	G70	G75	G80	G85
C0	40	29	23	19	16	14	10	5	1
C90	45	31	26	20	17	15	13	8	3
C180	53	33	27	21	17	15	12	7	2
C270	45	30	24	19	17	15	12	8	3

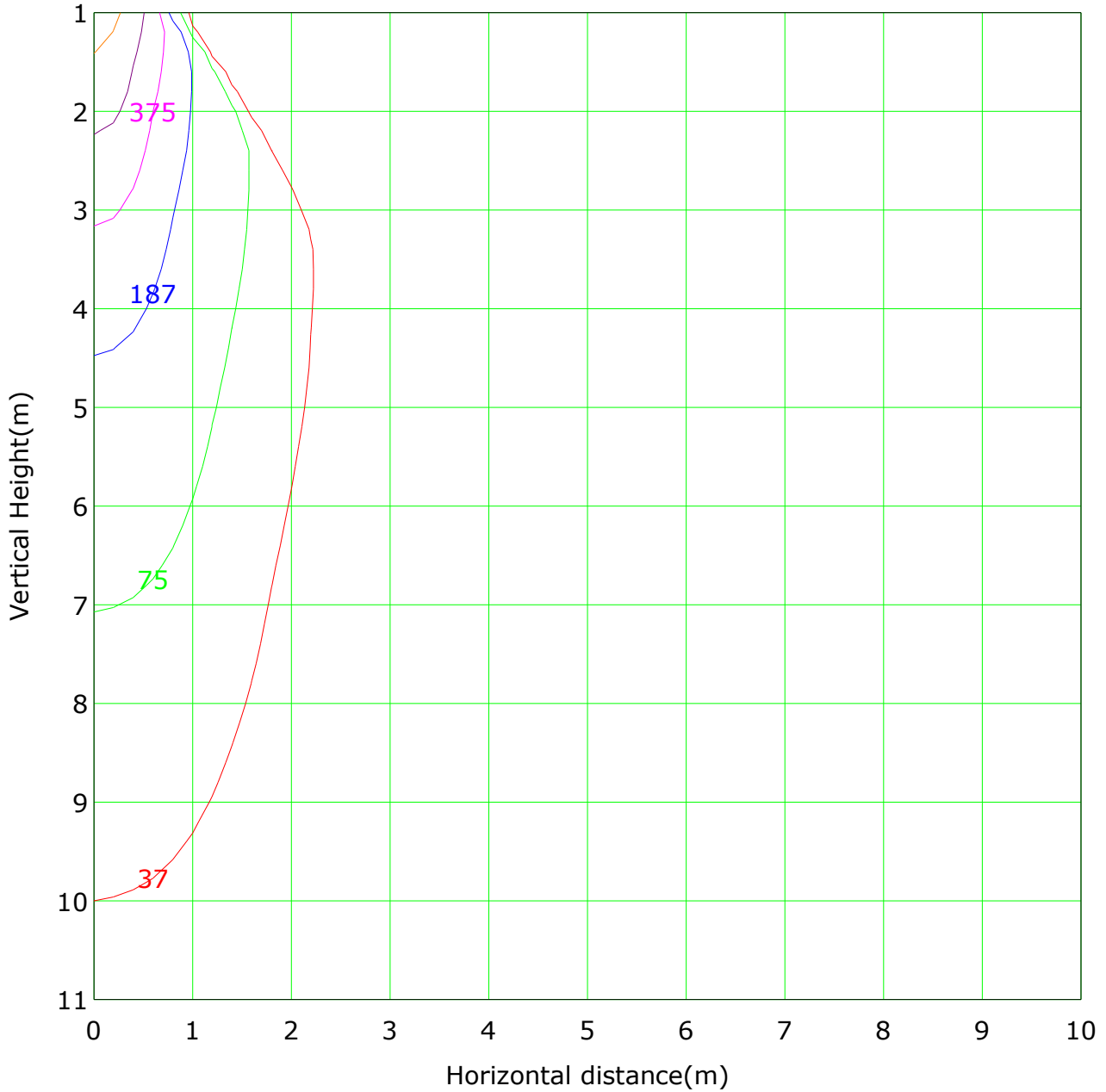
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 Test Lab: Inventfine instruments
 Test Type: TYPE C
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 Operator: Jacky tang

Gamma Plane (°):0.0-180.0:1.0
 Test Device: GPM-1800B
 Distance: 8.030 m
 Humidity: 58
 Inspector:

Illuminance at a Distance



Vertical IsoLux Plot



Lowest(m): 1.0m Highest(m): 11.0m Max Lux: 3749.8 lx
— (1%): 37.5 lx — (2%): 75.0 lx
— (5%): 187.5 lx — (10%): 375.0 lx
— (20%): 750.0 lx — (50%): 1874.9 lx
— (100%): 3749.8 lx

