

Report No.:

Test Time: 2016-12-29 14:21:53

Luminaire Property

Luminaire Manufacturer:

Luminaire Category: Armor Series Exterior Linear

Number of Lamps: 1

Luminous Length (mm): 500 mm

Luminous Height (mm): 0 mm

Current: 0.3250

Lamp Description: NANO-50° 500-2700K

Lumens per Lamp: 588.7 lm

Luminous Width (mm): 0 mm

Voltage: 24

Power: 7.80 W

Photometric Results

CIE Class: Direct

Measurement Flux: 588.7 lm

Downward Ratio: 98.60%

Horizontal Diffuse Angle(50%): H50.2

Vertical Diffuse Angle(50%): V49.8

Luminaire Efficacy Rating (LER): 75

Max. Intensity: 688.46 cd

Total Rated Lamp Lumens: 588.7 lm

Efficiency: 100.00%

Upward Ratio: 1.40%

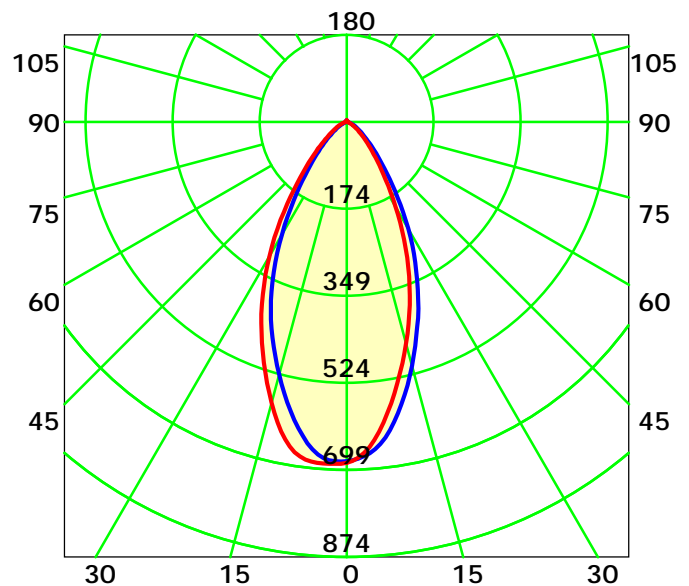
Central Intensity: 681.7 cd

Pos of Max. Intensity: H240 V4

Picture Of Luminaire



Luminous Intensity Distribution Curve



Average Diffuse Angle(50%): 50.0° Unit: cd

— C0-C180 — C90-C270

C Plane (°):0.0-360.0: 30.0

Test Lab:

Test Type: TYPE C

Temperature:

Operator:

Gamma Plane (°):0.0-180.0: 1.0

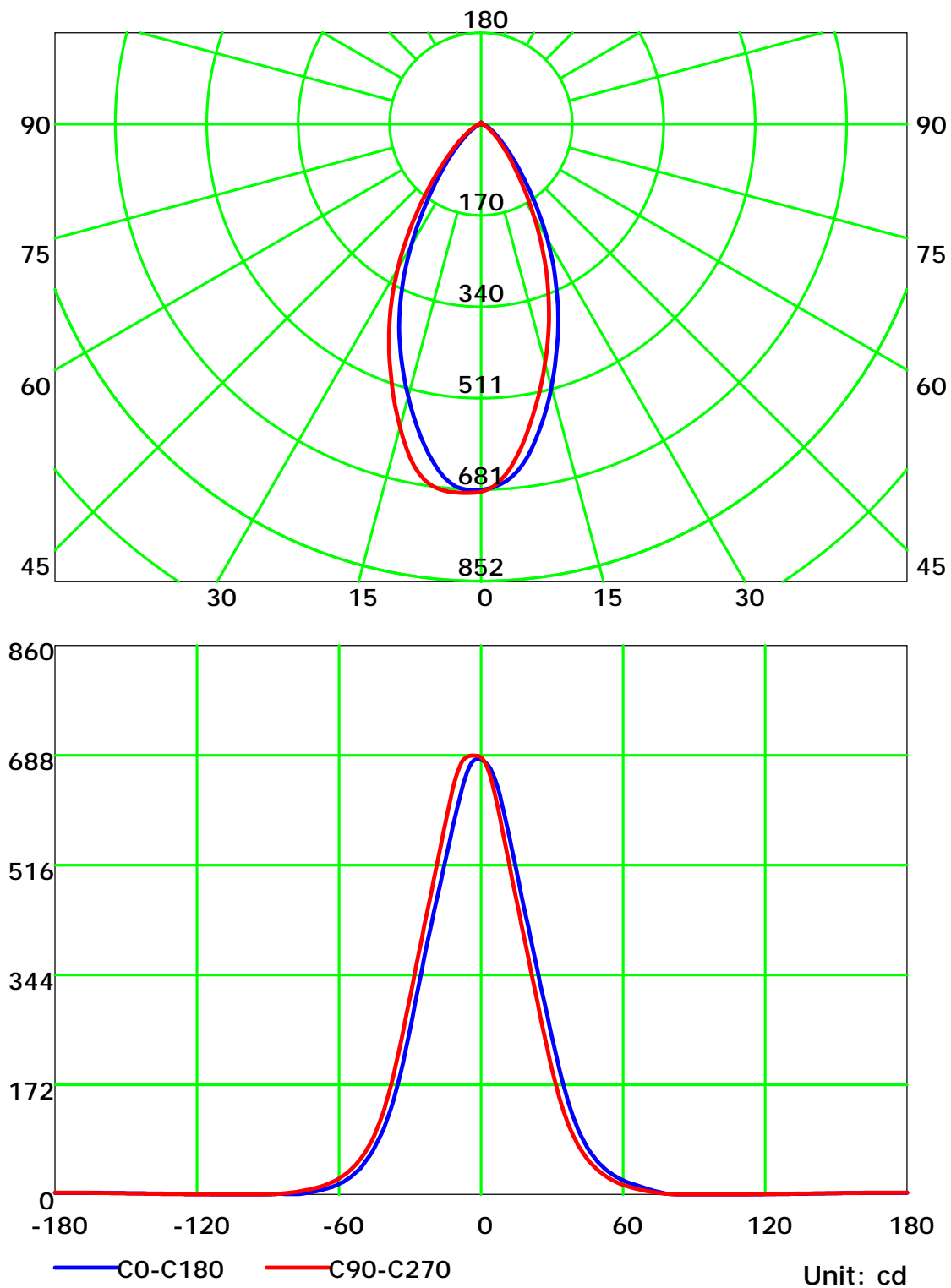
Test Device:

Distance:

Humidity:

Inspector:

Luminous Intensity Distribution Curve



C Plane (°):0.0-360.0: 30.0

Test Lab:

Test Type: TYPE C

Temperature:

Operator:

Gamma Plane (°):0.0-180.0:1.0

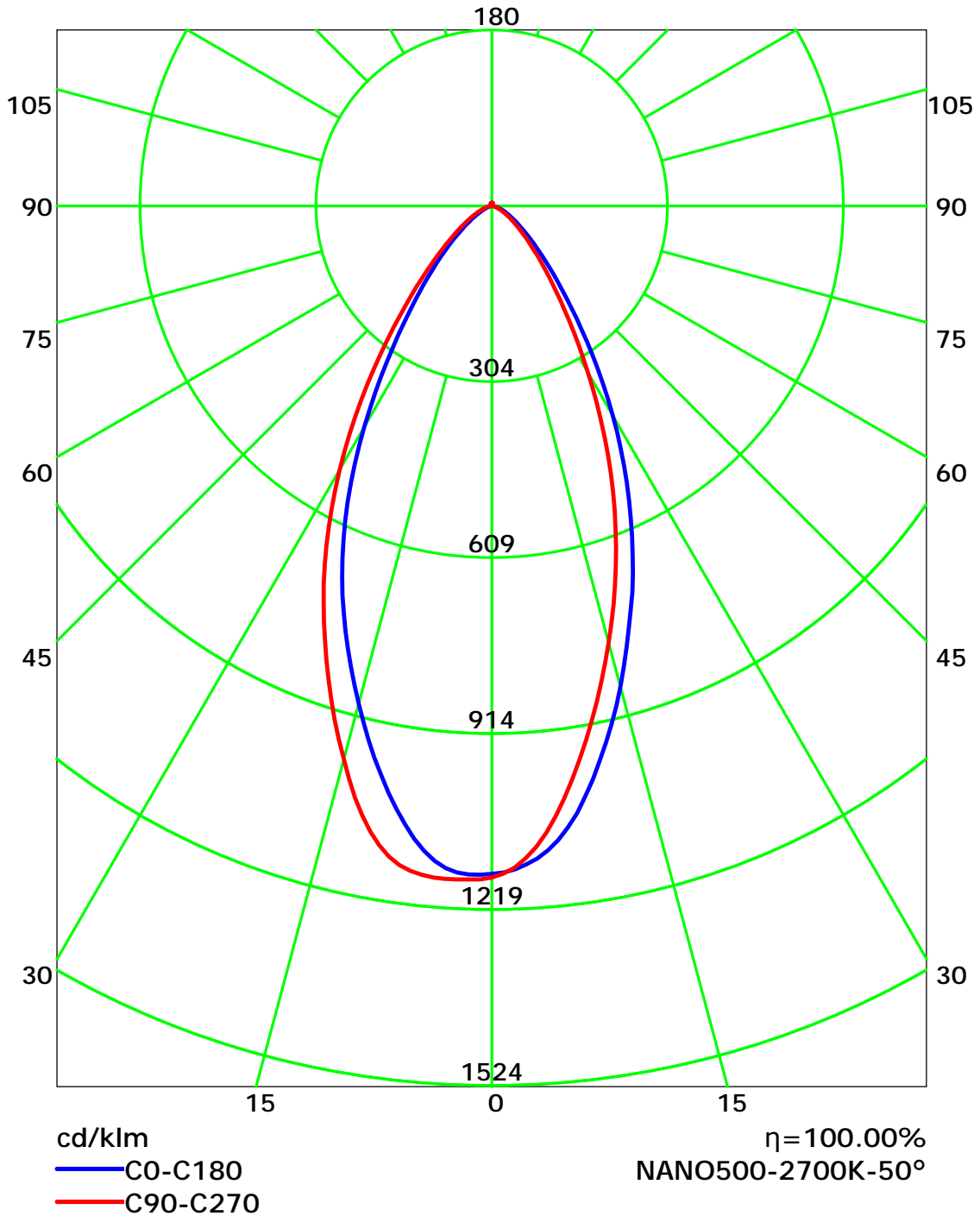
Test Device:

Distance:

Humidity:

Inspector:

Luminous Intensity Distribution Curve(cd/klm)



C Plane (°):0.0-360.0: 30.0

Test Lab:

Test Type: TYPE C

Temperature:

Operator:

Gamma Plane (°):0.0-180.0:1.0

Test Device:

Distance:

Humidity:

Inspector:

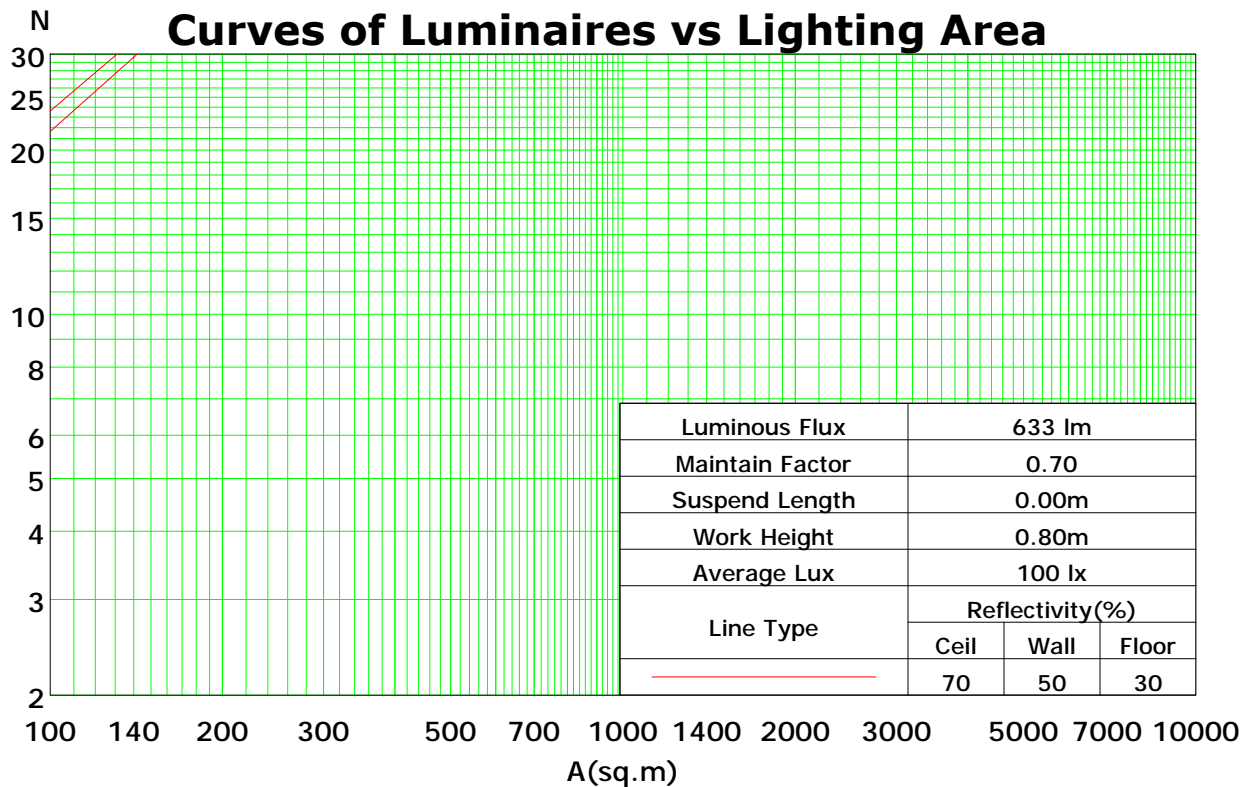
Coefficients Of Utilization - Zonal Cavity Method

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	105	105	105	101	101	101	99
1	112	109	107	104	110	107	104	102	103	101	99	99	97	96	95	94	93	91
2	106	101	96	92	104	99	95	91	95	92	89	92	89	87	89	87	85	83
3	100	93	87	83	98	91	86	82	88	84	81	86	82	79	83	80	78	76
4	94	86	80	75	92	85	79	75	82	77	74	80	76	73	78	74	72	70
5	89	80	73	69	87	79	73	68	77	72	68	75	70	67	73	69	66	64
6	84	74	68	63	83	74	67	63	72	66	62	70	66	62	69	65	61	60
7	80	70	63	59	78	69	63	58	67	62	58	66	61	58	65	60	57	56
8	76	65	59	55	74	65	59	54	63	58	54	62	57	54	61	57	53	52
9	72	62	55	51	71	61	55	51	60	54	51	59	54	50	58	53	50	49
10	68	58	52	48	67	58	52	48	57	51	47	56	51	47	55	50	47	46

Spacing Criteria (0-180): 0.76

Spacing Criteria (90-270): 0.76

Spacing Criteria (Diagonal): 0.81



C Plane (°):0.0-360.0: 30.0

Test Lab:

Test Type: TYPE C

Temperature:

Operator:

Gamma Plane (°):0.0-180.0: 1.0

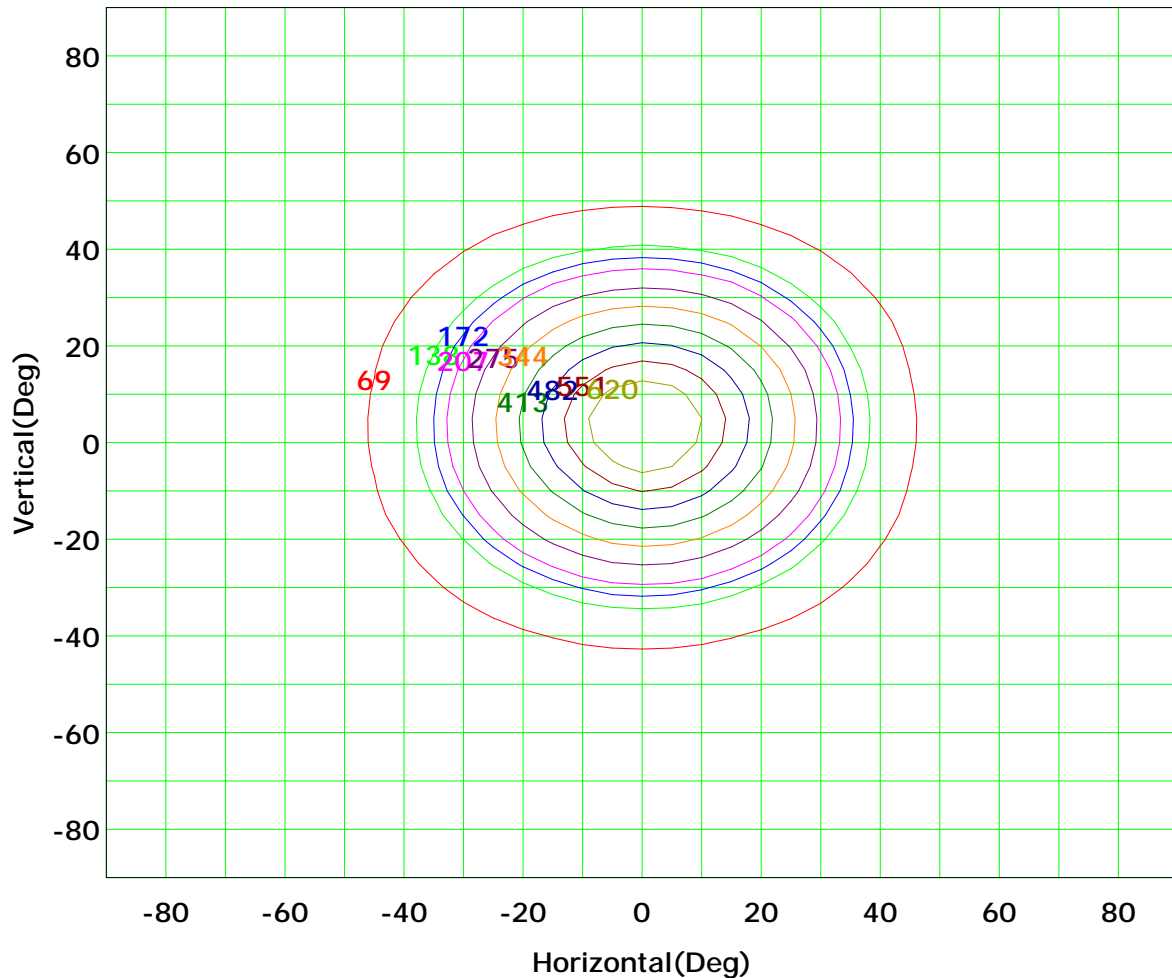
Test Device:

Distance:

Humidity:

Inspector:

Isocandela (rectangle)



I_{max} (100%): 688 cd

(10%): 69 cd	(20%): 138 cd
(25%): 172 cd	(30%): 207 cd
(40%): 275 cd	(50%): 344 cd
(60%): 413 cd	(70%): 482 cd
(80%): 551 cd	(90%): 620 cd

C Plane (°):0.0-360.0: 30.0

Test Lab:

Test Type: TYPE C

Temperature:

Operator:

Gamma Plane (°):0.0-180.0:1.0

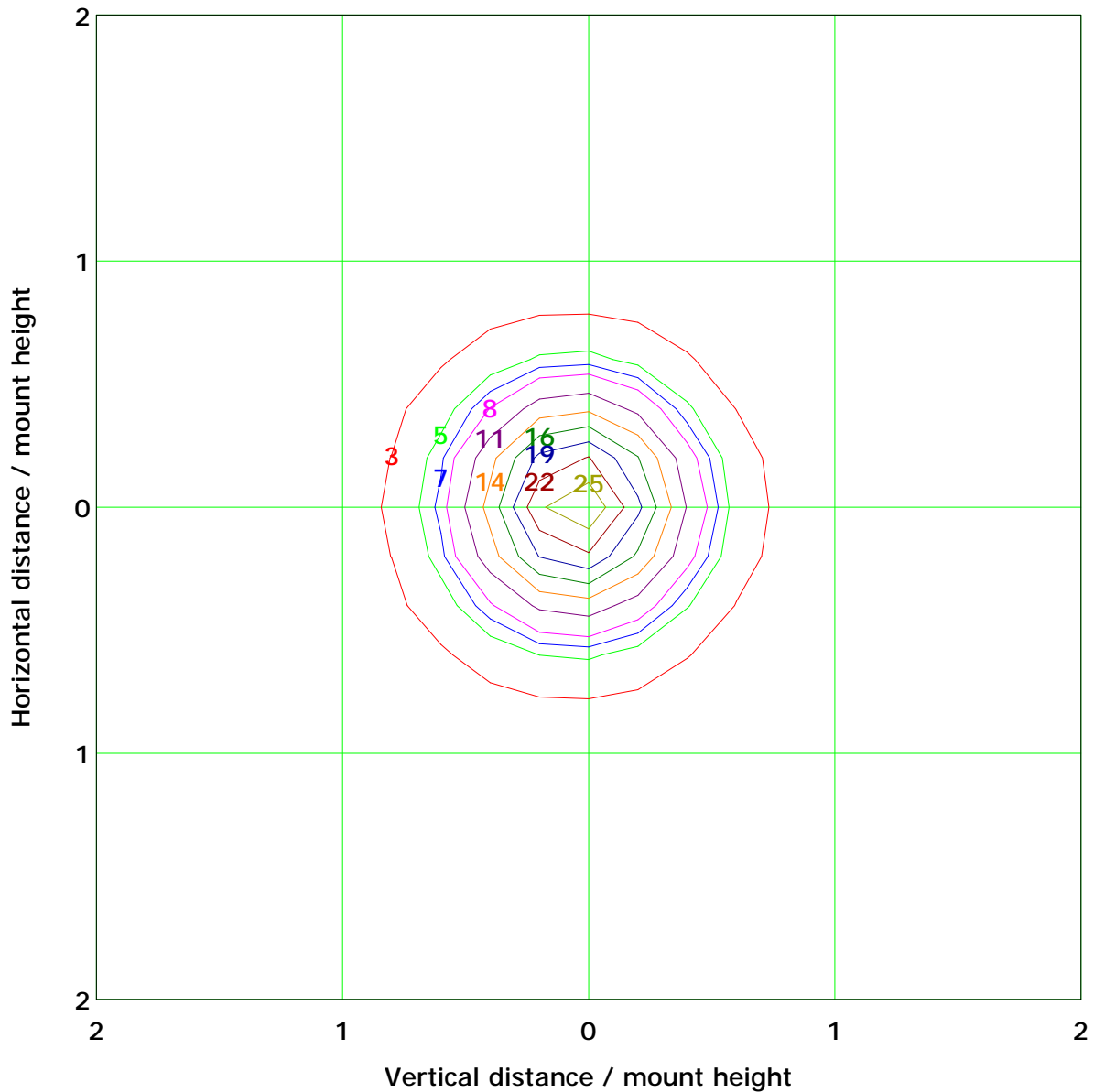
Test Device:

