

LIGHT LABORATORY, INC.

8165 E Kaiser Blvd. Anaheim, CA 92808

SHT 1 OF 7

Test #: L09111104

Date: 10/5/2011

Luminaire Photometric Performance LM-79-2008

Manufacturer:	ATEX CO., LTD
Model Number:	TL30-090AN-11

Total Lumens:	319.44
Input Power (W):	7.01
Input Current (Amp):	0.29
Input Power Factor:	N.A.
Efficacy:	45.57
Color Rendering Index (CRI):	88.66
Correlated Color Temperature (K):	4950
Chromaticity Ordinate x:	0.3458
Chromaticity Ordinate y:	0.3457

*Test data documentation on file and available upon request.

*All results in accordance to IESNA LM-79-2008: Approved Method for the Electrical and Photometric Testing of Solid-State Lighting.

REV.	LOG NUMBER	REVISION DESCRIPTION	REVISION BY	CHECKED BY	APPROVED BY	DATE
A					JS	10/5/11

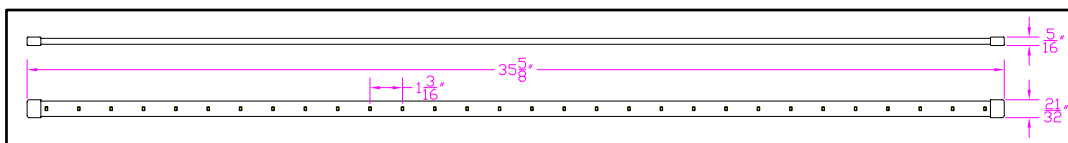
**IES INDOOR REPORT
PHOTOMETRIC FILENAME : L09111104R01.IES**

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002
 [TEST] L09111104R01
 [TESTLAB] LIGHT LABORATORY, INC.
 [ISSUE DATE] 10/5/2011
 [MANUFAC] ATEX CO., LTD
 [LUMCAT] TL30-090AN-11
 [LUMINAIRE] 35-5/8"L. X 21/32"W. X 5/16"H. LED STRIP
 [MORE] FIVE MODULES, EACH MODULE HAS 6 COOL WHITE LEDS
 [MORE] 1-3/16" SPACING, TOTAL 30 LEDS
 [LAMP POSITION] 0,0
 [LAMP CAT] COOL WHITE LED
 [OTHER] INDICATING THE CANDELA VALUES ARE ABSOLUTE AND
 [MORE] SHOULD NOT BE FACTORED FOR DIFFERENT LAMP RATINGS.
 [_ POWER SUPPLY] 24VDC CONSTANT VOLTAGE SOURCE
 [_ INPUT] 24VDC, 7.01W
 [_ TEST PROCEDURE] IESNA:LM-79-08

CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	319
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	46
Total Luminaire Watts	7.01
Ballast Factor	1.00
CIE Type	Direct
Spacing Criterion (0-180)	1.26
Spacing Criterion (90-270)	1.28
Spacing Criterion (Diagonal)	1.40
Basic Luminous Shape	Rectangular w/Sides
Luminous Length (0-180)	2.89 ft
Luminous Width (90-270)	0.05 ft
Luminous Height	0.01 ft



IES INDOOR REPORT
PHOTOMETRIC FILENAME : L09111104R01.IES

LUMINANCE DATA (cd/sq.m)

Angle In Degrees	Average 0-Deg	Average 45-Deg	Average 90-Deg
45	6755	6159	6210
55	6639	6002	6311
65	6211	5867	6295
75	5396	5590	5041
85	3368	3471	2648

**IES INDOOR REPORT
PHOTOMETRIC FILENAME : L09111104R01.IES**

CANDELA TABULATION

	<u>0.0</u>	<u>22.5</u>	<u>45.0</u>	<u>67.5</u>	<u>90.0</u>
0	98.52	98.52	98.52	98.52	98.52
5	98.26	98.17	97.58	98.25	97.81
10	96.66	96.55	96.79	96.44	96.70
15	93.90	94.25	94.27	94.68	94.45
20	91.10	91.38	90.92	91.00	91.74
25	87.06	87.08	86.97	87.76	87.80
30	82.19	82.83	83.11	83.15	84.04
35	77.62	77.69	78.17	79.02	79.66
40	71.32	71.60	72.60	74.32	75.44
45	64.40	65.14	66.94	69.63	70.81
50	57.82	58.54	60.95	64.96	66.19
55	51.42	52.28	55.76	60.85	62.53
60	43.44	44.72	49.82	56.26	57.76
65	35.53	36.95	43.60	50.06	51.08
70	26.65	28.90	37.04	41.91	41.62
75	19.01	21.23	29.88	31.31	30.62
80	10.55	12.98	20.22	20.29	19.43
85	4.10	7.30	10.75	10.40	10.19
90	0.99	3.50	5.11	5.09	5.17
95	0.00	2.44	3.68	4.24	4.39
100	0.00	1.74	3.05	3.81	3.95
105	0.00	1.36	2.58	3.38	3.55
110	0.00	1.09	2.36	3.13	3.37
115	0.00	0.00	2.57	3.47	3.76
120	0.00	0.00	2.58	4.24	4.66
125	0.00	0.00	1.68	4.28	5.16
130	0.00	0.00	0.00	2.99	4.06
135	0.00	0.00	0.00	1.17	1.82
140	0.00	0.00	0.00	0.00	0.00
145	0.00	0.00	0.00	0.00	0.00
150	0.00	0.00	0.00	0.00	0.00
155	0.00	0.00	0.00	0.00	0.00
160	0.00	0.00	0.00	0.00	0.00
165	0.00	0.00	0.00	0.00	0.00
170	0.00	0.00	0.00	0.00	0.00
175	0.00	0.00	0.00	0.00	0.00
180	0.00	0.00	0.00	0.00	0.00

IES INDOOR REPORT
PHOTOMETRIC FILENAME : L09111104R01.IES

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-30	76.21	N.A.	23.90
0-40	125.23	N.A.	39.20
0-60	227.63	N.A.	71.30
0-90	309.13	N.A.	96.80
90-120	8.09	N.A.	2.50
90-130	9.85	N.A.	3.10
90-150	10.31	N.A.	3.20
90-180	10.31	N.A.	3.20
0-180	319.44	N.A.	100.00

Total Luminaire Efficiency = N.A.%

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	9.31
10-20	26.62
20-30	40.28
30-40	49.02
40-50	52.03
50-60	50.36
60-70	42.81
70-80	28.04
80-90	10.66
90-100	3.58
100-110	2.45
110-120	2.06
120-130	1.76
130-140	0.45
140-150	0.00
150-160	0.00
160-170	0.00
170-180	0.00

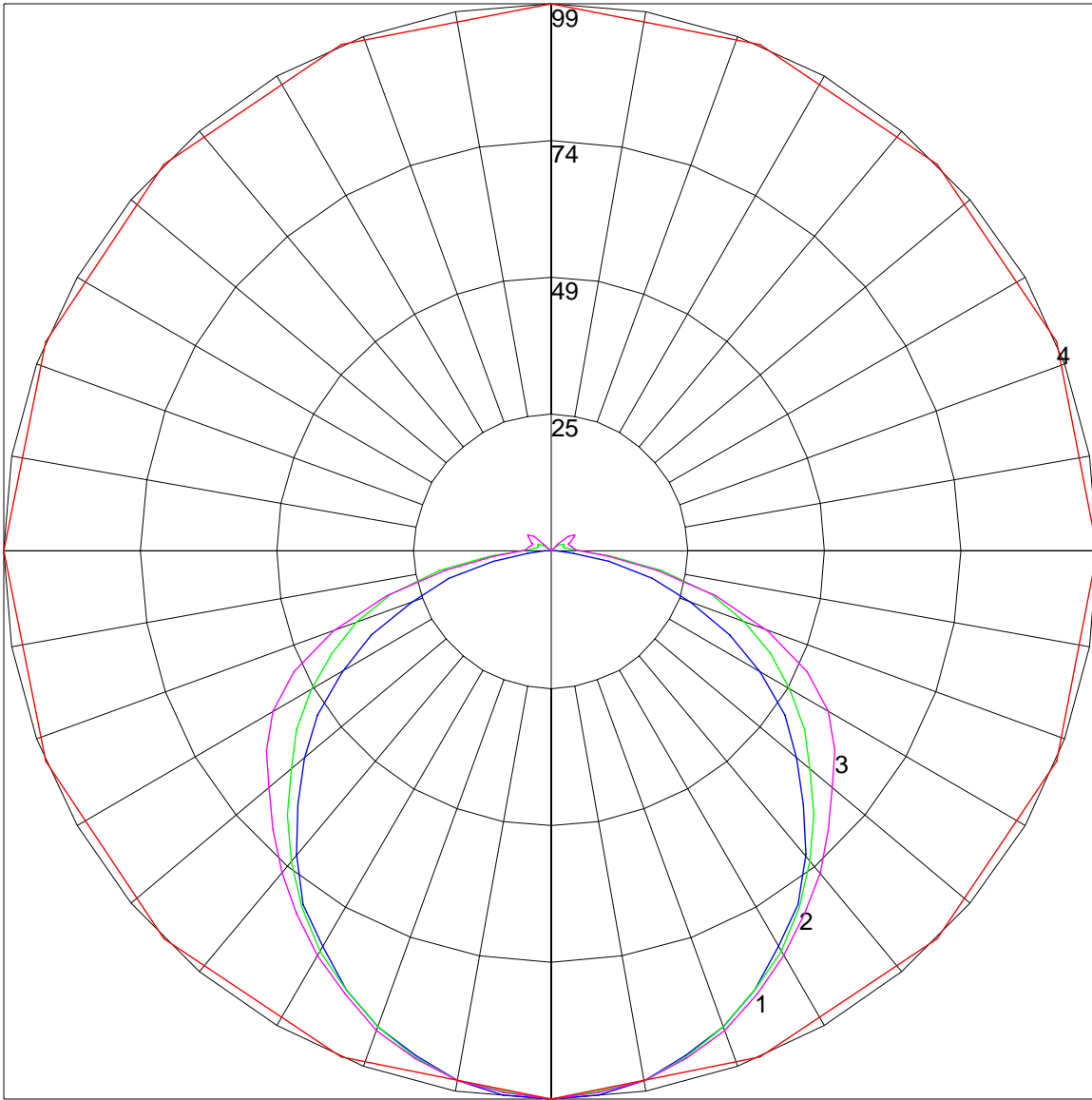
IES INDOOR REPORT
PHOTOMETRIC FILENAME : L09111104R01.IES

COEFFICIENTS OF UTILIZATION - ZONAL CAVITY METHOD

Effective Floor Cavity Reflectance 0.20

RC	80				70				50			30			10			0
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	0
0	118	118	118	118	115	115	115	115	109	109	109	104	104	104	99	99	99	97
1	107	102	97	93	104	99	95	91	94	91	87	90	87	84	86	83	81	79
2	97	88	80	74	94	86	79	73	81	76	71	78	73	69	74	70	67	64
3	88	77	68	61	85	75	67	60	71	64	59	68	62	57	65	60	56	53
4	80	67	58	51	77	66	57	51	63	55	50	60	54	49	58	52	47	45
5	73	60	51	44	71	59	50	43	56	48	43	54	47	42	52	46	41	39
6	68	54	45	38	65	53	44	38	51	43	37	49	42	36	47	41	36	34
7	63	49	40	33	61	48	39	33	46	38	33	44	37	32	42	36	32	30
8	58	44	36	30	56	44	35	29	42	34	29	40	34	29	39	33	28	26
9	54	41	32	27	53	40	32	26	39	31	26	37	31	26	36	30	25	24
10	51	37	29	24	50	37	29	24	36	29	24	34	28	23	33	27	23	21

POLAR GRAPH



Maximum Candela = 98.52 Located At Horizontal Angle = 0, Vertical Angle = 0
1 - Vertical Plane Through Horizontal Angles (0 - 180) (Through Max. Cd.) : BLUE
2 - Vertical Plane Through Horizontal Angles (45 - 225) : GREEN
3 - Vertical Plane Through Horizontal Angles (90 - 270) : MAGENTA
4 - Horizontal Cone Through Vertical Angle (0) (Through Max. Cd.) : RED

LIGHT LABORATORY, INC.

8165 E Kaiser Blvd. Anaheim, CA 92808

SHT 1 OF 7

Test #: L09111103

Date: 10/5/2011

Luminaire Photometric Performance LM-79-2008

Manufacturer:	ATEX CO., LTD
Model Number:	TL30-090AL-11

Total Lumens:	268.55
Input Power (W):	6.99
Input Current (Amp):	0.29
Input Power Factor:	N.A.
Efficacy:	38.42
Color Rendering Index (CRI):	87.08
Correlated Color Temperature (K):	2863
Chromaticity Ordinate x:	0.4436
Chromaticity Ordinate y:	0.4006

*Test data documentation on file and available upon request.

*All results in accordance to IESNA LM-79-2008: Approved Method for the Electrical and Photometric Testing of Solid-State Lighting.

REV.	LOG NUMBER	REVISION DESCRIPTION	REVISION BY	CHECKED BY	APPROVED BY	DATE
A					JS	10/5/11

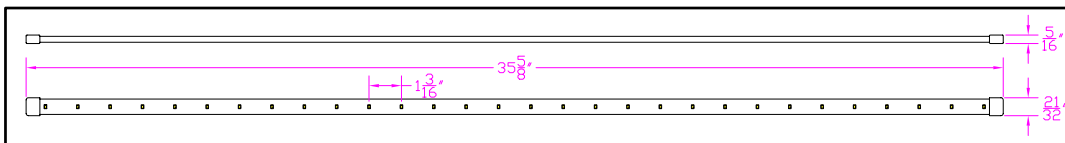
**IES INDOOR REPORT
PHOTOMETRIC FILENAME : L09111103.IES**

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002
[TEST] L09111103
[TESTLAB] LIGHT LABORATORY, INC.
[ISSUE DATE] 10/5/2011
[MANUFAC] ATEX CO., LTD
[LUMCAT] TL30-090AL-11
[LUMINAIRE] 35-5/8"L. X 21/32"W. X 5/16"H. LED STRIP
[MORE] FIVE MODULES, EACH MODULE HAS 6 WARM WHITE LEDS
[MORE] 1-3/16" SPACING, TOTAL 30 LEDS
[LAMP POSITION] 0,0
[LAMPCAT] WARM WHITE LED
[OTHER] INDICATING THE CANDELA VALUES ARE ABSOLUTE AND
[MORE] SHOULD NOT BE FACTORED FOR DIFFERENT LAMP RATINGS.
[_POWER SUPPLY] 24VDC CONSTANT VOLTAGE SOURCE
[_INPUT] 24VDC, 6.99W
[_TEST PROCEDURE] IESNA:LM-79-08

CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	269
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	38
Total Luminaire Watts	6.99
Ballast Factor	1.00
CIE Type	Direct
Spacing Criterion (0-180)	1.26
Spacing Criterion (90-270)	1.28
Spacing Criterion (Diagonal)	1.40
Basic Luminous Shape	Rectangular w/Sides
Luminous Length (0-180)	2.89 ft
Luminous Width (90-270)	0.05 ft
Luminous Height	0.01 ft



IES INDOOR REPORT
PHOTOMETRIC FILENAME : L09111103.IES

LUMINANCE DATA (cd/sq.m)

Angle In Degrees	Average 0-Deg	Average 45-Deg	Average 90-Deg
45	5759	5317	5367
55	5627	5286	5332
65	5258	5038	4692
75	4434	4138	3677
85	2579	2541	2463