C Plane (°):0.0-360.0: 45.0
Test Lab: Inventfine instruments
Test Type: TYPE C
Temperature: 26
Operator: Jacky tang

Gamma Plane (°):0.0-180.0:1.0
Test Device: GPM-1800B
Distance: 8.030 m
Humidity: 58
Inspector:

Area Flux Table

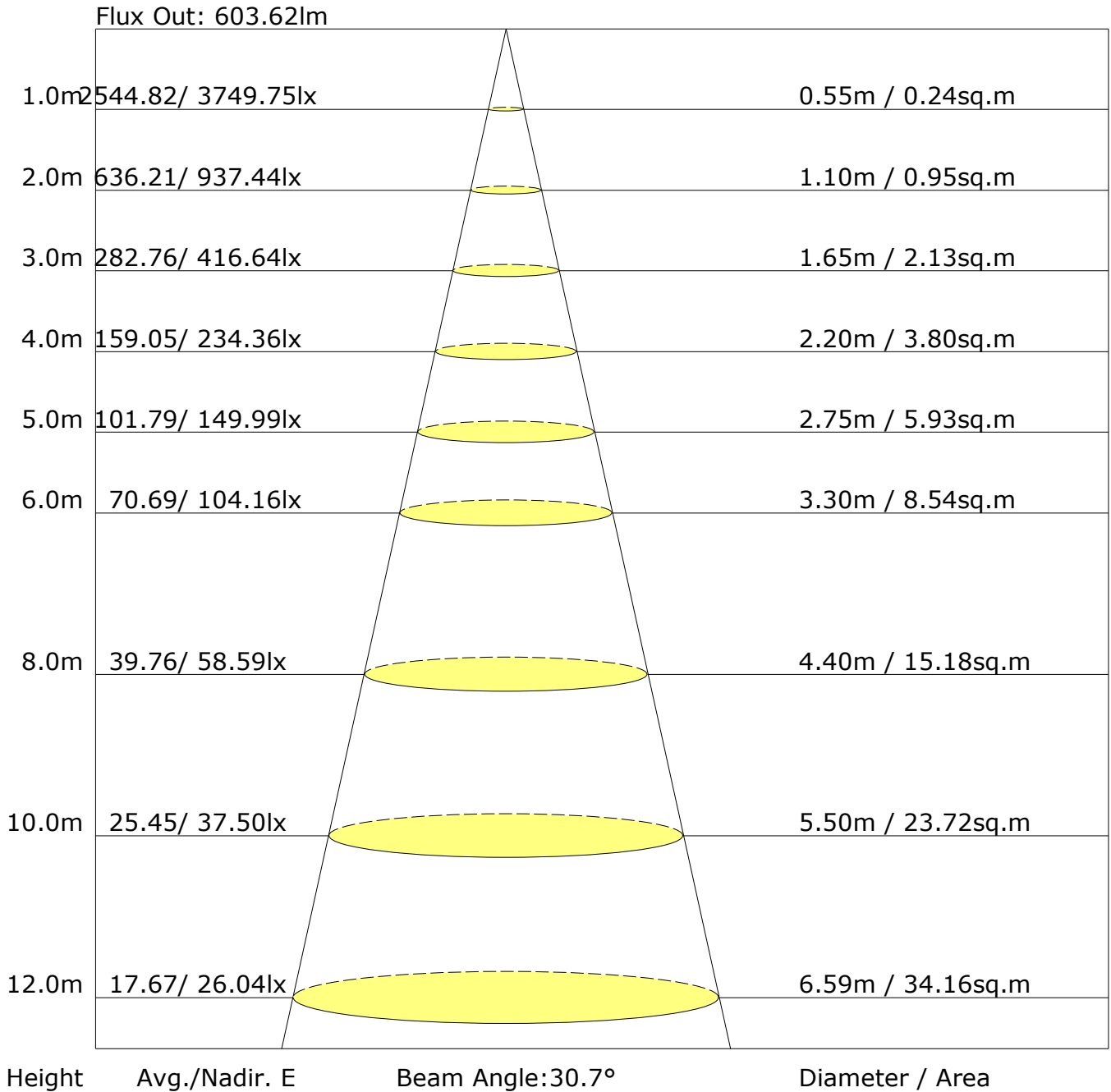
Unit: lm

		Vertical plane																				
		-90	-80	-70	-60	-50	-40	-30	-20	-10	0	10	20	30	40	50	60	70	80	90		
Flux(E)	Flux(T)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	1584	1729
		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	1584
-90	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1584	1729
-80	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	1584	1729
-70	0.0	0.0	0.0	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	1584	1729
-60	0.0	0.0	0.0	0.1	0.2	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	1584	1729
-50	0.0	0.0	0.0	0.1	0.2	0.3	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	1584	1729
-40	0.0	0.0	0.0	0.1	0.2	0.3	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	1584	1729
-30	0.0	0.0	0.0	0.1	0.2	0.3	0.6	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	1584	1729
-20	0.0	0.0	0.0	0.1	0.2	0.4	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1584	1729
-10	0.0	0.0	0.0	0.1	0.2	0.4	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1584	1729
0	0.0	0.0	0.0	0.1	0.2	0.4	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1584	1729
10	0.0	0.0	0.0	0.1	0.2	0.4	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1584	1729
20	0.0	0.0	0.0	0.1	0.2	0.4	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1584	1729
30	0.0	0.0	0.0	0.1	0.2	0.4	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1584	1729
40	0.0	0.0	0.0	0.1	0.2	0.4	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1584	1729
50	0.0	0.0	0.0	0.1	0.2	0.4	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1584	1729
60	0.0	0.0	0.0	0.1	0.2	0.4	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1584	1729
70	0.0	0.0	0.0	0.1	0.2	0.4	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1584	1729
80	0.0	0.0	0.0	0.1	0.2	0.4	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1584	1729
90	0.1	1.0	2.8	5.2	10.6	61.4	146.6268	1402.2385	8248.0134	247.0	8.4	4.6	2.4	0.8	0.1	0.0	0.0	0.0	0.0	0.0	1584	1729

C Plane (°):0.0-360.0: 45.0
 Test Lab: Inventfine instruments
 Test Type: TYPE C
 Temperature: 26
 Operator: Jacky tang

Gamma Plane (°):0.0-180.0:1.0
 Test Device: GPM-1800B
 Distance: 8.030 m
 Humidity: 58
 Inspector:

The Average Illuminance Effective Figure



C Plane (°):0.0-360.0: 45.0
 Test Lab: Inventfine instruments
 Test Type: TYPE C
 Temperature: 26
 Operator: Jacky tang

Gamma Plane (°):0.0-180.0:1.0
 Test Device: GPM-1800B
 Distance: 8.030 m
 Humidity: 58
 Inspector:

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.\$	-1.\$	-1.\$	-1.\$	-1.\$	-1.\$	-1.\$	-1.\$	-1.\$	-1.\$
3H	-1.\$	-1.\$	-1.\$	-1.\$	-1.\$	-1.\$	-1.\$	-1.\$	-1.\$	-1.\$
4H	-1.\$	-1.\$	-1.\$	-1.\$	-1.\$	-1.\$	-1.\$	-1.\$	-1.\$	-1.\$
6H	-1.\$	-1.\$	-1.\$	-1.\$	-1.\$	-1.\$	-1.\$	-1.\$	-1.\$	-1.\$
8H	-1.\$	-1.\$	-1.\$	-1.\$	-1.\$	-1.\$	-1.\$	-1.\$	-1.\$	-1.\$
12H	-1.\$	-1.\$	-1.\$	-1.\$	-1.\$	-1.\$	-1.\$	-1.\$	-1.\$	-1.\$
X=4H Y=2H	-1.\$	-1.\$	-1.\$	-1.\$	-1.\$	-1.\$	-1.\$	-1.\$	-1.\$	-1.\$
3H	-1.\$	-1.\$	-1.\$	-1.\$	-1.\$	-1.\$	-1.\$	-1.\$	-1.\$	-1.\$
4H	-1.\$	-1.\$	-1.\$	-1.\$	-1.\$	-1.\$	-1.\$	-1.\$	-1.\$	-1.\$
6H	-1.\$	-1.\$	-1.\$	-1.\$	-1.\$	-1.\$	-1.\$	-1.\$	-1.\$	-1.\$
8H	-1.\$	-1.\$	-1.\$	-1.\$	-1.\$	-1.\$	-1.\$	-1.\$	-1.\$	-1.\$
12H	-1.\$	-1.\$	-1.\$	-1.\$	-1.\$	-1.\$	-1.\$	-1.\$	-1.\$	-1.\$
X=8H Y=4H	-1.\$	-1.\$	-1.\$	-1.\$	-1.\$	-1.\$	-1.\$	-1.\$	-1.\$	-1.\$
6H	-1.\$	-1.\$	-1.\$	-1.\$	-1.\$	-1.\$	-1.\$	-1.\$	-1.\$	-1.\$
8H	-1.\$	-1.\$	-1.\$	-1.\$	-1.\$	-1.\$	-1.\$	-1.\$	-1.\$	-1.\$
12H	-1.\$	-1.\$	-1.\$	-1.\$	-1.\$	-1.\$	-1.\$	-1.\$	-1.\$	-1.\$
X=12H Y=4H	-1.\$	-1.\$	-1.\$	-1.\$	-1.\$	-1.\$	-1.\$	-1.\$	-1.\$	-1.\$
6H	-1.\$	-1.\$	-1.\$	-1.\$	-1.\$	-1.\$	-1.\$	-1.\$	-1.\$	-1.\$
8H	-1.\$	-1.\$	-1.\$	-1.\$	-1.\$	-1.\$	-1.\$	-1.\$	-1.\$	-1.\$
Variations with the observer position at spacings:										
S=1.0H	-1.\$/-1.\$					-1.\$/-1.\$				
S=1.5H	-1.\$/-1.\$					-1.\$/-1.\$				
S=2.0H	-1.\$/-1.\$					-1.\$/-1.\$				

