

Scaled data based on original data using  
LM-79-08 Approved Method: Electrical and Photometric Measurements of Solid-  
State Lighting Products

Test Report Prepared for  
Cooper Lighting Solutions  
(formerly Eaton)

Brand: LUMARK

Report Number: P163785

Luminaire Tested: **LDRL-SL4-E01-E-8030-HSS**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P163785  
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (P33728)  
Test Lab: INNOVATION CENTER-P3  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: LUMARK  
Catalog Number: LDRL-SL4-E01-E-8030-HSS  
Description: RL LED ROADWAY LARGE CUTOFF COBRAHEAD LUMINAIRE  
(1) LIGHTBARS WITH AccuLED OPTICS - TYPE 4 W/ SPILL LIGHT CONTROL AND HOUSE SIDE SHIELD  
Light Source: (21) 3000K CCT, 80 CRI LEDs  
Ballast/Driver: -

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 1665.8 lumens  
Efficiency: N/A  
Efficacy: 67.4 lumens/watt  
Luminous Opening: Rectangular w/ Sides (W: 0.17' x L: 1' x H: 0.1')  
IES Classification: Type IV - Short - Semi-Cutoff  
BUG Rating: B0 - U0 - G1

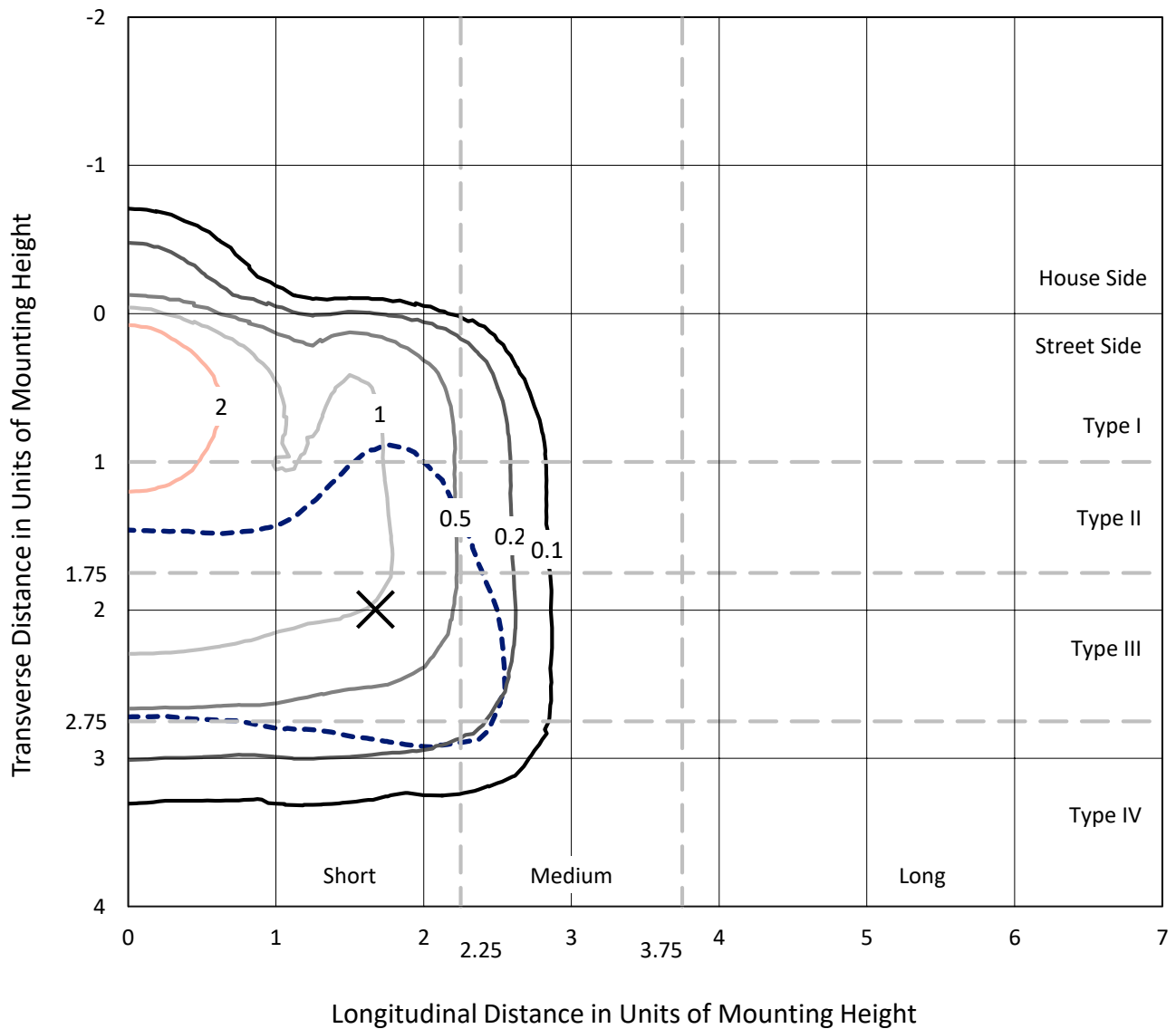
Input Watts (W): 24.7  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



REPORT NUMBER: P163785  
 CATALOG NUMBER: LDRL-SL4-E01-E-8030-HSS

### Iso-Footcandle Lines of Horizontal Illumination

× Max cd  
 - - - 1/2 Max cd

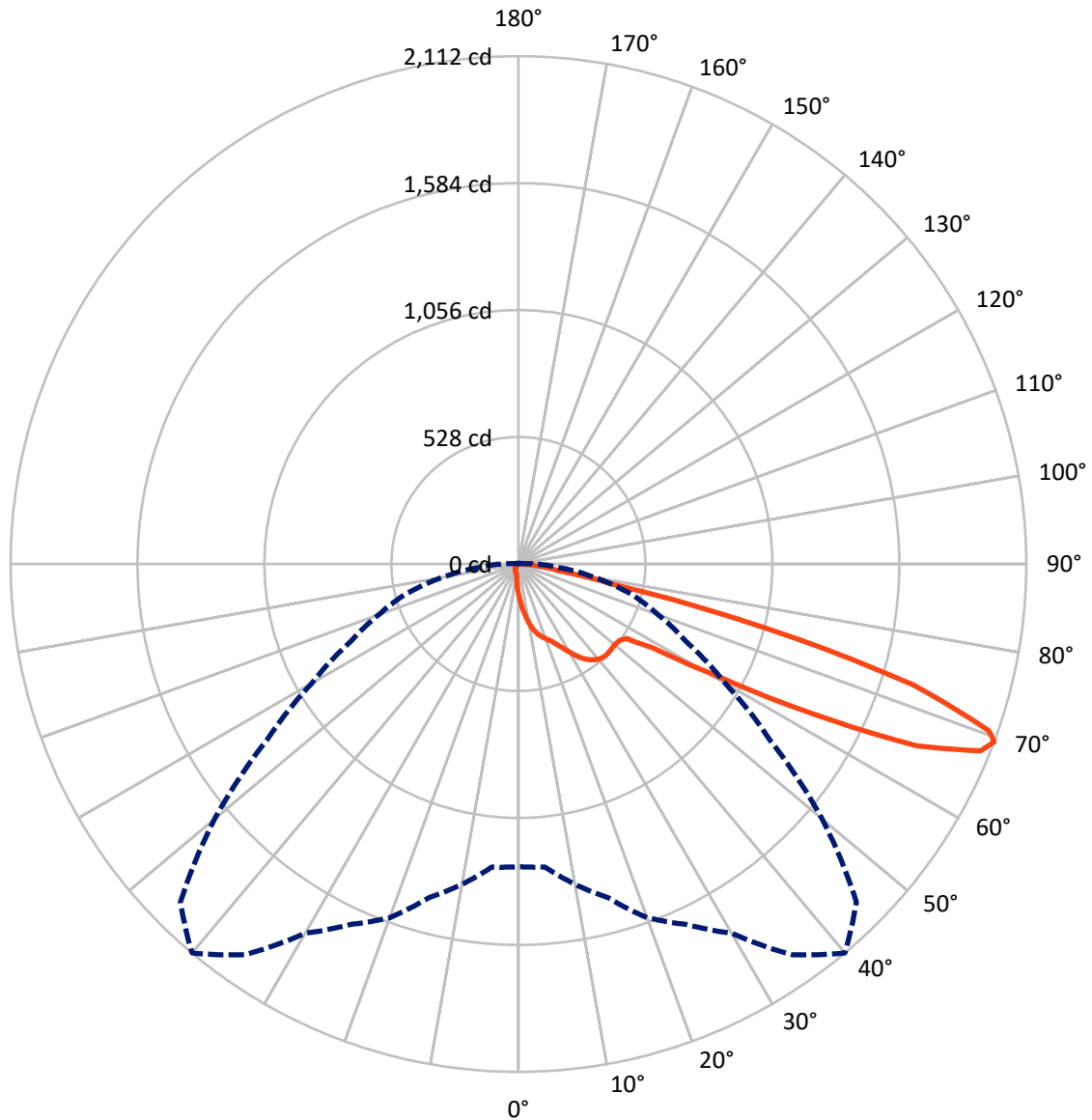


Based on 10 foot mounting height. Maximum calculated value = 3.7 fc  
 Type IV - Short - Semi-Cutoff

REPORT NUMBER: P163785

CATALOG NUMBER: LDRL-SL4-E01-E-8030-HSS

### Luminous Intensity Polar Plot



— Vertical Plane Through 40-Deg Lateral    - - - Horizontal Cone Through 69-Deg Vertical

REPORT NUMBER: P163785

CATALOG NUMBER: LDRL-SL4-E01-E-8030-HSS

**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	49.6	0.0	49.6
	% Fixture	3.0	0.0	3.0
<b>Street Side</b>	Lumens	1616.2	0.0	1616.2
	% Fixture	97.0	0.0	97.0
<b>Total</b>	Lumens	1665.8	0.0	1665.8
	% Fixture	100.0	0.0	100.0

**Coefficient of Utilization**

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	12.9	0.8
10°-20°	44.6	2.7
20°-30°	85.3	5.1
30°-40°	141.9	8.5
40°-50°	192.0	11.5
50°-60°	300.3	18.0
60°-70°	617.4	37.1
70°-80°	248.4	14.9
80°-90°	23.0	1.4
90°-100°	0.0	0.0
100°-110°	0.0	0.0
110°-120°	0.0	0.0
120°-130°	0.0	0.0
130°-140°	0.0	0.0
140°-150°	0.0	0.0
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-90°	1665.8	100.0
0°-180°	1665.8	100.0



REPORT NUMBER: P163785

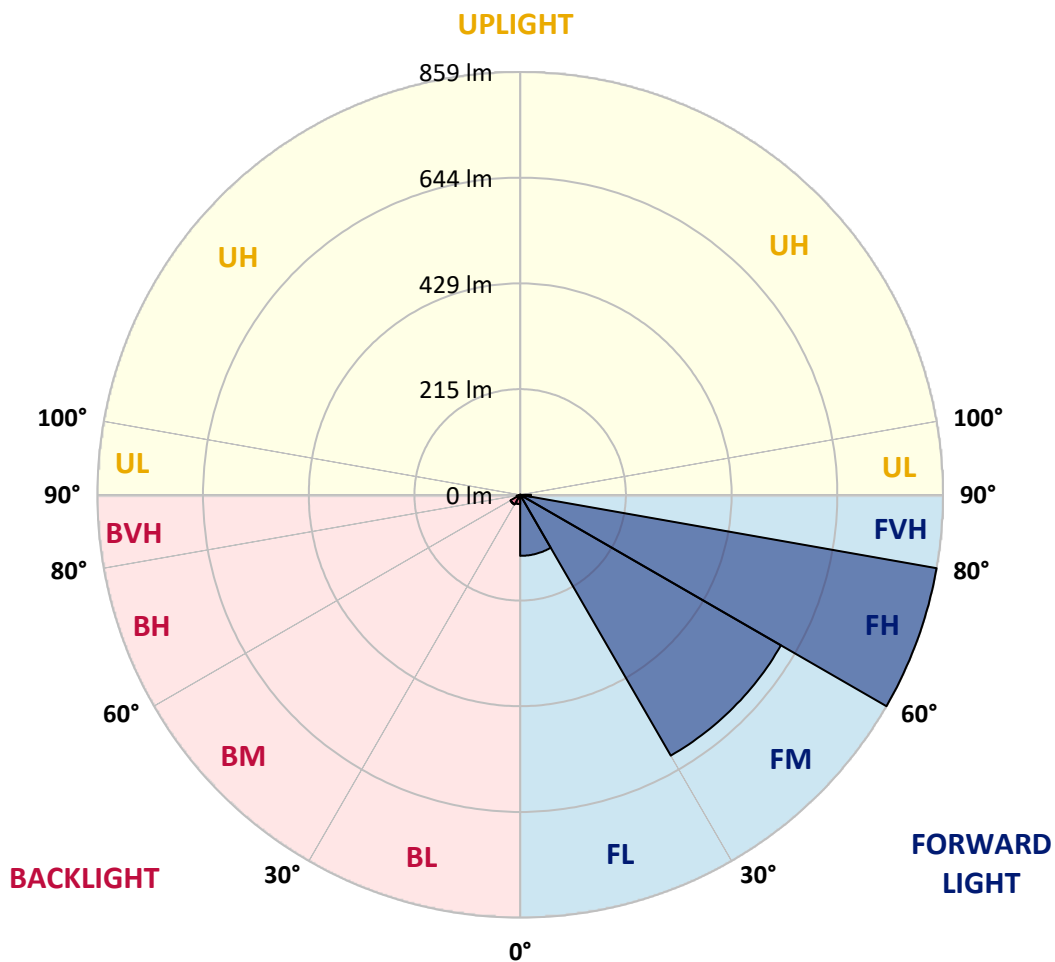
CATALOG NUMBER: LDRL-SL4-E01-E-8030-HSS

**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	124.0	7.4			
FM (30°-60°)	611.6	36.7			
FH (60°-80°)	858.6	51.5			G1/1800
FVH (80°-90°)	22.1	1.3			G1/100
BL (0°-30°)	18.9	1.1	B0/110		
BM (30°-60°)	22.6	1.4	B0/220		
BH (60°-80°)	7.2	0.4	B0/110		G0/110
BVH (80°-90°)	0.9	0.1			G0/10
UL (90°-100°)	0.0	0.0		U0/0	
UH (100°-180°)	0.0	0.0		U0/0	

**BUG Rating: B0-U0-G1**

Type IV Short





REPORT NUMBER: P163785

CATALOG NUMBER: LDRL-SL4-E01-E-8030-HSS

**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	125.8	125.8	125.8	125.8	125.8	125.8	125.8	125.8	125.8	125.8	125.8
2.5°	167.8	165.9	163.7	163.7	161.0	161.0	159.4	155.0	154.5	152.0	149.5
5°	214.2	212.6	209.8	207.4	205.2	201.4	198.7	193.5	187.8	182.3	177.4
7.5°	259.5	258.7	253.8	253.0	249.4	243.1	237.7	230.0	220.2	212.6	203.6
10°	301.5	299.6	298.5	293.9	288.7	281.9	273.4	264.2	252.7	240.7	227.9
12.5°	334.8	333.7	328.8	326.9	321.5	314.6	304.0	292.0	280.5	265.0	250.0
15°	359.7	357.8	354.5	351.5	344.9	338.9	329.1	316.0	302.1	285.2	267.2
17.5°	380.4	376.9	376.0	371.4	364.6	357.5	346.6	334.6	318.2	301.3	281.6
20°	408.2	403.3	401.7	394.9	387.0	377.1	364.6	349.6	332.4	313.8	293.6
22.5°	441.0	437.4	433.9	427.9	417.8	403.9	385.6	369.2	347.4	326.9	305.1
25°	487.4	484.4	478.6	470.5	457.9	441.3	419.2	395.1	369.5	343.3	317.6
27.5°	532.4	529.7	525.6	519.3	505.1	486.8	459.5	429.0	396.5	364.9	336.5
30°	574.7	572.2	568.2	561.9	549.3	531.3	500.5	467.7	427.3	390.5	356.4
32.5°	620.3	619.5	614.8	605.8	594.9	570.6	537.0	501.8	460.9	418.3	378.5
35°	671.9	665.6	661.2	652.2	633.7	607.7	568.4	529.9	486.8	443.2	398.7
37.5°	715.5	709.5	704.1	692.6	669.9	636.9	592.4	550.1	505.7	461.2	415.9
40°	747.4	744.4	737.9	722.9	697.5	658.2	610.2	564.1	519.3	474.6	429.8
42.5°	771.2	766.5	759.2	743.6	713.6	668.8	617.3	569.8	525.6	482.7	438.8
45°	779.9	776.1	769.3	752.4	719.9	671.9	617.0	568.2	525.9	485.2	444.8
47.5°	774.7	770.9	764.9	749.1	717.2	668.3	612.1	563.5	523.1	486.0	450.3
50°	757.5	755.4	750.7	737.3	708.7	661.5	607.7	561.1	522.6	490.1	457.9
52.5°	755.9	754.5	748.8	735.4	706.2	659.3	607.2	562.4	527.2	495.3	463.4
55°	923.7	904.4	861.0	824.1	763.5	691.5	634.7	584.5	546.9	515.8	493.4
57.5°	1312.9	1283.9	1226.9	1156.8	1017.6	880.9	771.5	692.3	653.3	639.1	647.6
60°	1495.1	1490.0	1481.0	1447.7	1376.4	1258.8	1127.8	986.2	929.5	924.5	941.7
62.5°	1581.7	1578.4	1581.1	1577.0	1554.9	1520.5	1482.9	1421.7	1365.5	1329.2	1252.3
65°	1621.5	1623.7	1639.2	1651.5	1654.2	1663.3	1690.8	1766.9	1822.6	1729.0	1515.4
67.5°	1520.3	1533.1	1568.8	1613.6	1666.0	1716.7	1798.6	1959.1	2073.4	1963.4	1660.0
69°	1258.6	1264.8	1352.2	1436.5	1564.5	1654.0	1772.7	1983.1	2111.6	1987.4	1648.5
70°	990.9	996.6	1090.2	1204.8	1421.2	1536.4	1691.6	1942.4	2075.9	1955.5	1589.6
72.5°	447.0	438.8	471.8	533.2	768.5	951.3	1222.8	1573.7	1712.6	1566.6	1189.3
75°	312.2	308.6	312.2	312.5	349.0	450.3	568.2	853.0	1055.0	910.3	568.2
77.5°	241.8	239.3	236.9	234.1	238.5	267.2	278.6	302.6	393.0	371.7	216.7
80°	191.3	189.1	195.1	193.2	193.2	196.5	194.3	185.3	168.4	156.1	139.7
82.5°	89.0	89.5	89.5	97.1	117.1	136.7	143.0	134.0	119.0	101.2	81.6
85°	8.5	9.6	16.1	24.8	49.4	55.7	55.9	46.4	46.4	36.6	29.5
87.5°	0.0	0.3	0.3	0.3	2.4	6.8	5.7	1.6	0.8	0.8	1.4
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



REPORT NUMBER: P163785

CATALOG NUMBER: LDRL-SL4-E01-E-8030-HSS

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°	105°
0°	125.8	125.8	125.8	125.8	125.8	125.8	125.8	125.8	125.8	125.8	125.8
2.5°	145.2	144.4	141.1	137.8	134.8	131.5	128.5	125.5	122.3	119.8	116.8
5°	169.7	163.7	156.9	150.4	143.8	137.0	129.9	123.6	117.1	111.1	105.3
7.5°	194.6	182.8	173.6	161.8	151.2	140.5	130.7	120.6	111.3	102.6	94.4
10°	215.6	201.4	186.9	171.9	156.6	142.4	128.8	116.8	104.5	93.9	83.8
12.5°	232.8	214.8	197.0	178.2	161.0	143.0	126.1	111.6	97.1	85.1	74.8
15°	248.3	227.6	206.3	184.5	162.6	142.2	123.3	105.3	90.6	77.0	65.2
17.5°	260.9	237.1	213.1	188.6	165.1	141.1	119.8	101.0	83.8	69.6	58.1
20°	271.8	247.0	221.0	193.5	166.7	140.8	116.8	95.5	77.8	62.8	51.6
22.5°	281.9	257.1	229.2	199.8	169.2	140.5	114.1	91.4	72.6	57.6	46.4
25°	293.4	267.2	238.0	206.3	173.6	141.6	112.4	88.1	67.9	52.7	42.3
27.5°	306.2	278.6	248.3	214.5	179.3	143.8	111.9	84.6	63.9	48.0	39.0
30°	324.2	292.3	258.7	222.7	184.5	146.3	111.3	82.4	59.8	44.5	35.8
32.5°	340.0	305.6	270.2	231.1	190.2	148.7	111.1	79.4	55.9	40.9	33.3
35°	356.7	317.9	280.0	239.3	195.1	151.4	110.8	77.2	52.4	37.4	30.8
37.5°	371.1	328.3	287.6	246.4	200.6	153.9	111.1	75.3	49.1	34.4	28.6
40°	383.4	338.9	296.1	253.0	206.3	157.7	111.3	73.4	45.8	31.6	26.7
42.5°	394.3	349.0	305.1	260.3	212.9	162.1	113.0	71.8	43.1	29.2	24.8
45°	402.8	358.3	314.9	270.7	223.5	169.2	116.0	70.7	40.4	27.0	23.2
47.5°	411.5	371.9	331.6	287.1	239.1	180.4	121.2	70.4	38.2	25.4	21.8
50°	423.5	385.6	346.3	303.7	253.2	191.8	127.4	70.7	35.5	23.7	20.5
52.5°	432.3	399.5	365.4	332.7	287.1	226.8	151.7	75.6	34.1	22.4	18.8
55°	483.8	478.1	478.9	484.4	449.2	385.9	253.8	109.2	40.1	25.4	18.6
57.5°	682.2	702.4	714.2	713.9	655.7	543.9	340.8	140.3	44.7	29.5	22.1
60°	943.1	927.8	906.3	853.0	775.8	620.8	381.2	150.9	38.8	23.5	20.2
62.5°	1173.7	1084.2	1004.8	918.5	817.3	647.6	389.4	150.1	33.8	17.7	14.2
65°	1317.5	1156.5	1028.2	920.2	800.9	625.2	368.4	137.8	28.6	14.5	11.7
67.5°	1351.9	1117.5	936.0	798.2	669.1	486.6	270.4	103.7	22.4	12.0	10.4
69°	1276.8	993.3	775.5	619.2	486.8	322.8	167.3	65.5	17.2	10.9	9.6
70°	1174.5	864.0	631.7	496.9	360.5	226.8	117.1	46.1	13.9	10.1	8.7
72.5°	755.6	453.8	310.5	216.1	148.7	90.3	45.8	20.7	10.6	8.5	7.1
75°	293.1	167.8	121.7	92.5	72.3	50.2	27.8	13.4	9.0	7.1	5.5
77.5°	144.4	110.5	90.3	61.9	36.0	22.4	15.0	10.4	7.4	5.2	3.5
80°	114.1	75.9	45.3	28.1	21.3	16.1	11.5	8.5	5.5	3.3	2.4
82.5°	58.4	31.9	23.5	19.1	15.8	12.6	9.3	6.0	3.5	2.2	1.9
85°	18.3	13.4	12.0	11.7	10.9	9.0	6.5	3.8	2.2	1.4	1.4
87.5°	1.4	1.9	2.4	1.9	2.2	1.9	2.4	1.6	1.1	1.1	0.8
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0





REPORT NUMBER: P163785

CATALOG NUMBER: LDRL-SL4-E01-E-8030-HSS

**CANDELA DISTRIBUTION (continued):**

	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°	160°
0°	125.8	125.8	125.8	125.8	125.8	125.8	125.8	125.8	125.8	125.8	125.8
2.5°	114.6	111.3	108.3	106.4	102.9	101.5	100.1	99.6	97.1	97.7	95.5
5°	100.1	94.4	90.1	85.7	81.6	78.6	76.1	73.1	70.7	69.6	67.4
7.5°	87.0	79.7	74.0	69.3	64.4	60.6	57.3	55.1	52.9	50.8	49.7
10°	75.6	67.7	61.1	56.5	51.9	48.6	46.1	44.5	43.1	42.3	42.0
12.5°	65.0	57.3	51.3	47.2	43.7	42.0	40.9	40.1	39.8	39.6	39.6
15°	56.8	49.1	44.5	41.5	39.8	39.0	38.8	38.2	37.7	37.4	37.4
17.5°	49.1	43.4	40.1	38.5	37.7	37.1	36.6	36.0	35.5	35.2	35.2
20°	43.9	39.3	37.7	36.6	35.8	35.2	34.4	33.8	33.6	33.3	33.0
22.5°	39.8	36.8	35.8	34.9	33.8	33.0	32.5	31.9	31.4	31.1	30.8
25°	36.8	34.9	34.1	33.0	31.9	31.1	30.3	29.5	28.9	28.6	28.1
27.5°	34.7	33.3	32.2	30.8	29.7	28.9	28.1	27.3	26.7	26.2	25.9
30°	32.7	31.4	30.0	28.9	27.6	26.7	25.7	24.8	24.6	24.0	23.5
32.5°	30.8	29.5	28.1	26.7	25.4	24.3	23.7	22.7	22.1	21.8	21.3
35°	28.6	27.3	25.7	24.6	23.2	22.1	21.3	20.5	19.9	19.4	19.1
37.5°	26.7	25.1	23.5	22.1	21.0	19.9	19.1	18.3	17.7	17.2	16.9
40°	24.6	22.9	21.3	19.9	18.8	18.0	17.2	16.4	15.8	15.5	15.5
42.5°	22.7	20.7	19.1	18.0	17.2	16.1	15.3	14.5	14.2	13.9	14.2
45°	20.7	18.8	17.5	16.4	15.5	14.5	13.6	13.1	12.8	13.1	13.4
47.5°	19.1	17.2	15.8	15.0	14.2	13.4	12.6	12.0	12.0	12.6	13.1
50°	17.5	15.5	14.5	13.9	13.1	12.3	11.2	10.9	11.2	11.7	12.3
52.5°	15.8	13.6	12.8	12.6	11.7	10.9	10.1	9.8	10.1	10.6	10.4
55°	14.2	12.0	11.7	11.5	10.6	9.6	8.7	8.7	8.7	8.5	7.9
57.5°	13.6	10.6	10.4	10.1	9.3	8.2	7.6	7.1	6.8	6.0	5.7
60°	14.2	9.6	9.6	9.0	8.2	7.1	6.3	5.5	4.9	4.4	4.4
62.5°	11.5	8.7	8.5	7.9	6.8	5.7	4.9	4.1	3.8	3.5	3.5
65°	9.3	7.9	7.4	6.5	5.7	4.6	3.8	3.3	3.0	3.0	3.3
67.5°	8.5	7.1	6.3	5.5	4.6	3.5	3.0	2.7	2.7	3.0	3.0
69°	7.9	6.5	5.7	4.9	4.1	3.3	2.7	2.7	2.7	2.7	3.0
70°	7.4	6.3	5.5	4.6	3.5	2.7	2.4	2.4	2.7	2.7	3.0
72.5°	5.7	4.9	4.6	3.8	2.7	2.4	2.2	2.4	2.4	2.7	2.7
75°	4.4	3.5	3.5	3.0	2.2	1.9	1.9	2.2	2.2	2.4	2.4
77.5°	3.0	2.4	2.4	2.2	1.9	1.6	1.6	1.9	2.2	2.2	2.4
80°	2.2	1.9	1.6	1.9	1.6	1.4	1.6	1.9	1.9	2.2	2.2
82.5°	1.6	1.6	1.6	1.6	1.4	1.4	1.6	1.6	1.9	2.2	2.2
85°	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.6	1.6	1.9	1.9
87.5°	0.8	0.8	0.8	1.1	1.1	1.4	1.4	1.4	1.4	1.6	1.6
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



REPORT NUMBER: P163785

CATALOG NUMBER: LDRL-SL4-E01-E-8030-HSS

**CANDELA DISTRIBUTION (continued):**

	165°	170°	175°	180°
0°	125.8	125.8	125.8	125.8
2.5°	95.0	94.7	93.6	93.9
5°	66.6	65.0	66.0	65.8
7.5°	48.9	48.6	48.3	48.9
10°	41.7	41.7	41.5	41.7
12.5°	39.3	39.3	39.3	39.3
15°	37.4	37.4	37.1	37.1
17.5°	35.2	35.2	35.2	34.9
20°	33.0	32.7	32.7	32.7
22.5°	30.6	30.3	30.3	30.3
25°	28.1	27.8	27.8	27.8
27.5°	25.7	25.4	25.1	25.1
30°	23.2	22.9	22.7	22.7
32.5°	20.7	20.5	20.2	20.2
35°	18.6	18.6	18.3	18.0
37.5°	16.6	16.6	16.6	16.6
40°	15.3	15.5	15.5	15.5
42.5°	14.5	14.7	15.0	15.3
45°	13.9	14.5	14.7	14.7
47.5°	13.6	13.9	14.2	14.2
50°	12.6	12.3	12.3	12.3
52.5°	10.1	9.6	9.3	9.0
55°	7.4	7.1	6.5	6.5
57.5°	5.2	5.2	4.9	4.9
60°	4.1	4.1	3.8	4.1
62.5°	3.5	3.5	3.5	3.5
65°	3.3	3.3	3.3	3.3
67.5°	3.3	3.3	3.3	3.3
69°	3.0	3.0	3.0	3.0
70°	3.0	3.0	3.0	3.0
72.5°	2.7	2.7	2.7	2.7
75°	2.4	2.7	2.7	2.7
77.5°	2.4	2.4	2.4	2.4
80°	2.2	2.2	2.4	2.4
82.5°	2.2	2.2	2.2	2.2
85°	1.9	1.9	2.2	2.2
87.5°	1.6	1.6	1.9	1.9
90°	0.0	0.0	0.0	0.0

(END OF REPORT)