**IES INDOOR REPORT
PHOTOMETRIC FILENAME : L09111103.IES**

CANDELA TABULATION

	<u>0.0</u>	<u>22.5</u>	<u>45.0</u>	<u>67.5</u>	<u>90.0</u>
0	83.61	83.61	83.61	83.61	83.61
5	83.45	83.39	83.09	83.22	83.02
10	82.04	81.86	82.01	81.78	82.23
15	79.78	79.96	79.86	79.97	79.79
20	77.51	77.50	77.17	76.88	76.91
25	73.95	73.94	73.74	74.37	74.14
30	70.01	70.30	70.48	70.68	71.40
35	65.87	65.90	66.51	67.64	68.03
40	60.76	61.12	62.18	63.74	64.84
45	54.91	55.66	57.79	60.17	61.19
50	49.38	50.30	53.40	56.31	57.19
55	43.58	45.23	49.11	52.25	52.83
60	36.78	38.72	43.80	46.20	46.02
65	30.08	32.26	37.44	38.71	38.07
70	23.09	25.26	30.31	30.29	29.86
75	15.62	18.89	22.12	22.32	22.33
80	8.65	11.67	14.57	15.33	15.57
85	3.14	5.88	7.87	8.88	9.48
90	0.83	2.72	4.13	5.48	5.97
95	0.00	1.97	3.35	4.33	4.51
100	0.00	1.49	2.71	3.29	3.39
105	0.00	1.17	2.14	2.72	2.85
110	0.00	0.90	1.85	2.39	2.56
115	0.00	0.00	1.91	2.52	2.71
120	0.00	0.00	1.90	3.10	3.37
125	0.00	0.00	1.26	3.19	3.83
130	0.00	0.00	0.00	2.08	2.89
135	0.00	0.00	0.00	1.02	1.48
140	0.00	0.00	0.00	0.00	0.00
145	0.00	0.00	0.00	0.00	0.00
150	0.00	0.00	0.00	0.00	0.00
155	0.00	0.00	0.00	0.00	0.00
160	0.00	0.00	0.00	0.00	0.00
165	0.00	0.00	0.00	0.00	0.00
170	0.00	0.00	0.00	0.00	0.00
175	0.00	0.00	0.00	0.00	0.00
180	0.00	0.00	0.00	0.00	0.00

IES INDOOR REPORT
PHOTOMETRIC FILENAME : L09111103.IES

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-30	64.60	N.A.	24.10
0-40	106.38	N.A.	39.60
0-60	194.42	N.A.	72.40
0-90	260.03	N.A.	96.80
90-120	6.87	N.A.	2.60
90-130	8.17	N.A.	3.00
90-150	8.51	N.A.	3.20
90-180	8.51	N.A.	3.20
0-180	268.55	N.A.	100.00

Total Luminaire Efficiency = N.A.%

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	7.90
10-20	22.55
20-30	34.15
30-40	41.77
40-50	44.77
50-60	43.27
60-70	35.13
70-80	21.82
80-90	8.67
90-100	3.32
100-110	2.02
110-120	1.53
120-130	1.29
130-140	0.35
140-150	0.00
150-160	0.00
160-170	0.00
170-180	0.00

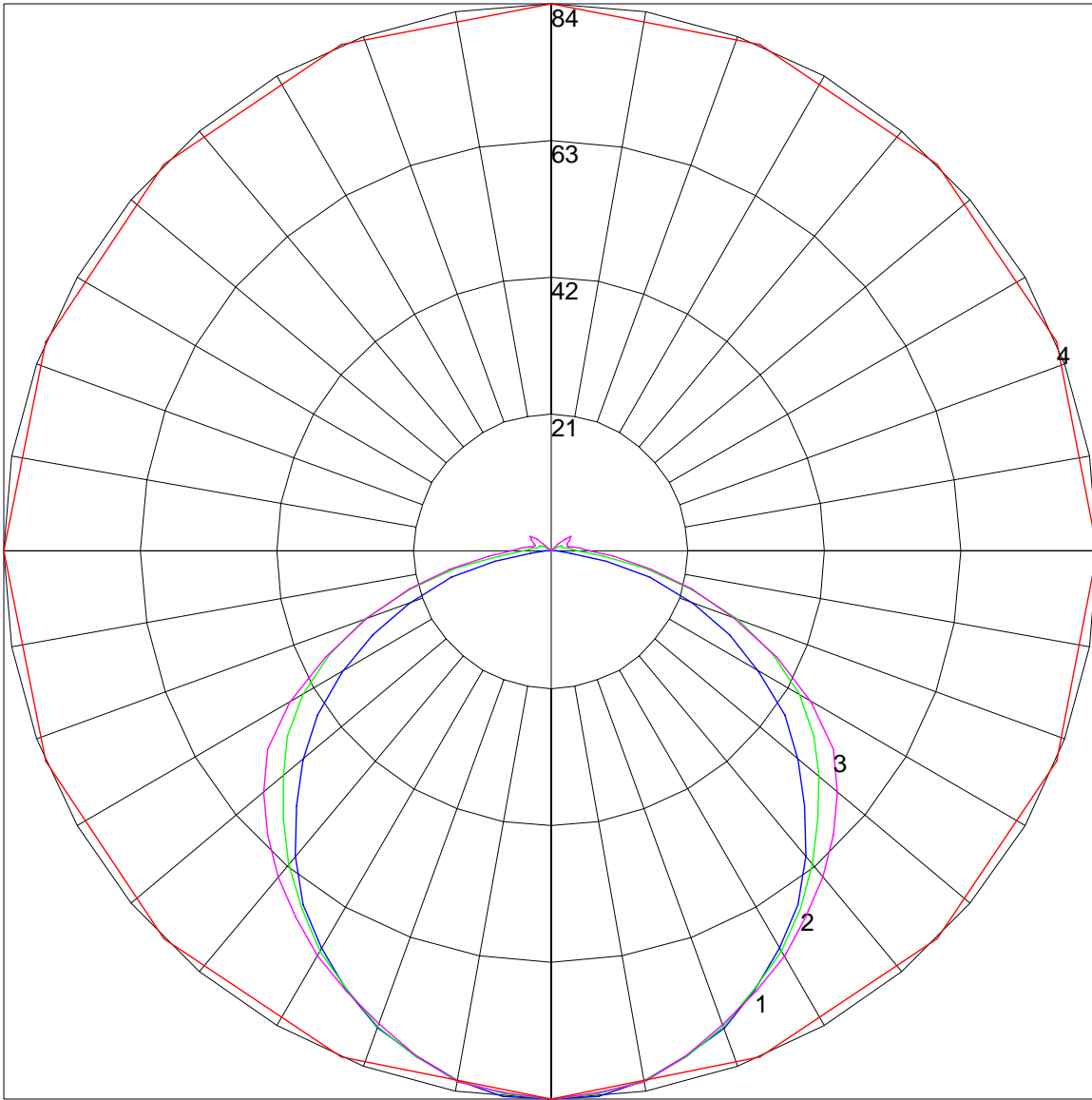
IES INDOOR REPORT
PHOTOMETRIC FILENAME : L09111103.IES

COEFFICIENTS OF UTILIZATION - ZONAL CAVITY METHOD

Effective Floor Cavity Reflectance 0.20

RC	80				70				50			30			10			0	
	RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	0
0	118	118	118	118	118	115	115	115	115	109	109	109	104	104	104	99	99	99	97
1	107	102	97	93	93	104	99	95	91	94	91	88	90	87	84	86	83	81	79
2	97	88	81	75	75	94	86	79	73	82	76	71	78	73	69	74	71	67	65
3	88	77	68	61	61	85	75	67	61	71	65	59	68	62	58	65	60	56	54
4	80	68	58	52	52	77	66	58	51	63	56	50	60	54	49	58	52	48	46
5	73	60	51	44	44	71	59	50	44	56	49	43	54	47	42	52	46	41	39
6	68	54	45	38	38	66	53	44	38	51	43	37	49	42	37	47	41	36	34
7	63	49	40	34	34	61	48	39	33	46	38	33	44	37	32	43	37	32	30
8	58	44	36	30	30	57	44	35	30	42	35	29	41	34	29	39	33	29	27
9	54	41	32	27	27	53	40	32	27	39	31	26	37	31	26	36	30	26	24
10	51	38	30	24	24	50	37	29	24	36	29	24	35	28	24	33	28	23	21

POLAR GRAPH



Maximum Candela = 83.61 Located At Horizontal Angle = 0, Vertical Angle = 0
1 - Vertical Plane Through Horizontal Angles (0 - 180) (Through Max. Cd.) : BLUE
2 - Vertical Plane Through Horizontal Angles (45 - 225) : GREEN
3 - Vertical Plane Through Horizontal Angles (90 - 270) : MAGENTA
4 - Horizontal Cone Through Vertical Angle (0) (Through Max. Cd.) : RED