Calculate in accordance with CIE Pub.117. The table is revised with 1750lm ($8\log(F/F_0) = 1.9$).

Utilisation Factor Table(Floor cavity)

Utilisation Factors UF(F)			SHR NOM = 0.75								
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	0.87	0.93	0.98	1.01	1.05	1.08	1.09	1.12	1.13
	0.30		0.82	0.89	0.93	0.97	1.01	1.04	1.06	1.09	1.11
	0.20		0.79	0.86	0.90	0.94	0.98	1.02	1.04	1.07	1.09
0.50	0.50	0.20	0.86	0.92	0.95	0.98	1.02	1.04	1.06	1.08	1.09
	0.30		0.81	0.88	0.92	0.95	0.99	1.02	1.03	1.06	1.07
	0.20		0.78	0.85	0.89	0.92	0.96	0.99	1.01	1.04	1.06
0.30	0.50	0.20	0.84	0.90	0.93	0.96	0.99	1.01	1.02	1.04	1.05
	0.30		0.81	0.87	0.90	0.93	0.97	0.99	1.00	1.02	1.04
	0.20		0.78	0.84	0.88	0.91	0.95	0.97	0.99	1.01	1.03
0.00	0.00	0.00	0.76	0.82	0.85	0.88	0.91	0.93	0.95	0.96	0.98
<p>Rating:20W Photometrically tested without ceiling board. Multiply UF values by service correction factors Calculate in accordance with CIBSE Technical Memorandum NO.5 1980</p>											

Utilisation Factor Table(Wall)

Utilisation Factors UF(W)			SHR NOM = 0.75								
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	0.59	0.48	0.40	0.35	0.27	0.23	0.19	0.15	0.12
	0.30		0.49	0.41	0.35	0.31	0.25	0.21	0.18	0.14	0.12
	0.20		0.42	0.36	0.31	0.27	0.22	0.19	0.17	0.13	0.11
0.50	0.50	0.20	0.56	0.45	0.37	0.32	0.25	0.25	0.18	0.13	0.11
	0.30		0.47	0.39	0.33	0.29	0.23	0.19	0.16	0.13	0.11
	0.20		0.41	0.34	0.30	0.26	0.21	0.18	0.15	0.12	0.10
0.30	0.50	0.20	0.53	0.42	0.35	0.30	0.23	0.19	0.16	0.12	0.10
	0.30		0.46	0.37	0.31	0.27	0.21	0.18	0.15	0.12	0.10
	0.20		0.40	0.33	0.28	0.25	0.20	0.17	0.14	0.11	0.09
0.00	0.00	0.00	0.26	0.20	0.17	0.14	0.11	0.09	0.07	0.06	0.05
<p>Rating:20W Photometrically tested without ceiling board. Multiply UF values by service correction factors Calculate in accordance with CIBSE Technical Memorandum NO.5 1980</p>											

Utilisation Factor Table(Ceiling cavity)

Utilisation Factors UF(C)			SHR NOM = 0.75								
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	0.14	0.16	0.17	0.18	0.19	0.20	0.21	0.22	0.22
	0.30		0.10	0.12	0.14	0.15	0.17	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	0.14	0.15	0.16	0.17	0.19	0.19	0.20	0.21	0.21
	0.30		0.10	0.12	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	0.16	0.17	0.18	0.19
0.30	0.50	0.20	0.13	0.15	0.16	0.17	0.18	0.19	0.19	0.20	0.21
	0.30		0.10	0.12	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	0.16	0.18	0.18
0.00	0.00	0.00	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01

Rating:20W Photometrically tested without ceiling board.
 Multiply UF values by service correction factors
 Calculate in accordance with CIBSE Technical Memorandum NO.5 1980