Distance:

Humidity:

Inspector:

IsoLux Plot



Mounting Height: 5.0m		Max Lux(100%): 27.5 lx	
(10%):	2.7 lx	(20%):	5.5 lx
(25%):	6.9 lx	(30%):	8.2 lx
(40%):	11.0 lx	(50%):	13.7 lx
(60%):	16.5 lx	(70%):	19.2 lx
(80%):	22.0 lx	(90%):	24.7 lx

C Plane (°):0.0-360.0: 30.0

Test Lab:

Test Type: TYPE C

Temperature:

Operator:

Gamma Plane (°):0.0-180.0:1.0

Test Device:

Distance:

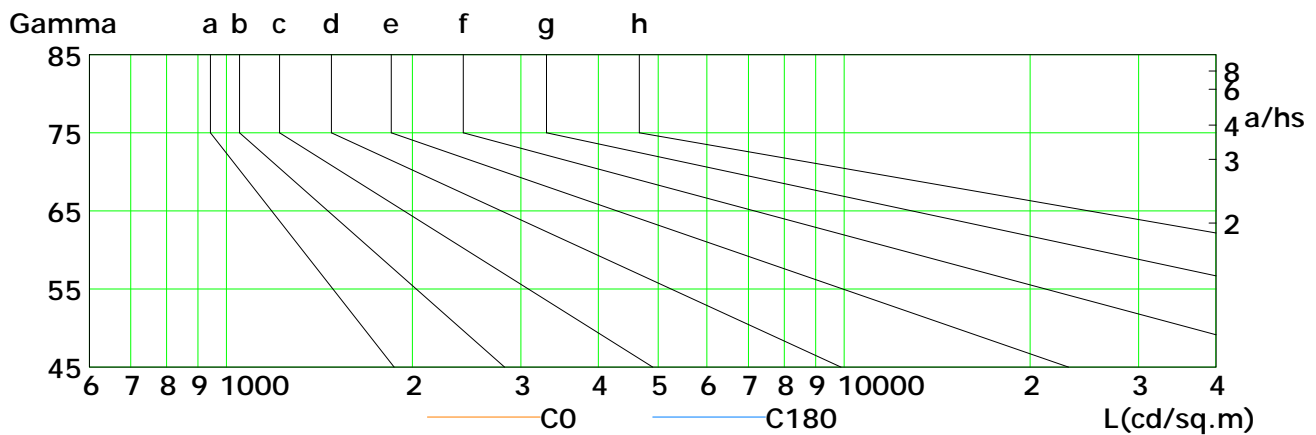
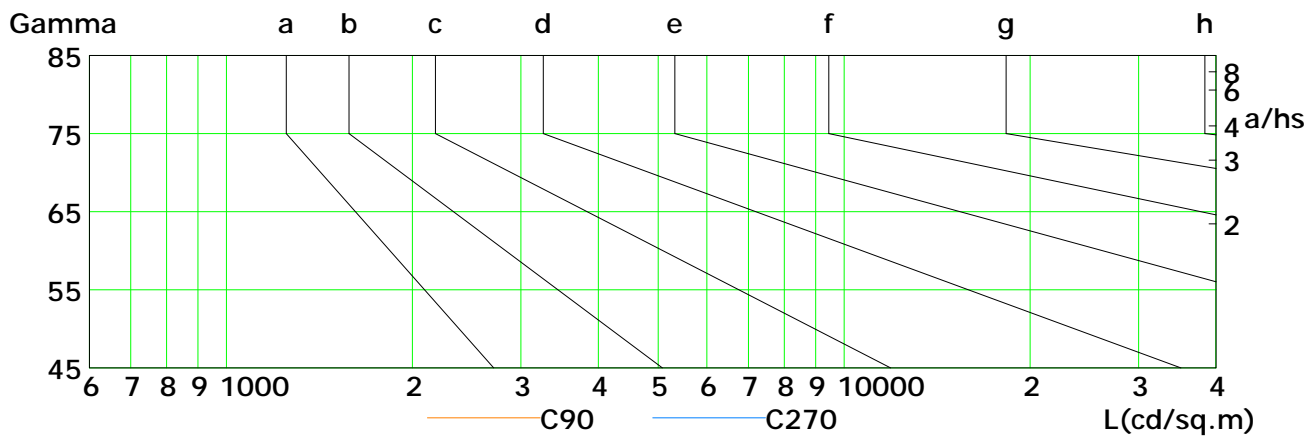
Humidity:

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	74	49	33	23	16	10	4	1	1
C90	56	37	24	16	10	6	3	1	1
C180	75	47	28	17	10	5	2	1	1
C270	94	61	40	26	17	11	7	4	2

C Plane (°):0.0-360.0: 30.0

Test Lab:

Test Type: TYPE C

Temperature:

Operator:

Gamma Plane (°):0.0-180.0:1.0

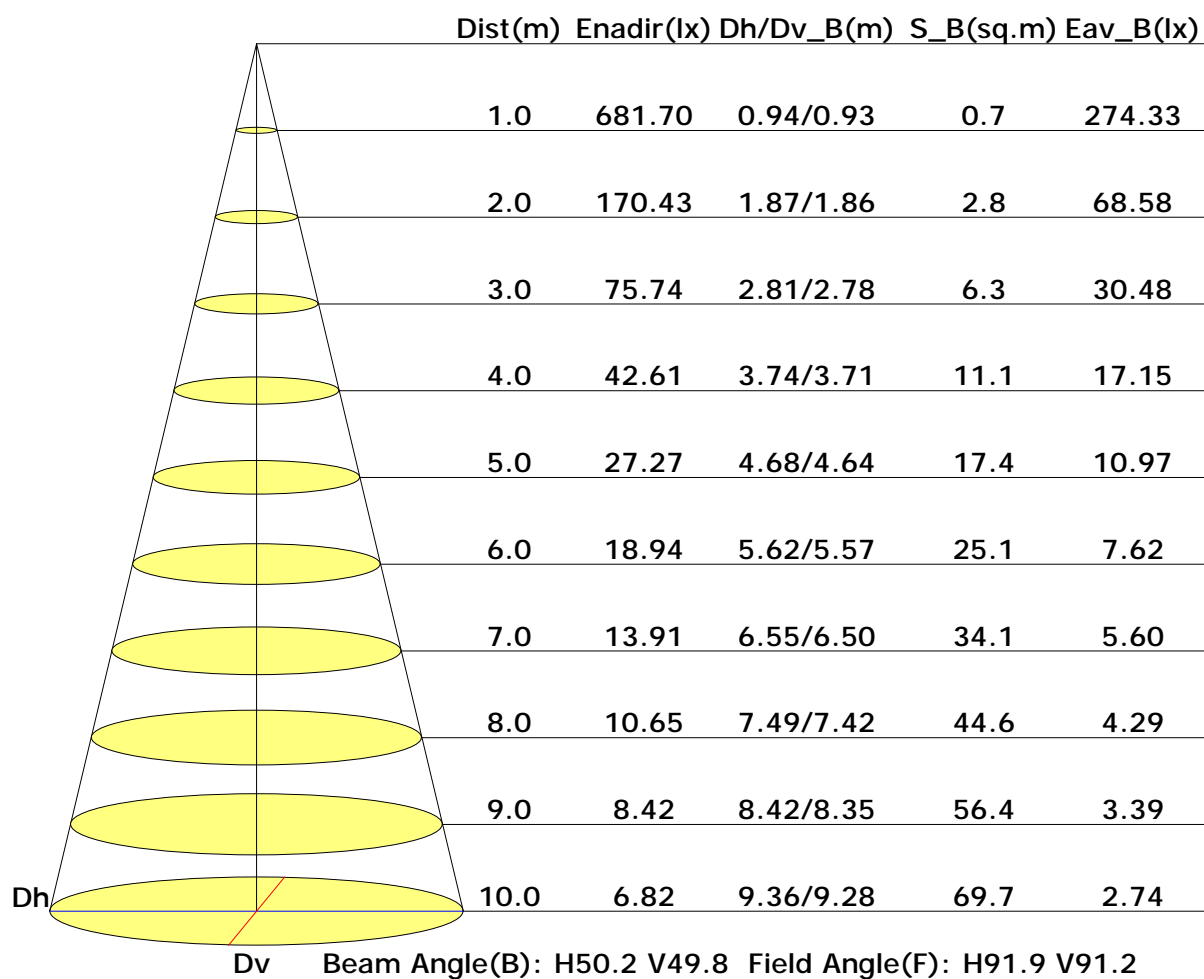
Test Device:

Distance:

Humidity:

Inspector:

Illuminance at a Distance



C Plane (°):0.0-360.0: 30.0

Test Lab:

Test Type: TYPE C

Temperature:

Operator:

Gamma Plane (°):0.0-180.0: 1.0

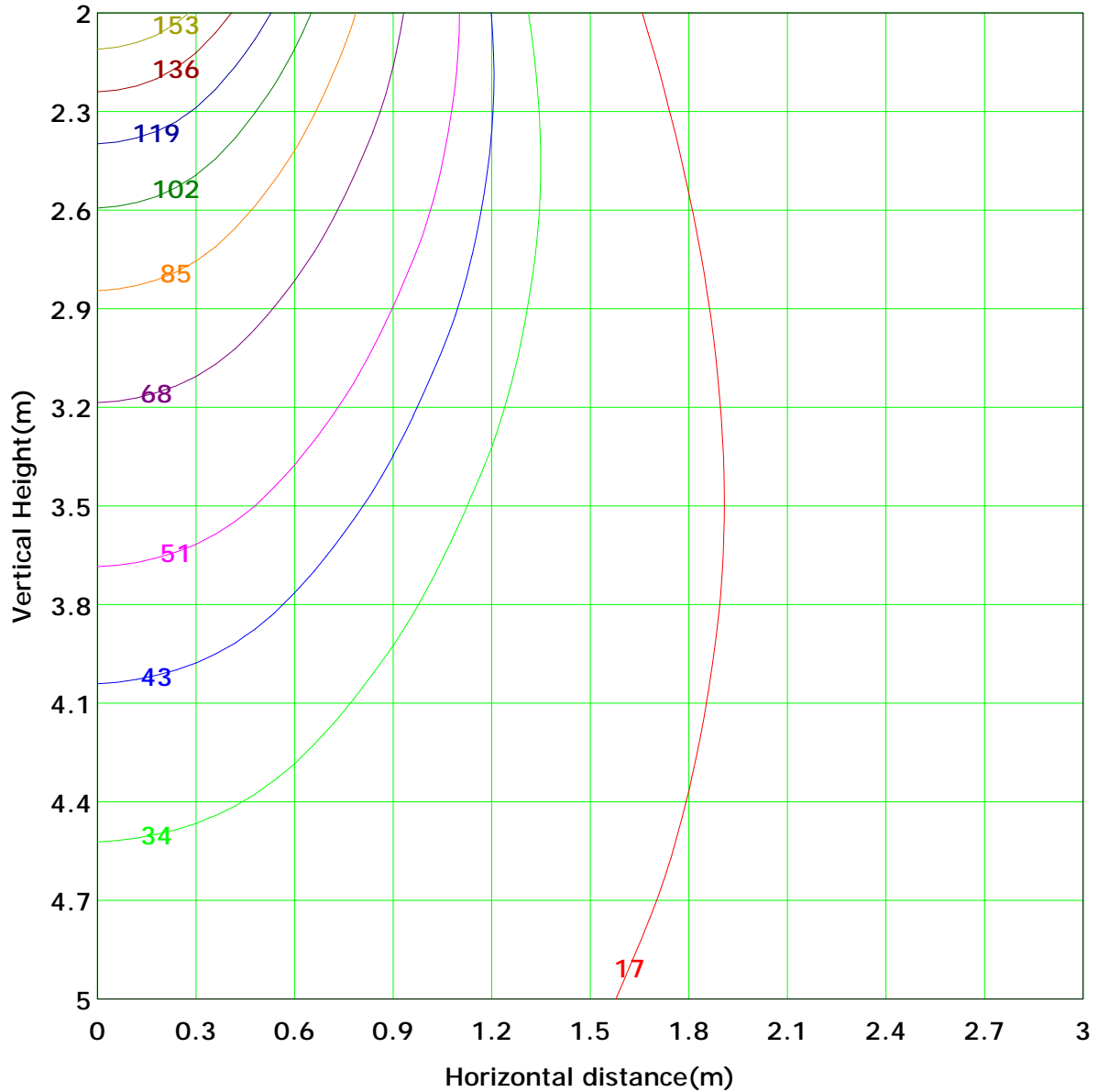
Test Device:

Distance:

Humidity:

Inspector:

Vertical IsoLux Plot



Lowest(m): 2.0m	Highest(m): 5.0m	Max Lux: 170.4 lx
(10%): 17.0 lx	(20%): 34.1 lx	
(25%): 42.6 lx	(30%): 51.1 lx	
(40%): 68.2 lx	(50%): 85.2 lx	
(60%): 102.3 lx	(70%): 119.3 lx	
(80%): 136.3 lx	(90%): 153.4 lx	

C Plane (°):0.0-360.0: 30.0

Test Lab:

Test Type: TYPE C

Temperature:

Operator:

Gamma Plane (°):0.0-180.0:1.0

Test Device:

Distance:

Humidity:

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(T)	Flux(E)
Horizontal plane	-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	0.1	0.0
	-80	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	0.3	0.0
	-70	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	1.4	0.0
	-60	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	4.4	0.0
	-50	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	11.6	4.0
	-40	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	27.2	21.8
	-30	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	54.9	50.0
	-20	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	85.8	81.1
	-10	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	107.7	103.0
	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	106.3	101.6
	10	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	82.9	78.2
	20	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	52.6	47.6
	30	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	26.5	20.8
	40	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	11.6	3.8
	50	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	4.9	0.0
	60	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	1.8	0.0
	70	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	0.4	0.0
	80	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	0.0
	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	0.0
	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	0.0	580	
	Flux(E)	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		512
	Flux(T)Flux(E)	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		

C Plane (°):0.0-360.0: 30.0

Test Lab:

Test Type: TYPE C

Temperature:

Operator:

Gamma Plane (°):0.0-180.0:1.0

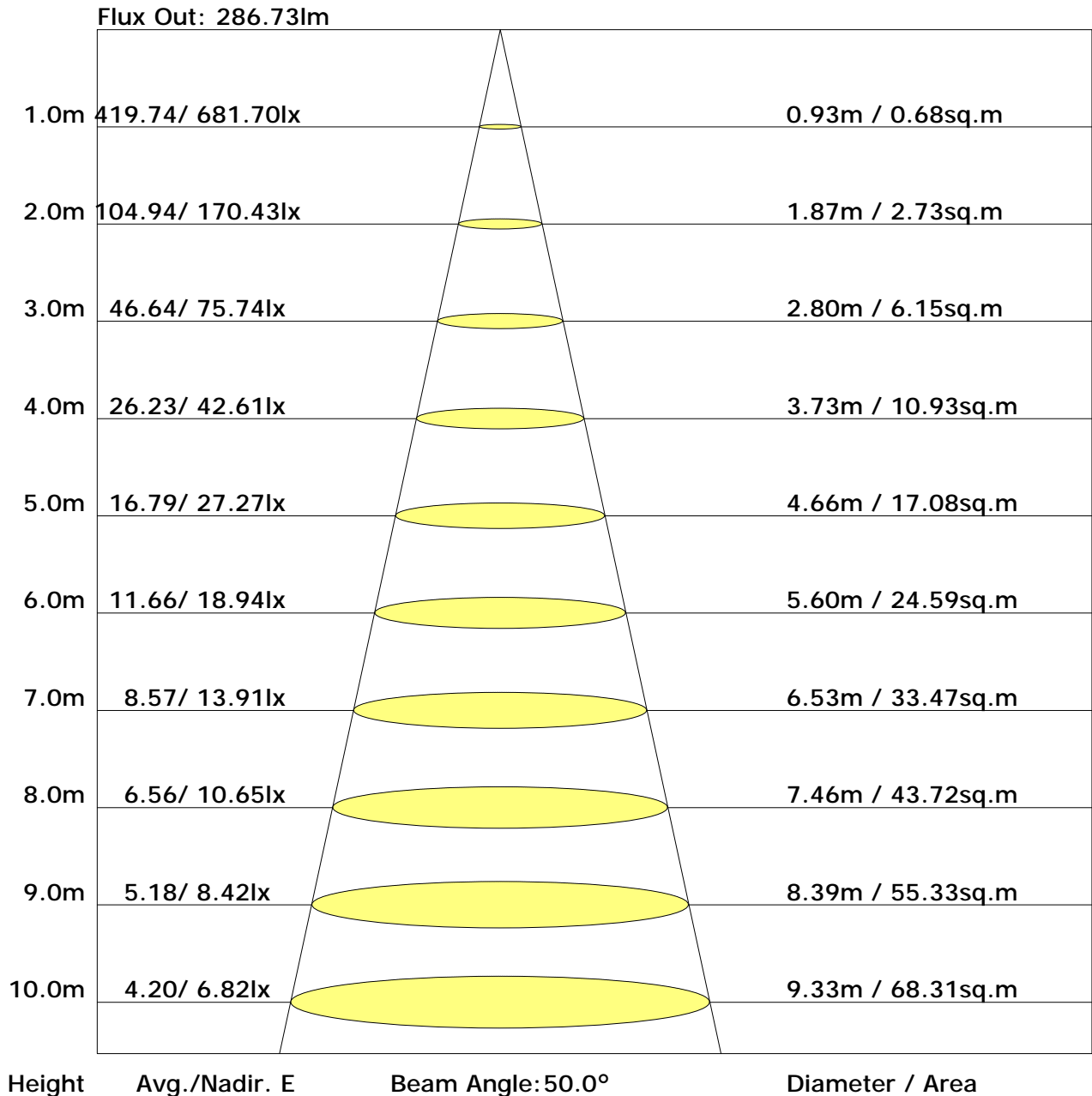
Test Device:

Distance:

Humidity:

Inspector:

The Average Illuminance Effective Figure



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

Gamma Plane (°): 0.0-180.0: 1.0
Test Device:
Distance:
Humidity:
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.\$

Calculate in accordance with CIE 190:2010

C Plane (°):0.0-360.0: 30.0

Test Lab:

Test Type: TYPE C

Temperature:

Operator:

Gamma Plane (°):0.0-180.0:1.0

Test Device:

Distance:

Humidity:

Inspector:

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	0.76	0.84	0.90	0.94	0.99	1.02	1.04	1.07	1.09
	0.30		0.71	0.79	0.85	0.89	0.95	0.98	1.01	1.04	1.07
	0.20		0.67	0.75	0.81	0.85	0.91	0.95	0.98	1.02	1.05
0.50	0.50	0.20	0.75	0.83	0.87	0.91	0.95	0.98	1.00	1.03	1.05
	0.30		0.70	0.78	0.83	0.87	0.92	0.95	0.98	1.01	1.03
	0.20		0.66	0.74	0.80	0.84	0.89	0.93	0.95	0.99	1.01
0.30	0.50	0.20	0.74	0.81	0.85	0.88	0.93	0.95	0.97	0.99	1.01
	0.30		0.69	0.77	0.82	0.85	0.90	0.93	0.95	0.97	0.99
	0.20		0.66	0.74	0.79	0.83	0.87	0.91	0.93	0.96	0.98
0.00	0.00	0.00	0.64	0.71	0.76	0.80	0.84	0.87	0.89	0.91	0.93
<p>Rating:8W 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 = 0.75								
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	0.70	0.56	0.47	0.41	0.32	0.26	0.22	0.17	0.14
	0.30		0.58	0.48	0.41	0.36	0.29	0.24	0.21	0.16	0.13
	0.20		0.50	0.42	0.36	0.32	0.26	0.22	0.19	0.15	0.13
0.50	0.50	0.20	0.67	0.53	0.44	0.38	0.30	0.28	0.21	0.16	0.13
	0.30		0.57	0.46	0.39	0.34	0.27	0.23	0.19	0.15	0.12
	0.20		0.49	0.41	0.35	0.31	0.25	0.21	0.18	0.14	0.12
0.30	0.50	0.20	0.64	0.51	0.42	0.36	0.28	0.23	0.19	0.15	0.12
	0.30		0.55	0.45	0.38	0.32	0.26	0.21	0.18	0.14	0.11
	0.20		0.48	0.40	0.34	0.30	0.24	0.20	0.17	0.13	0.11
0.00	0.00	0.00	0.35	0.28	0.23	0.20	0.15	0.12	0.10	0.08	0.06
<p>Rating:8W 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(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	0.15	0.17	0.18	0.19	0.20	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	0.15	0.17	0.18	0.19
0.50	0.50	0.20	0.15	0.16	0.17	0.18	0.19	0.20	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	0.10	0.12	0.14	0.15	0.16	0.18	0.19
0.30	0.50	0.20	0.14	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	0.17	0.19	0.19
	0.20		0.07	0.09	0.10	0.11	0.13	0.15	0.16	0.17	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:8W Photometrically tested without ceiling board. Multiply UF values by service correction factors Calculate in accordance with CIBSE Technical Memorandum NO.5 1980											

C Plane (°):0.0-360.0: 30.0

Test Lab:

Test Type: TYPE C

Temperature:

Operator:

Gamma Plane (°):0.0-180.0:1.0

Test Device:

Distance:

Humidity:

Inspector: