

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: P146844

Luminaire Tested: **LDRL-T4-F01-E-7030**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P146844  
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (P33696)  
Test Lab: INNOVATION CENTER-P3  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: LUMARK  
Catalog Number: LDRL-T4-F01-E-7030  
Description: RL LED ROADWAY LARGE CUTOFF COBRAHEAD LUMINAIRE  
(1) LIGHTBARS WITH AccuLED OPTICS - TYPE 4 SHORT  
Light Source: (7) 3000K CCT, 70 CRI LEDs  
Ballast/Driver: -

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 2215.7 lumens  
Efficiency: N/A  
Efficacy: 85.5 lumens/watt  
Luminous Opening: Rectangular (W 0.17' x L: 1' x H: 0')  
IES Classification: Type IV - Short - Semi-Cutoff  
BUG Rating: B1 - U0 - G1

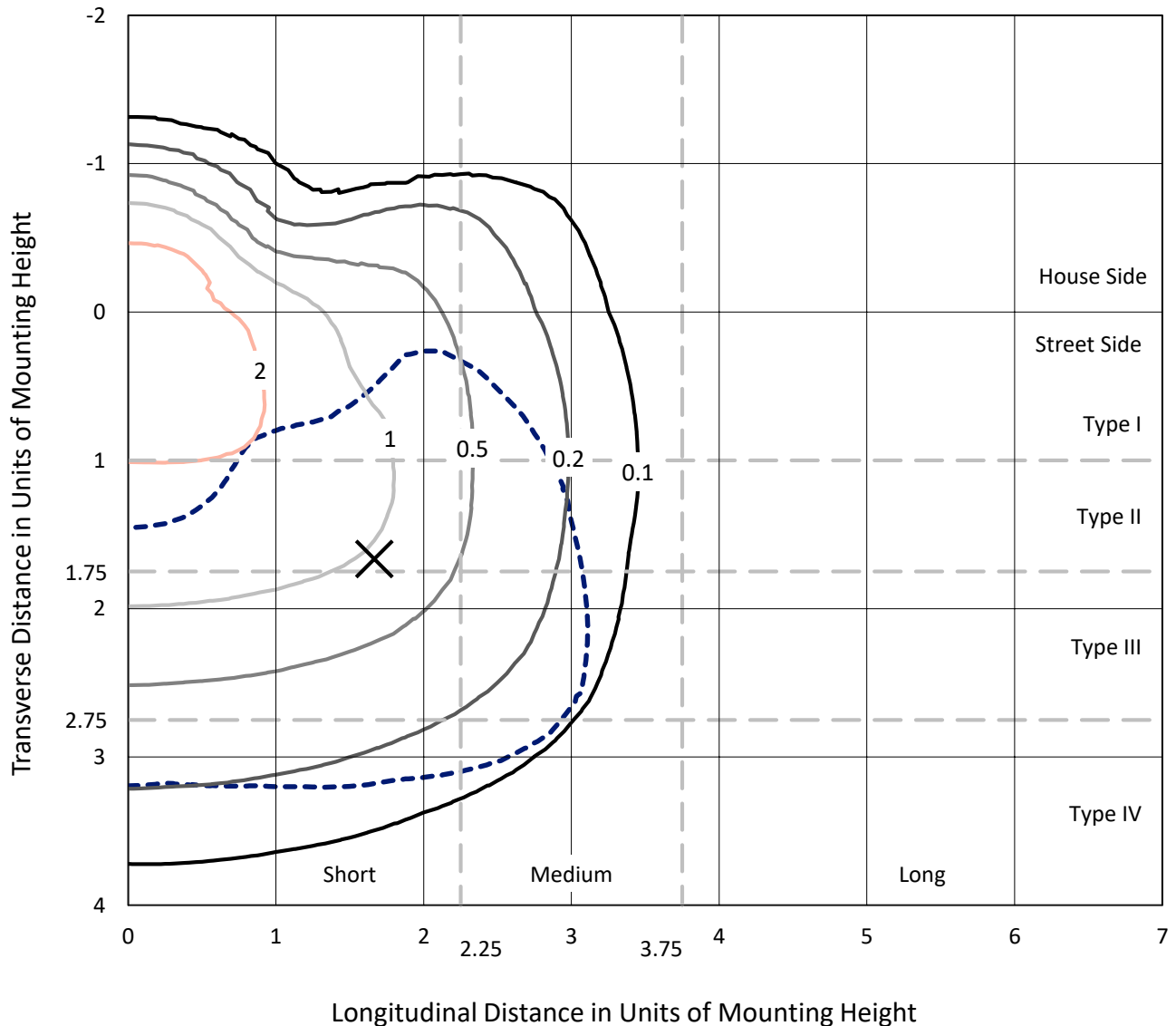
Input Watts (W): 25.9  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



REPORT NUMBER: P146844  
 CATALOG NUMBER: LDRL-T4-F01-E-7030

### Iso-Footcandle Lines of Horizontal Illumination

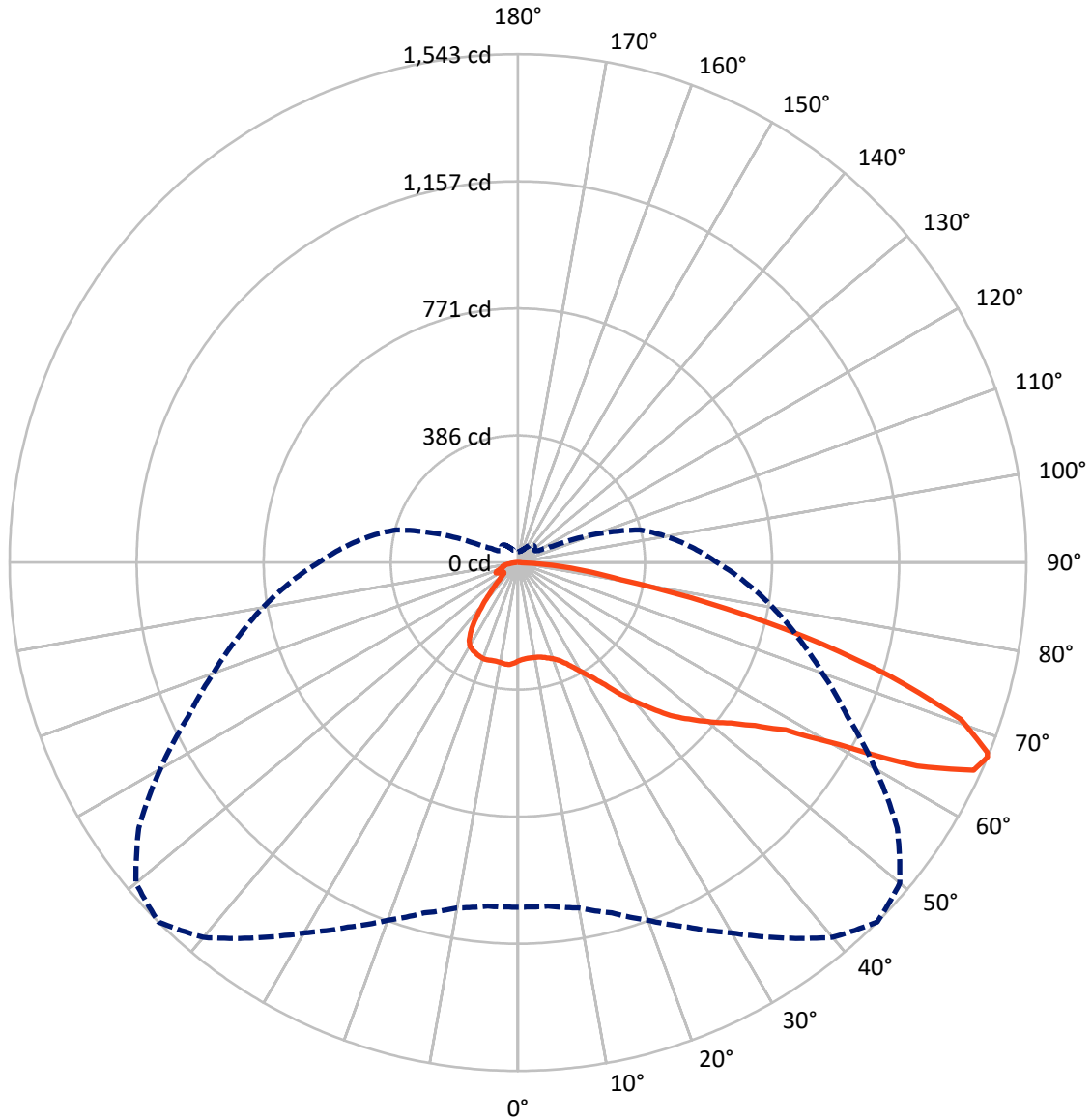
✕ Max cd  
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 3 fc  
 Type IV - Short - Semi-Cutoff

REPORT NUMBER: P146844  
CATALOG NUMBER: LDRL-T4-F01-E-7030

### Luminous Intensity Polar Plot



— Vertical Plane Through 45-Deg Lateral    - - - Horizontal Cone Through 67-Deg Vertical

REPORT NUMBER: P146844

CATALOG NUMBER: LDRL-T4-F01-E-7030

**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	449.0	0.0	449.0
	% Fixture	20.3	0.0	20.3
<b>Street Side</b>	Lumens	1766.7	0.0	1766.7
	% Fixture	79.7	0.0	79.7
<b>Total</b>	Lumens	2215.7	0.0	2215.7
	% Fixture	100.0	0.0	100.0

**Coefficient of Utilization**

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	28.7	1.3
10°-20°	86.3	3.9
20°-30°	146.7	6.6
30°-40°	220.5	10.0
40°-50°	286.7	12.9
50°-60°	393.7	17.8
60°-70°	621.0	28.0
70°-80°	375.2	16.9
80°-90°	56.8	2.6
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°	2215.7	100.0
0°-180°	2215.7	100.0



REPORT NUMBER: P146844

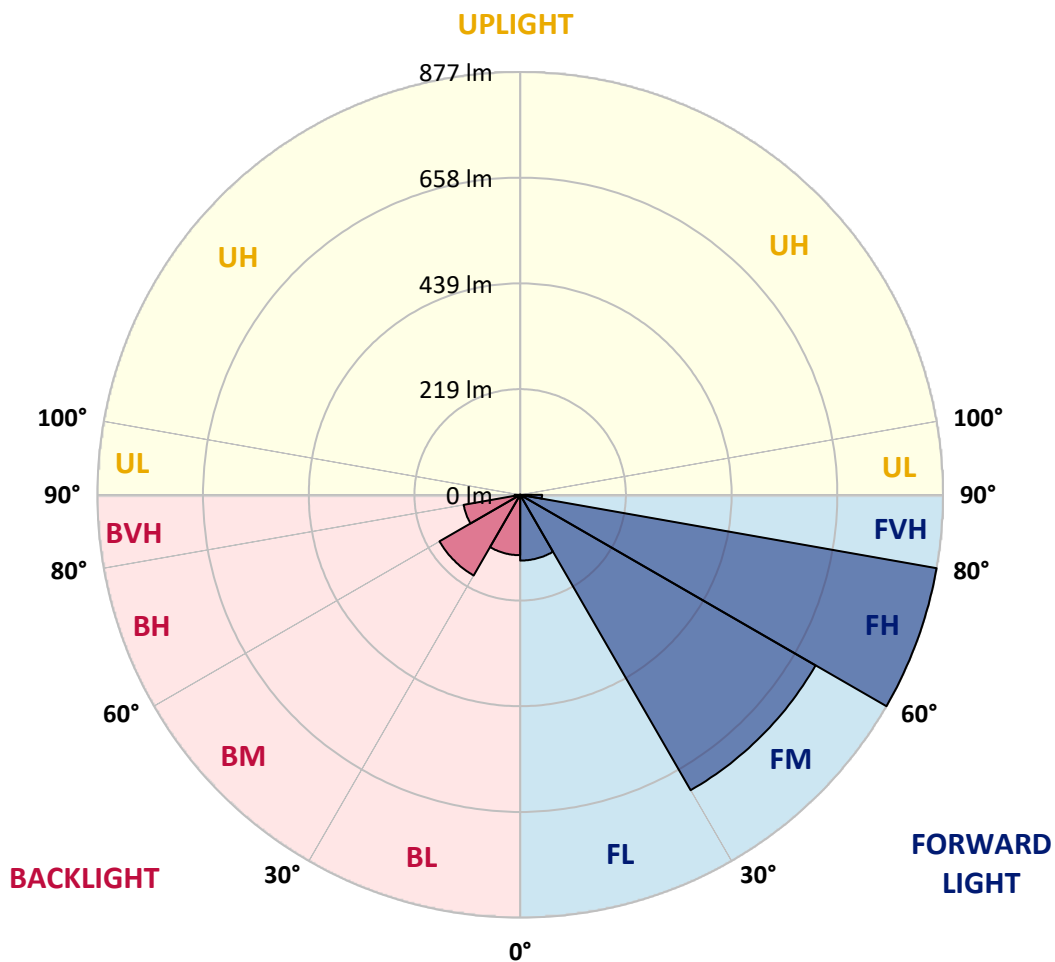
CATALOG NUMBER: LDRL-T4-F01-E-7030

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

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	136.4	6.2			
FM	(30°-60°)	707.7	31.9			
FH	(60°-80°)	877.2	39.6			G1/1800
FVH	(80°-90°)	45.4	2.0			G1/100
BL	(0°-30°)	125.3	5.7	B1/500		
BM	(30°-60°)	193.2	8.7	B0/220		
BH	(60°-80°)	119.0	5.4	B1/500		G1/500
BVH	(80°-90°)	11.5	0.5			G1/100
UL	(90°-100°)	0.0	0.0		U0/0	
UH	(100°-180°)	0.0	0.0		U0/0	

**BUG Rating: B1-U0-G1**

Type IV Short





REPORT NUMBER: P146844

CATALOG NUMBER: LDRL-T4-F01-E-7030

**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	298.3	298.3	298.3	298.3	298.3	298.3	298.3	298.3	298.3	298.3	298.3
2.5°	291.6	292.2	291.8	291.8	291.9	292.1	292.4	293.0	293.2	294.1	294.2
5°	285.8	285.9	285.9	286.1	287.0	287.7	288.5	289.5	290.4	292.1	293.2
7.5°	283.7	284.3	284.1	284.4	285.3	286.1	287.0	288.5	290.7	292.1	293.6
10°	287.1	287.6	287.1	287.3	287.4	288.2	288.5	289.5	291.3	292.5	293.9
12.5°	295.1	295.1	294.7	294.4	293.9	294.1	293.5	293.3	294.2	294.4	294.5
15°	305.7	306.9	305.4	304.2	303.6	303.0	301.0	300.2	300.1	298.7	297.4
17.5°	316.4	316.7	315.8	314.4	313.5	312.2	310.5	309.0	307.2	305.1	302.4
20°	328.3	328.4	327.2	325.3	324.2	322.6	320.4	317.9	315.6	312.3	309.3
22.5°	344.9	344.7	342.3	340.7	339.1	337.2	334.2	330.7	327.1	323.2	318.9
25°	363.9	363.9	362.2	359.5	358.8	355.9	352.6	348.5	344.7	339.1	334.0
27.5°	385.6	385.7	382.7	381.2	379.6	376.5	374.3	371.1	366.0	360.4	355.1
30°	411.4	410.6	408.2	405.0	404.4	402.0	398.9	396.6	390.3	386.3	380.5
32.5°	435.8	437.0	436.4	432.8	433.4	431.0	428.3	426.6	420.0	416.2	410.8
35°	472.3	473.4	474.3	472.9	473.7	472.3	470.0	465.7	460.2	455.3	447.7
37.5°	500.7	501.7	502.3	505.6	510.5	515.1	517.2	515.0	515.3	507.7	497.6
40°	523.9	526.4	530.1	536.4	546.0	554.9	559.8	563.5	565.5	558.4	545.3
42.5°	547.1	549.8	554.8	564.9	578.2	591.0	601.1	612.7	614.8	613.0	601.8
45°	571.4	574.5	580.7	592.2	607.7	624.5	640.7	657.2	665.5	666.8	653.3
47.5°	600.6	605.2	610.9	623.9	638.9	657.8	678.1	699.3	712.2	712.2	696.5
50°	637.1	642.3	647.1	660.0	675.1	694.6	718.1	741.6	759.3	760.3	741.3
52.5°	688.2	689.0	691.9	703.8	716.9	738.6	760.9	788.2	808.6	809.5	787.6
55°	750.4	750.4	753.7	763.6	775.9	793.8	816.9	847.2	868.6	873.3	845.2
57.5°	832.1	835.1	836.8	848.4	856.7	875.7	895.0	928.0	955.3	958.3	929.8
60°	965.1	959.4	968.6	978.8	998.3	1012.2	1045.0	1078.2	1113.0	1121.3	1090.7
62.5°	1096.2	1102.3	1113.6	1132.2	1165.5	1196.6	1243.6	1294.0	1348.1	1359.3	1335.9
65°	1104.3	1108.1	1123.8	1155.7	1201.3	1256.6	1321.4	1397.3	1478.0	1519.7	1480.5
67°	1045.8	1046.8	1064.6	1101.0	1155.6	1221.2	1297.9	1390.5	1485.2	1542.7	1513.4
67.5°	1027.2	1029.2	1046.7	1083.8	1139.0	1206.1	1284.4	1379.5	1476.5	1536.5	1510.1
70°	918.4	918.4	937.2	974.6	1026.3	1091.8	1173.7	1269.7	1375.1	1425.7	1403.2
72.5°	781.7	776.8	798.0	826.4	868.6	925.8	991.7	1067.5	1146.8	1183.6	1174.7
75°	568.2	577.6	588.6	609.5	646.2	691.3	729.9	797.6	859.9	900.6	889.9
77.5°	310.0	313.7	344.1	356.6	388.8	422.2	464.6	512.1	561.1	586.8	576.4
80°	184.3	191.4	209.5	224.4	241.7	267.2	298.0	308.4	318.0	317.4	298.6
82.5°	116.4	125.0	144.6	157.4	166.5	181.3	198.0	211.1	214.0	199.8	177.9
85°	18.8	31.2	81.6	95.9	101.6	109.6	122.0	127.6	119.1	104.1	107.8
87.5°	7.4	8.9	24.9	31.5	33.3	17.5	30.3	35.6	18.1	9.2	20.8
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: P146844

CATALOG NUMBER: LDRL-T4-F01-E-7030

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°	105°
0°	298.3	298.3	298.3	298.3	298.3	298.3	298.3	298.3	298.3	298.3	298.3
2.5°	295.1	295.9	296.6	297.5	297.8	298.6	299.9	299.8	300.8	301.3	302.0
5°	294.5	296.2	297.4	299.0	299.6	301.3	303.1	303.7	305.1	306.1	307.0
7.5°	295.7	297.5	299.0	301.0	302.4	303.7	305.1	306.7	307.9	308.7	309.3
10°	296.2	298.1	299.9	301.6	303.1	304.2	305.7	307.0	308.2	308.7	308.8
12.5°	296.3	297.7	299.5	301.3	302.7	304.0	305.1	306.6	307.5	307.6	307.3
15°	297.5	297.7	298.9	301.0	302.4	303.7	304.5	305.2	305.8	305.4	304.9
17.5°	301.1	300.1	300.1	301.1	301.9	302.5	302.7	302.5	301.9	301.0	300.2
20°	307.0	304.9	303.3	302.7	301.4	299.9	298.0	296.2	293.9	292.9	292.7
22.5°	316.2	313.1	310.0	307.0	303.1	298.7	294.2	290.3	287.1	285.5	285.6
25°	331.9	327.2	323.8	318.5	312.2	306.0	300.1	294.8	291.0	288.0	288.6
27.5°	353.0	347.7	344.7	338.7	331.5	323.6	316.7	309.4	304.0	300.2	301.0
30°	377.8	376.2	371.3	365.2	358.4	349.6	339.1	328.3	318.5	312.3	311.1
32.5°	407.6	406.0	400.5	395.4	386.6	376.8	363.3	346.1	330.7	318.9	313.8
35°	444.4	440.3	433.7	428.7	418.9	406.3	388.8	365.5	342.2	324.5	311.7
37.5°	490.2	480.1	469.1	456.2	441.7	426.3	406.1	379.0	350.0	325.0	302.2
40°	534.0	517.7	499.4	478.9	461.3	442.7	421.8	390.7	355.3	321.8	287.9
42.5°	582.7	557.4	532.6	504.4	481.2	459.2	435.2	399.0	356.3	313.2	269.3
45°	629.6	597.0	563.8	529.0	499.4	475.0	447.7	406.1	356.0	304.2	250.9
47.5°	671.4	632.4	591.4	552.2	517.8	491.0	461.1	415.8	360.1	301.6	238.7
50°	710.4	665.5	617.4	573.8	536.4	508.9	478.2	431.0	372.6	307.5	236.9
52.5°	750.7	701.8	646.8	599.9	560.8	529.0	497.9	450.4	390.1	319.5	241.0
55°	803.2	747.1	688.4	636.4	591.6	557.4	521.5	474.0	409.0	333.6	248.7
57.5°	881.3	815.7	749.0	693.1	641.3	598.7	559.3	504.9	440.2	354.7	265.6
60°	1021.5	948.8	871.6	798.5	738.9	689.0	638.9	571.4	497.8	402.6	304.3
62.5°	1250.6	1150.0	1043.2	947.0	865.1	797.6	727.0	645.9	560.1	460.8	363.0
65°	1388.3	1249.5	1113.6	1002.1	905.2	818.7	733.3	646.2	563.1	476.4	389.4
67°	1405.3	1253.1	1102.8	984.0	880.2	786.0	693.4	604.3	529.9	457.2	382.1
67.5°	1400.2	1245.9	1092.5	972.5	867.7	776.5	685.4	594.1	521.8	449.1	376.7
70°	1299.1	1148.2	996.5	879.8	779.3	686.0	599.9	508.5	452.5	400.5	337.9
72.5°	1078.2	960.4	833.3	736.0	649.3	568.5	492.8	416.4	371.4	334.6	290.6
75°	799.5	691.6	584.0	525.5	458.3	393.6	335.1	278.5	261.2	252.4	226.5
77.5°	493.7	396.8	315.8	262.8	209.0	163.8	130.3	106.0	110.5	128.6	136.9
80°	245.8	181.6	140.5	111.7	90.3	73.0	53.5	39.2	46.9	55.6	63.0
82.5°	147.9	116.9	92.4	78.3	63.6	49.2	34.8	26.5	29.4	39.5	43.4
85°	91.8	73.6	58.8	49.2	40.7	30.2	19.8	19.6	20.8	26.2	30.0
87.5°	27.0	18.2	14.5	15.1	16.7	13.9	10.4	8.9	11.0	15.1	16.9
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: P146844

CATALOG NUMBER: LDRL-T4-F01-E-7030

**CANDELA DISTRIBUTION (continued):**

	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°	160°
0°	298.3	298.3	298.3	298.3	298.3	298.3	298.3	298.3	298.3	298.3	298.3
2.5°	302.2	303.3	303.7	303.9	304.0	304.9	304.9	305.8	306.1	306.1	306.4
5°	307.9	309.0	309.4	309.6	309.9	310.3	310.2	310.8	311.1	310.9	310.9
7.5°	310.0	310.3	310.3	310.8	311.2	310.8	310.5	310.8	310.6	310.8	310.8
10°	309.3	309.0	309.0	308.7	309.1	308.2	308.2	308.5	308.4	308.7	309.1
12.5°	307.5	307.3	306.9	306.7	307.3	306.7	306.9	307.3	307.6	308.2	309.0
15°	304.9	304.5	304.5	305.1	306.6	307.0	307.6	308.4	308.5	308.8	309.1
17.5°	300.5	301.3	303.1	305.2	308.1	309.1	309.4	309.0	307.5	306.3	305.1
20°	294.5	297.8	302.5	307.0	310.5	310.3	308.4	305.5	301.9	299.3	297.7
22.5°	289.4	295.9	303.1	308.5	310.8	307.9	303.4	299.0	294.8	291.0	287.7
25°	293.0	299.2	305.4	308.7	308.5	303.6	297.5	292.7	287.0	281.7	276.1
27.5°	304.8	308.5	310.3	309.3	306.1	299.5	292.9	286.1	278.7	272.3	265.9
30°	312.8	312.8	310.9	306.7	301.1	293.8	285.6	276.9	268.1	260.7	253.3
32.5°	310.2	304.3	299.0	293.3	287.0	279.0	269.6	260.1	250.2	241.6	235.2
35°	299.0	286.4	275.4	267.2	260.6	251.1	240.2	229.4	221.2	215.3	211.7
37.5°	279.1	258.9	242.9	233.0	222.7	212.9	200.4	195.4	188.2	184.6	183.2
40°	255.0	225.4	205.4	192.6	181.7	169.5	161.1	157.9	155.2	154.4	153.8
42.5°	227.3	190.3	166.5	153.2	140.1	131.2	127.4	125.5	125.0	125.0	125.8
45°	198.5	154.6	127.1	116.4	105.6	100.9	100.0	99.1	99.2	98.8	99.1
47.5°	176.1	124.1	95.9	86.1	80.5	79.0	78.0	77.7	77.7	76.9	76.0
50°	164.5	103.7	75.2	67.6	64.4	63.3	63.3	62.7	61.5	60.8	58.8
52.5°	161.5	93.2	65.1	58.5	55.8	54.9	54.0	53.1	51.3	49.6	47.4
55°	163.9	89.9	62.0	55.8	52.8	51.7	51.0	49.5	46.9	44.5	41.9
57.5°	174.0	92.0	63.2	56.5	53.8	53.1	52.3	50.1	46.9	43.4	40.6
60°	201.6	101.9	68.3	60.6	58.4	58.5	57.5	54.6	50.1	45.1	40.9
62.5°	237.2	115.8	74.9	66.4	66.0	67.6	67.6	62.6	55.2	47.7	41.9
65°	257.6	120.2	75.9	67.1	69.7	74.0	73.7	67.1	57.0	47.7	41.5
67°	252.4	115.5	72.1	62.7	65.7	70.7	70.1	63.8	54.3	45.7	40.3
67.5°	248.4	114.0	71.2	61.7	64.7	68.8	68.8	62.4	53.1	45.1	39.8
70°	218.7	100.7	66.7	57.6	57.6	58.7	57.9	53.4	47.0	41.5	38.0
72.5°	182.3	88.1	63.0	54.7	51.9	51.3	50.2	47.0	43.0	39.1	36.0
75°	141.3	78.0	60.2	51.7	48.0	46.6	45.5	43.1	40.0	36.6	34.1
77.5°	98.9	66.8	56.4	49.2	45.1	44.0	42.4	39.7	37.1	34.2	31.8
80°	61.4	55.2	49.2	44.3	40.1	38.6	36.5	34.1	32.0	30.3	28.5
82.5°	43.7	40.6	36.6	34.1	29.7	25.2	27.0	27.1	25.8	24.7	24.3
85°	29.3	26.4	24.4	22.2	19.6	17.6	18.1	19.5	19.6	19.2	19.2
87.5°	16.0	13.6	13.1	13.6	11.8	11.2	11.3	12.5	12.7	12.7	12.8
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: P146844

CATALOG NUMBER: LDRL-T4-F01-E-7030

**CANDELA DISTRIBUTION (continued):**

	165°	170°	175°	180°
0°	298.3	298.3	298.3	298.3
2.5°	306.6	307.0	306.9	307.2
5°	311.2	311.6	311.4	311.6
7.5°	310.5	311.1	311.4	310.9
10°	309.3	310.2	310.8	310.8
12.5°	309.6	311.1	312.0	312.0
15°	309.3	310.5	310.8	310.8
17.5°	304.6	304.6	304.8	304.2
20°	296.5	295.6	295.3	294.2
22.5°	284.9	282.7	281.4	280.6
25°	271.6	268.3	266.2	265.0
27.5°	260.6	257.7	255.6	254.4
30°	248.4	245.0	243.8	242.9
32.5°	230.7	227.6	226.7	225.9
35°	207.8	206.7	204.3	202.7
37.5°	181.3	179.9	179.0	178.4
40°	153.5	153.7	152.9	151.6
42.5°	125.8	127.3	125.8	125.5
45°	98.8	100.4	100.4	100.9
47.5°	76.2	75.9	76.5	76.6
50°	57.6	56.7	56.4	55.9
52.5°	45.7	44.6	44.0	43.3
55°	40.3	39.1	38.5	38.3
57.5°	38.5	36.9	36.0	35.9
60°	38.0	35.9	34.7	34.4
62.5°	38.0	35.4	34.1	33.6
65°	37.5	35.0	33.8	33.3
67°	36.9	34.7	33.5	33.2
67.5°	36.6	34.5	33.5	33.0
70°	35.9	34.1	32.9	32.4
72.5°	34.2	32.7	31.5	31.2
75°	32.4	31.1	30.3	30.0
77.5°	30.3	29.1	28.2	27.4
80°	27.1	25.8	24.4	24.1
82.5°	23.1	21.6	20.5	20.4
85°	18.5	17.3	16.1	16.1
87.5°	13.0	12.2	11.5	10.7
90°	0.0	0.0	0.0	0.0

(END OF REPORT)