



Report No.:

Test Time: 2024-01-30 15:24

Luminaire Property

Luminaire Manufacturer:

Luminaire Category:

Lamp Catalog: 6500K

Number of Lamps:

Luminous Length (mm): 400

Luminous Height (mm): 33

Current: 0.1100 A

Power Factor: 0.9520

Luminaire Description: E400

Lamp Description:

Lumens per Lamp:

Luminous Width (mm): 400

Voltage: 230.90 V

Power: 24.17 W

Photometric Results

CIE Class: Direct

Measurement Flux: 2548.9 lm

Downward Ratio: 100%

Horizontal Diffuse Angle(50%): H113.7

Vertical Diffuse Angle(50%): V113.2

Luminous Efficacy (lm/w): 105.46

Max. Intensity: 875.61 cd

S/MH(C0/C180): 1.26

Total Rated Lamp Lumens: 2548.9 lm

Efficiency: 100%

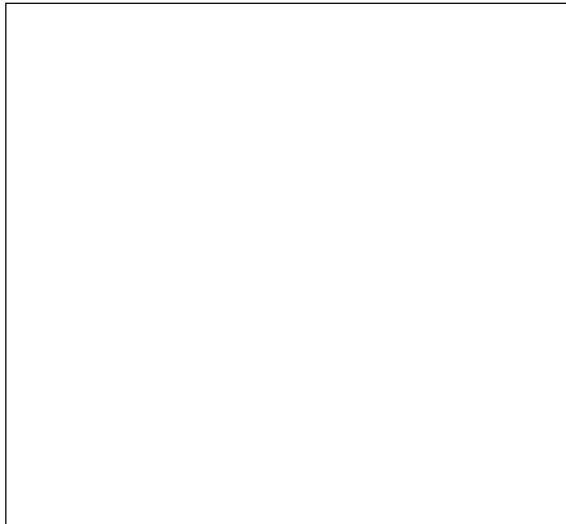
Upward Ratio: 0%

C0r0 Intensity: 875.41 cd

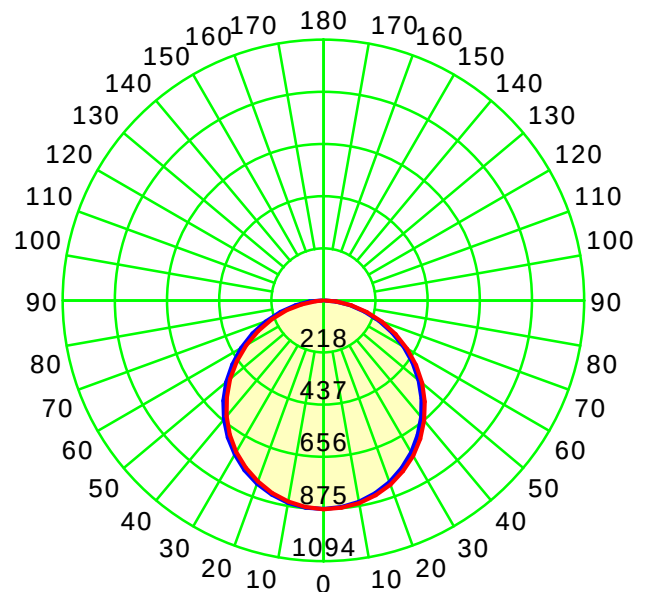
Pos of Max. Intensity: H90 V0

S/MH(C90/C270): 1.26

Picture Of Luminaire



Luminous Intensity Distribution Curve



Unit: cd

Average Diffuse Angle(50%): 113.4°

— C0-C180 — C90-C270

C Plane (°):0.0-360.0: 90.0

Test Lab:

Test Type: TYPE C

Temperature:

Operator:

Gamma Plane (°):0.0-90.0:5.0

Test Device: GPM-1600L

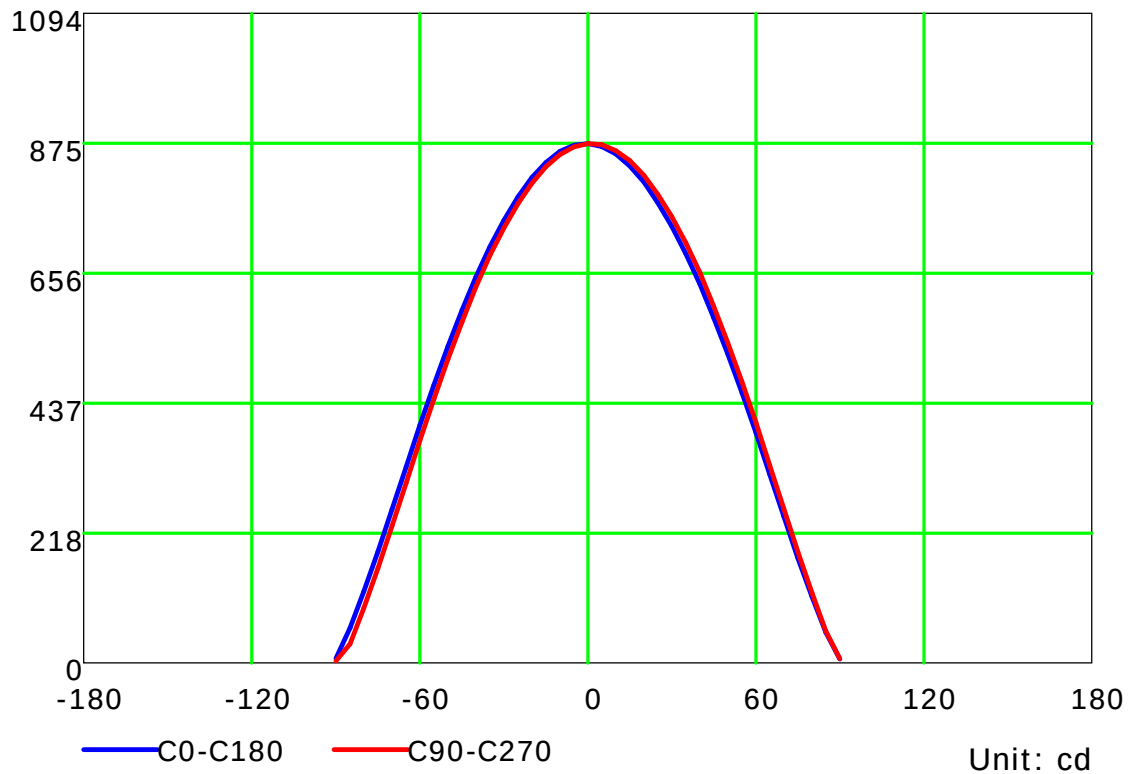
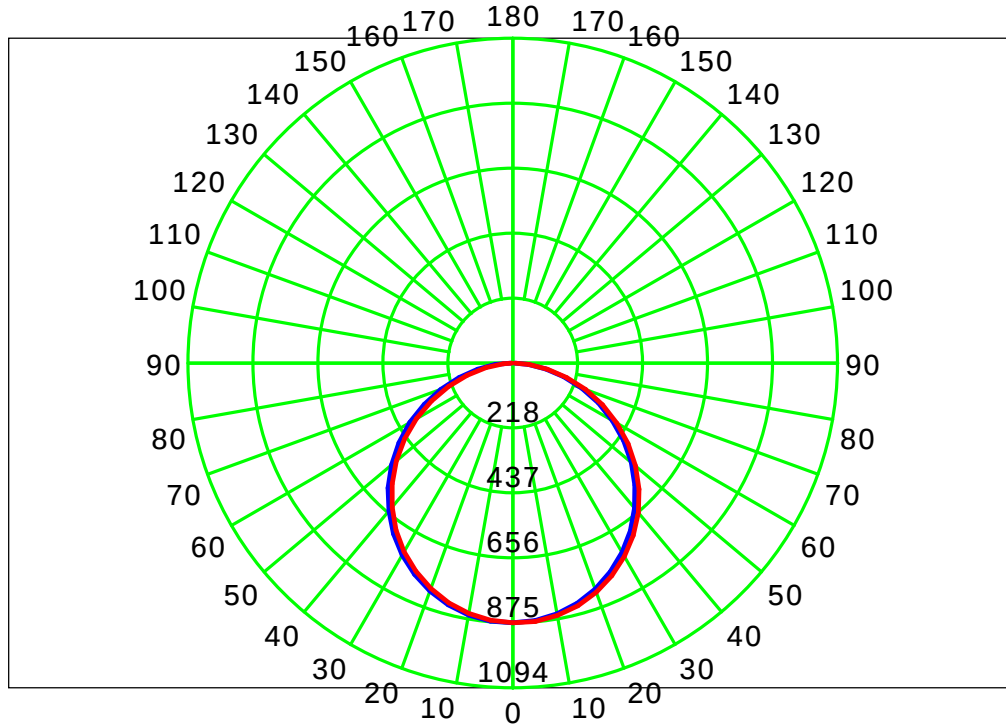
Distance: 7.172 m [K=1.0000]

Humidity:

Inspector:



Luminous Intensity Distribution Curve



C Plane (°):0.0-360.0: 90.0
Test Lab:
Test Type: TYPE C
Temperature:
Operator:

Gamma Plane (°):0.0-90.0:5.0
Test Device: GPM-1600L
Distance: 7.172 m [K=1.0000]
Humidity:
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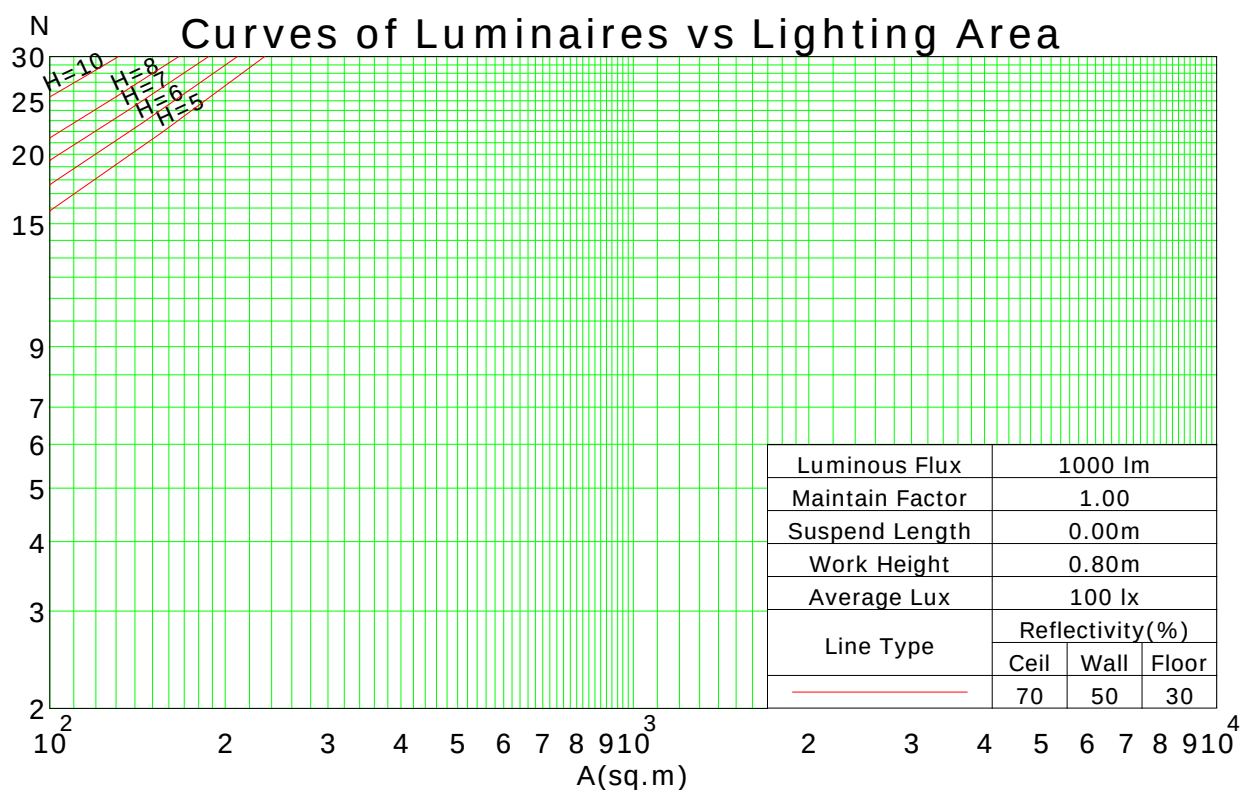
Coefficients Of Utilization - Zonal Cavity Method

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	1.19	1.19	1.19	1.19	1.16	1.16	1.16	1.16	1.11	1.11	1.11	1.06	1.06	1.06	1.02	1.02	1.02	1.00
1	1.08	1.03	0.99	0.95	1.06	1.01	0.97	0.94	0.97	0.94	0.91	0.93	0.90	0.88	0.89	0.87	0.85	0.83
2	0.98	0.90	0.83	0.77	0.96	0.88	0.82	0.76	0.84	0.79	0.74	0.81	0.77	0.73	0.78	0.74	0.71	0.69
3	0.90	0.79	0.71	0.64	0.87	0.77	0.70	0.63	0.74	0.68	0.62	0.71	0.66	0.61	0.69	0.64	0.60	0.58
4	0.82	0.70	0.61	0.54	0.80	0.68	0.60	0.54	0.66	0.59	0.53	0.64	0.57	0.52	0.61	0.56	0.51	0.49
5	0.75	0.62	0.53	0.46	0.73	0.61	0.53	0.46	0.59	0.51	0.46	0.57	0.50	0.45	0.55	0.49	0.45	0.42
6	0.70	0.56	0.47	0.40	0.68	0.55	0.46	0.40	0.53	0.46	0.40	0.52	0.45	0.39	0.50	0.44	0.39	0.37
7	0.64	0.51	0.42	0.36	0.63	0.50	0.41	0.35	0.48	0.41	0.35	0.47	0.40	0.35	0.46	0.39	0.35	0.33
8	0.60	0.46	0.38	0.32	0.58	0.46	0.37	0.32	0.44	0.37	0.31	0.43	0.36	0.31	0.42	0.36	0.31	0.29
9	0.56	0.42	0.34	0.29	0.55	0.42	0.34	0.28	0.41	0.33	0.28	0.40	0.33	0.28	0.39	0.32	0.28	0.26
10	0.53	0.39	0.31	0.26	0.51	0.39	0.31	0.26	0.38	0.31	0.26	0.37	0.30	0.26	0.36	0.30	0.25	0.24

Spacing Criteria (0-180): 1.26

Spacing Criteria (90-270): 1.26

Spacing Criteria (Diagonal): 1.38



C Plane (°):0.0-360.0: 90.0

Test Lab:

Test Type: TYPE C

Temperature:

Operator:

Gamma Plane (°):0.0-90.0:5.0

Test Device: GPM-1600L

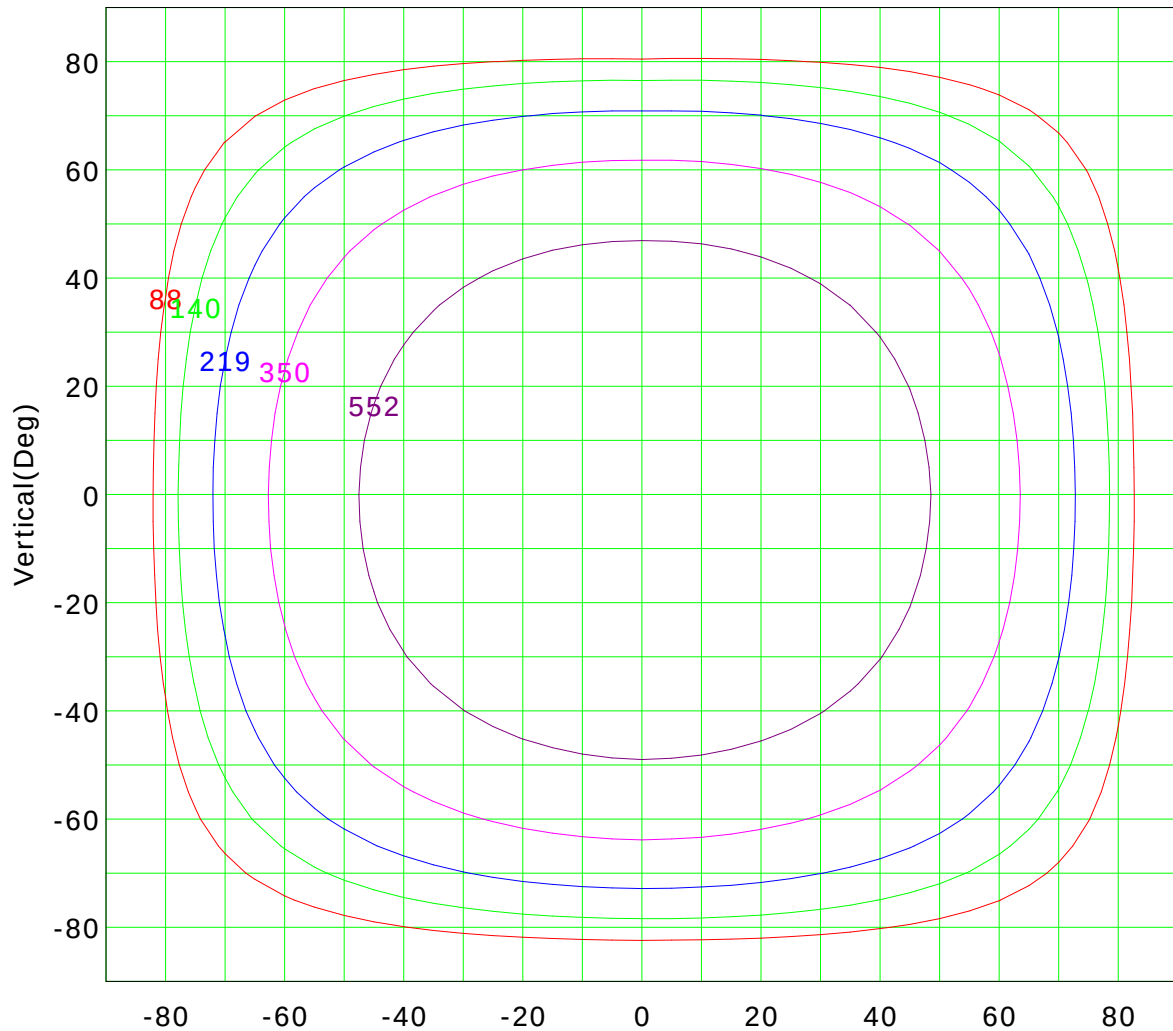
Distance: 7.172 m [K=1.0000]

Humidity:

Inspector:



Isocandela (rectangle)



Horizontal(Deg)
I_{max} (100%): 876 cd

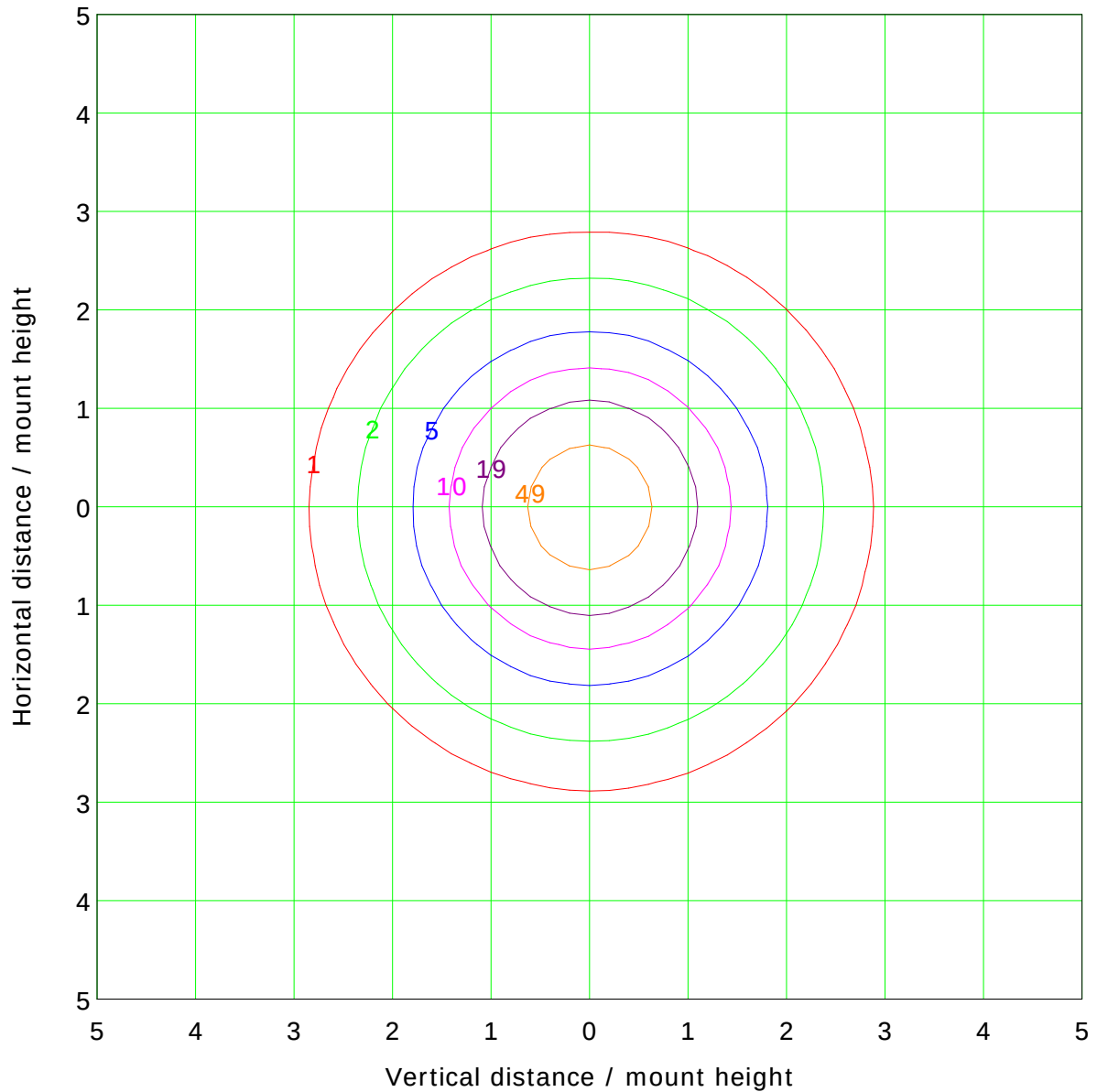
(10%): 88 cd	(16%): 140 cd
(25%): 219 cd	(40%): 350 cd
(63%): 552 cd	(100%): 876 cd

C Plane (°):0.0-360.0: 90.0
Test Lab:
Test Type: TYPE C
Temperature:
Operator:

Gamma Plane (°):0.0-90.0:5.0
Test Device: GPM-1600L
Distance: 7.172 m [K=1.0000]
Humidity:
Inspector:



IsoLux Plot



Mounting Height: 3.0m Max Lux(100%): 97.3 lx

(1%): 1.0 lx	(2%): 1.9 lx
(5%): 4.9 lx	(10%): 9.7 lx
(20%): 19.5 lx	(50%): 48.6 lx
(100%): 97.3 lx	

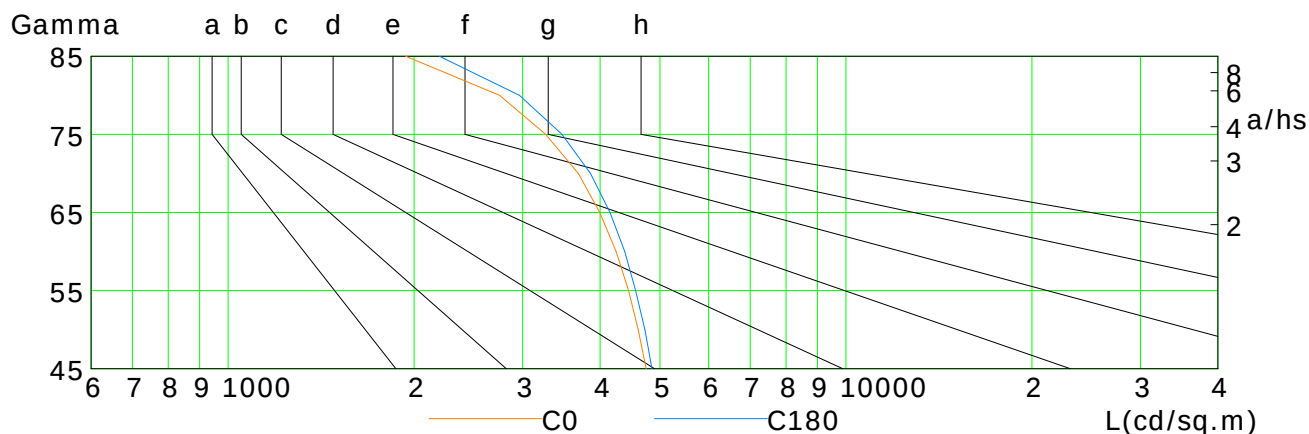
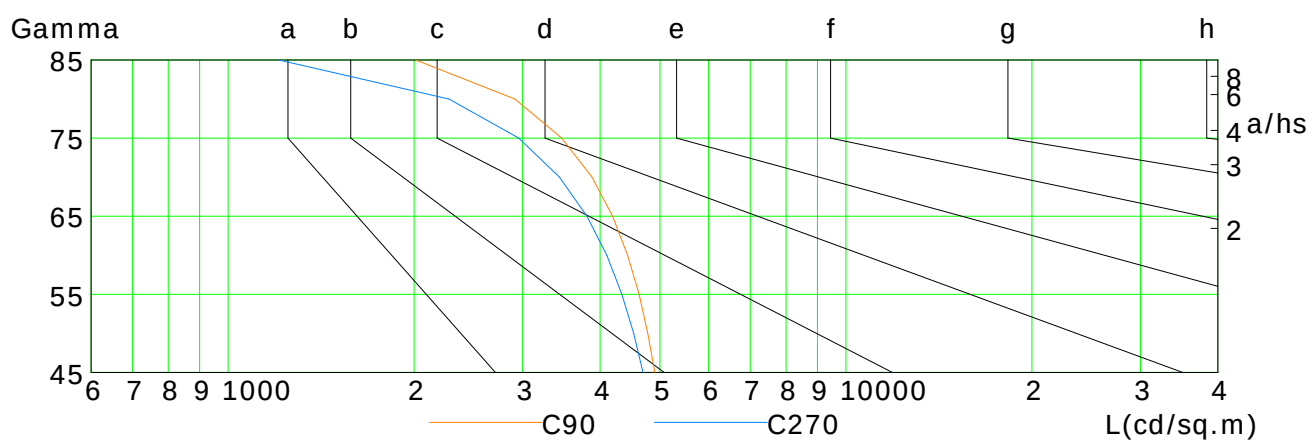
C Plane (°):0.0-360.0: 90.0
Test Lab:
Test Type: TYPE C
Temperature:
Operator:

Gamma Plane (°):0.0-90.0:5.0
Test Device: GPM-1600L
Distance: 7.172 m [K=1.0000]
Humidity:
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



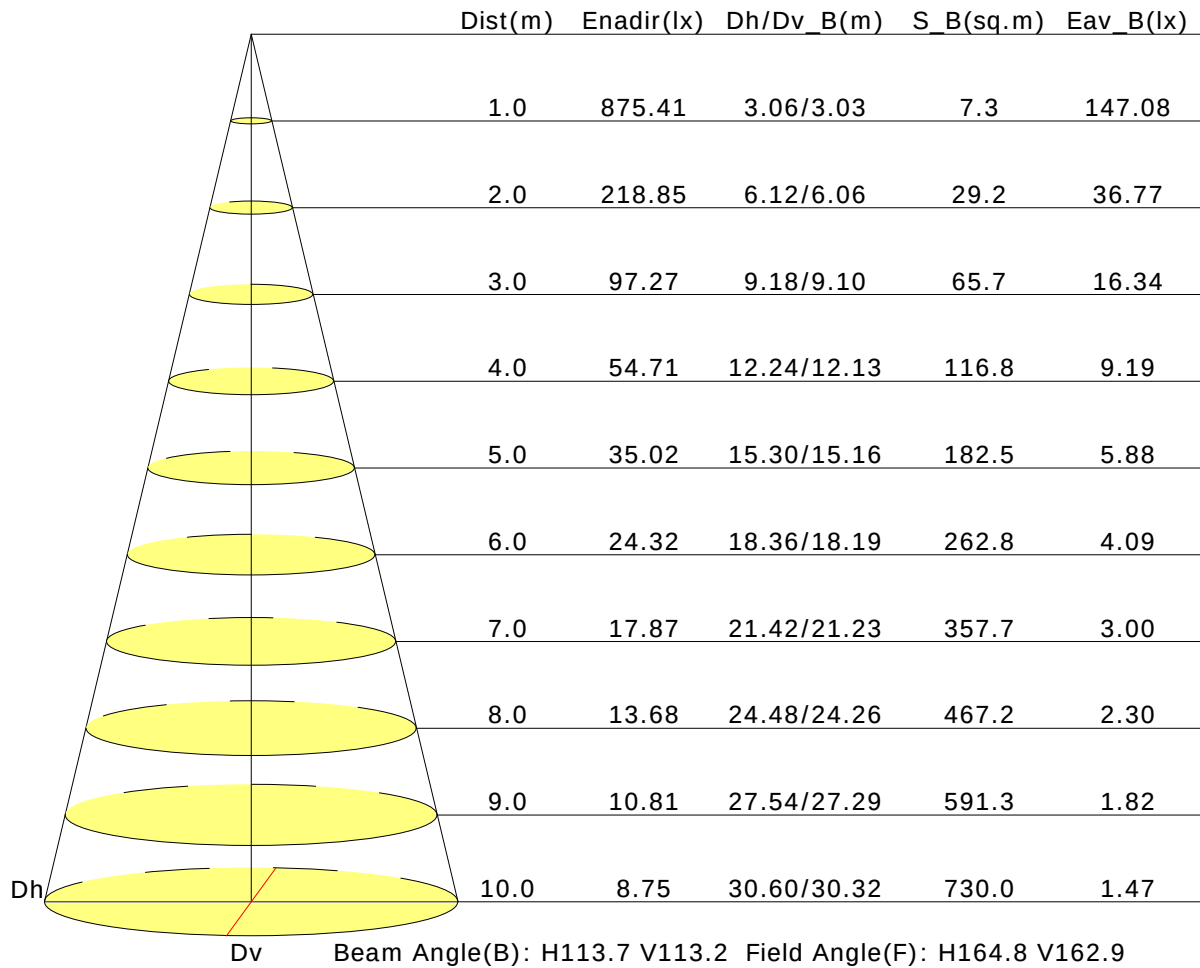
L(cd/sq.m)	G45	G50	G55	G60	G65	G70	G75	G80	G85
C0	4751	4612	4448	4246	3998	3691	3268	2753	1939
C90	4911	4780	4628	4436	4194	3886	3468	2913	2014
C180	4858	4728	4569	4385	4152	3861	3472	2964	2198
C270	4696	4537	4338	4102	3811	3438	2956	2278	1208

C Plane (°):0.0-360.0: 90.0
 Test Lab:
 Test Type: TYPE C
 Temperature:
 Operator:

Gamma Plane (°):0.0-90.0:5.0
 Test Device: GPM-1600L
 Distance: 7.172 m [K=1.0000]
 Humidity:
 Inspector:

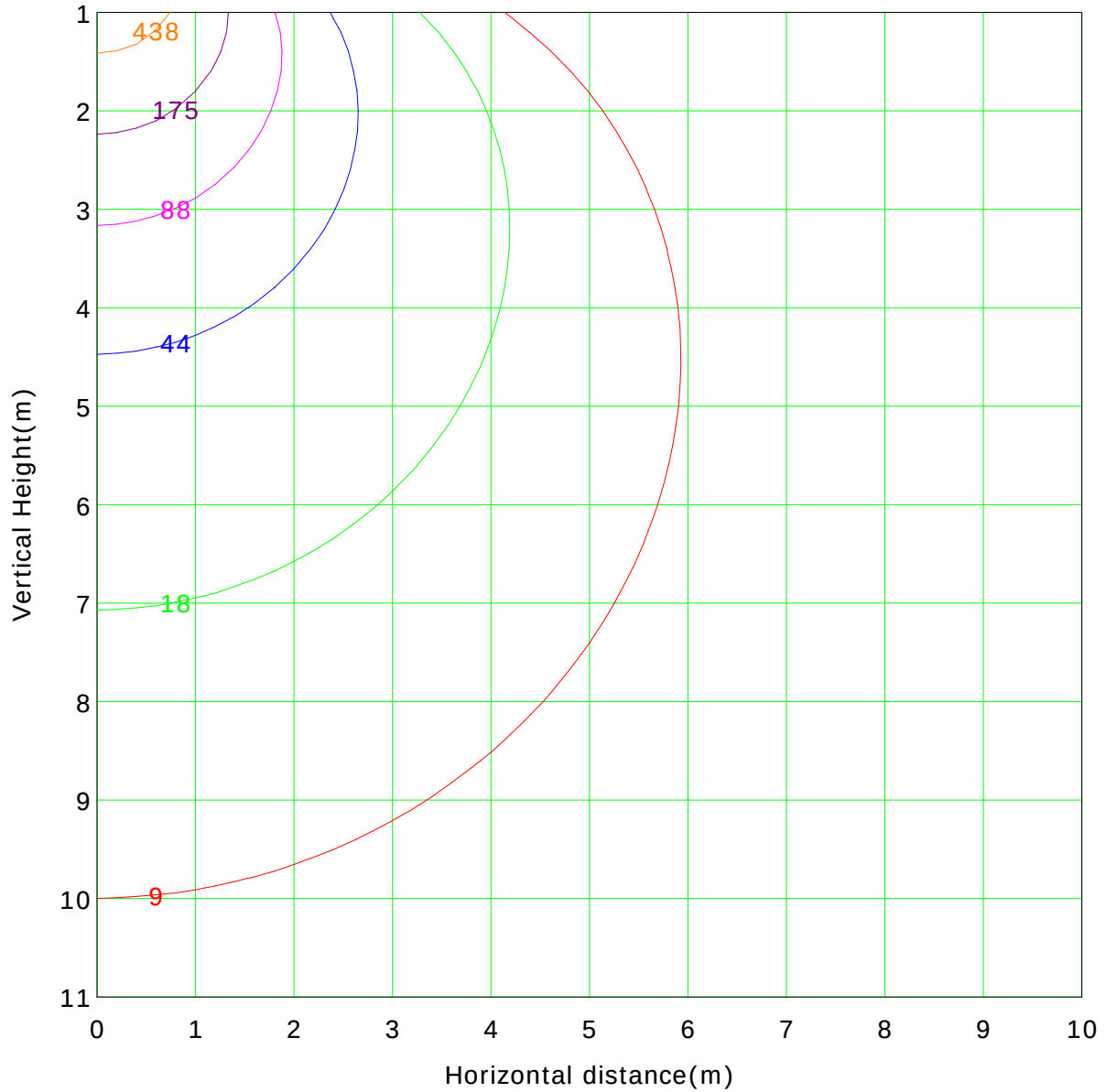


Illuminance at a Distance





Vertical IsoLux Plot



Lowest(m): 1.0m Highest(m): 11.0m Max Lux: 875.4 lx

(1%): 8.8 lx	(2%): 17.5 lx
(5%): 43.8 lx	(10%): 87.5 lx
(20%): 175.1 lx	(50%): 437.7 lx
(100%): 875.4 lx	

C Plane (°):0.0-360.0: 90.0
Test Lab:
Test Type: TYPE C
Temperature:
Operator:

Gamma Plane (°):0.0-90.0:5.0
Test Device: GPM-1600L
Distance: 7.172 m [K=1.0000]
Humidity:
Inspector:



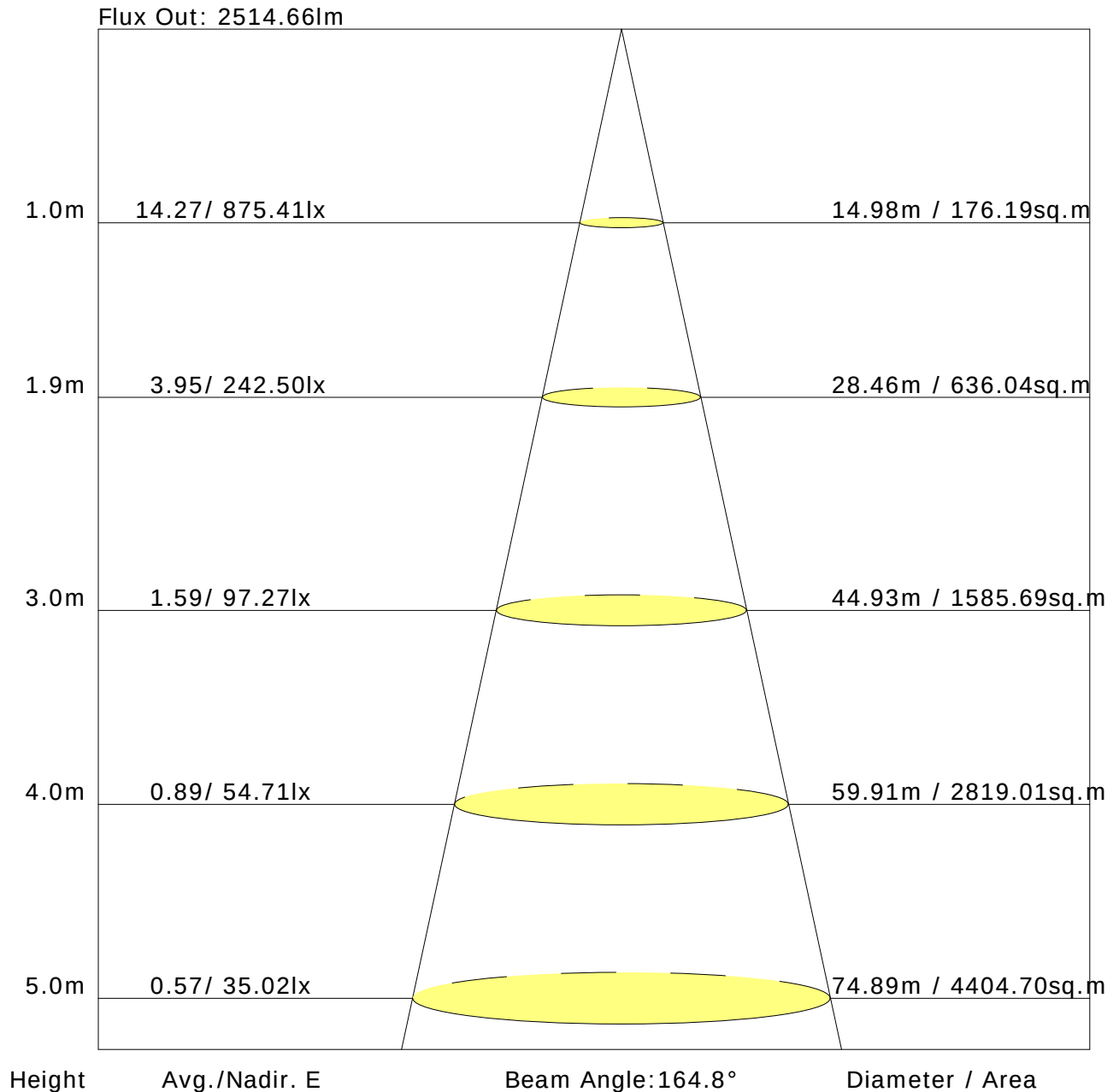
Unit: 1m

C Plane (°):0.0-360.0: 90.0
Test Lab:
Test Type: TYPE C
Temperature:
Operator:

Gamma Plane (°):0.0-90.0:5.0
Test Device: GPM-1600L
Distance: 7.172 m [K=1.0000]
Humidity:
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	17.7	19.1	18.0	19.3	19.6	17.7	19.1	18.0	19.4	19.6
3H	19.2	20.5	19.5	20.7	21.0	19.2	20.5	19.5	20.8	21.0
4H	19.8	21.0	20.1	21.3	21.6	19.8	21.0	20.1	21.3	21.6
6H	20.2	21.4	20.6	21.7	22.0	20.2	21.3	20.6	21.6	22.0
8H	20.4	21.5	20.7	21.8	22.1	20.3	21.4	20.7	21.7	22.1
12H	20.4	21.5	20.8	21.8	22.2	20.4	21.4	20.7	21.7	22.1
X=4H Y=2H	18.3	19.5	18.7	19.8	20.1	18.3	19.6	18.7	19.8	20.1
3H	20.0	21.1	20.4	21.4	21.7	20.0	21.1	20.4	21.4	21.7
4H	20.7	21.7	21.1	22.0	22.4	20.7	21.7	21.1	22.0	22.4
6H	21.3	22.1	21.7	22.5	22.9	21.2	22.1	21.7	22.5	22.9
8H	21.5	22.2	21.9	22.6	23.1	21.4	22.2	21.8	22.6	23.0
12H	21.6	22.3	22.0	22.7	23.1	21.5	22.2	22.0	22.6	23.1
X=8H Y=4H	21.0	21.8	21.4	22.2	22.6	21.0	21.8	21.4	22.2	22.6
6H	21.7	22.3	22.1	22.7	23.2	21.6	22.3	22.1	22.7	23.2
8H	21.9	22.5	22.4	22.9	23.4	21.9	22.4	22.4	22.9	23.4
12H	22.1	22.6	22.6	23.1	23.6	22.0	22.5	22.5	23.0	23.5
X=12H Y=4H	21.0	21.7	21.5	22.1	22.6	21.0	21.7	21.5	22.1	22.6
6H	21.7	22.3	22.2	22.7	23.2	21.7	22.2	22.2	22.7	23.2
8H	22.0	22.5	22.5	23.0	23.5	22.0	22.4	22.4	22.9	23.4
Variations with the observer position at spacings:										
S=1.0H	+0.2/-0.2					+0.2/-0.2				
S=1.5H	+0.3/-0.5					+0.4/-0.5				
S=2.0H	+0.5/-0.8					+0.5/-0.9				

Calculate in accordance with CIE Pub.117. The table is revised with 2549lm ($8\log(F/F_0) = 3.3$).

Utilisation Factor Table(Floor cavity)

Utilisation Factors UF(F)			SHR NOM = 1.50									
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	0.59	0.68	0.75	0.81	0.88	0.93	0.96	1.00	1.03	
	0.30		0.52	0.60	0.68	0.74	0.82	0.87	0.91	0.96	1.00	
	0.20		0.46	0.54	0.62	0.68	0.76	0.82	0.87	0.93	0.97	
0.50	0.50	0.20	0.58	0.66	0.73	0.78	0.84	0.89	0.92	0.96	0.99	
	0.30		0.51	0.59	0.67	0.72	0.79	0.84	0.88	0.93	0.96	
	0.20		0.46	0.54	0.62	0.67	0.75	0.80	0.84	0.90	0.94	
0.30	0.50	0.20	0.56	0.64	0.71	0.75	0.82	0.86	0.89	0.93	0.95	
	0.30		0.50	0.58	0.65	0.70	0.77	0.82	0.85	0.90	0.93	
	0.20		0.46	0.53	0.61	0.66	0.73	0.79	0.82	0.87	0.91	
0.00	0.00	0.00	0.44	0.51	0.58	0.63	0.70	0.75	0.78	0.83	0.86	
Rating:24W 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 = 1.50									
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	0.96	0.81	0.69	0.60	0.48	0.40	0.34	0.27	0.22	
	0.30		0.80	0.70	0.60	0.53	0.43	0.37	0.32	0.25	0.21	
	0.20		0.68	0.61	0.53	0.48	0.40	0.34	0.30	0.24	0.20	
0.50	0.50	0.20	0.92	0.78	0.66	0.57	0.46	0.42	0.33	0.25	0.21	
	0.30		0.78	0.68	0.58	0.51	0.42	0.35	0.31	0.24	0.20	
	0.20		0.68	0.60	0.52	0.47	0.39	0.33	0.29	0.23	0.19	
0.30	0.50	0.20	0.89	0.75	0.63	0.55	0.44	0.36	0.31	0.24	0.20	
	0.30		0.76	0.66	0.57	0.50	0.41	0.34	0.29	0.23	0.19	
	0.20		0.67	0.59	0.51	0.46	0.38	0.32	0.28	0.22	0.18	
0.00	0.00	0.00	0.56	0.49	0.42	0.37	0.30	0.25	0.22	0.17	0.14	
Rating:24W 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 = 1.50									
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	0.18	0.19	0.20	0.20	0.21	0.21	0.22	
	0.30		0.09	0.11	0.12	0.13	0.15	0.16	0.17	0.18	0.19	
	0.20		0.05	0.06	0.08	0.09	0.11	0.13	0.14	0.16	0.17	
0.50	0.50	0.20	0.15	0.17	0.18	0.18	0.19	0.20	0.20	0.21	0.21	
	0.30		0.09	0.11	0.12	0.13	0.15	0.16	0.17	0.18	0.19	
	0.20		0.05	0.06	0.08	0.09	0.11	0.12	0.14	0.15	0.16	
0.30	0.50	0.20	0.15	0.16	0.17	0.18	0.18	0.19	0.19	0.20	0.20	
	0.30		0.09	0.11	0.12	0.13	0.14	0.15	0.16	0.17	0.18	
	0.20		0.05	0.06	0.08	0.09	0.11	0.12	0.13	0.15	0.16	
0.00	0.00	0.00	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Rating:24W Photometrically tested without ceiling board. Multiply UF values by service correction factors Calculate in accordance with CIBSE Technical Memorandum NO.5 1980												

Zonal Lumen

[illegible]

C Plane (°):0.0-360.0: 90.0
Test Lab:
Test Type: TYPE C
Temperature:
Operator:

Gamma Plane (°):0.0-90.0:5.0
Test Device: GPM-1600L
Distance: 7.172 m [K=1.0000]
Humidity:
Inspector:



Zonal Lumen (Continue 1)

cone flux(90°): 1344.65 lm

%lum = 52.8%

%lamp = 52.8%

cone flux(120°): 1982.15 lm

%lum = 77.8%

%lamp = 77.8%



Unit: cd

C Plane (°):0.0-360.0: 90.0
Test Lab:
Test Type: TYPE C
Temperature:
Operator:

Gamma Plane (°):0.0-90.0:5.0
Test Device: GPM-1600L
Distance: 7.172 m [K=1.0000]
Humidity:
Inspector: