

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: P163821

Luminaire Tested: **LDRL-SL4-F04-E-7030-HSS**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P163821  
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-F04-E-7030-HSS  
Description: RL LED ROADWAY LARGE CUTOFF COBRAHEAD LUMINAIRE  
(4) LIGHTBARS WITH AccuLED OPTICS - TYPE 4 W/ SPILL LIGHT CONTROL AND HOUSE SIDE SHIELD  
Light Source: (28) 3000K CCT, 70 CRI LEDs  
Ballast/Driver: -

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 5952.7 lumens  
Efficiency: N/A  
Efficacy: 58.2 lumens/watt  
Luminous Opening: Rectangular w/ Sides (W: 0.67' x L: 1' x H: 0.1')  
IES Classification: Type IV - Short - Semi-Cutoff  
BUG Rating: B0 - U0 - G2

Input Watts (W): 102.2  
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

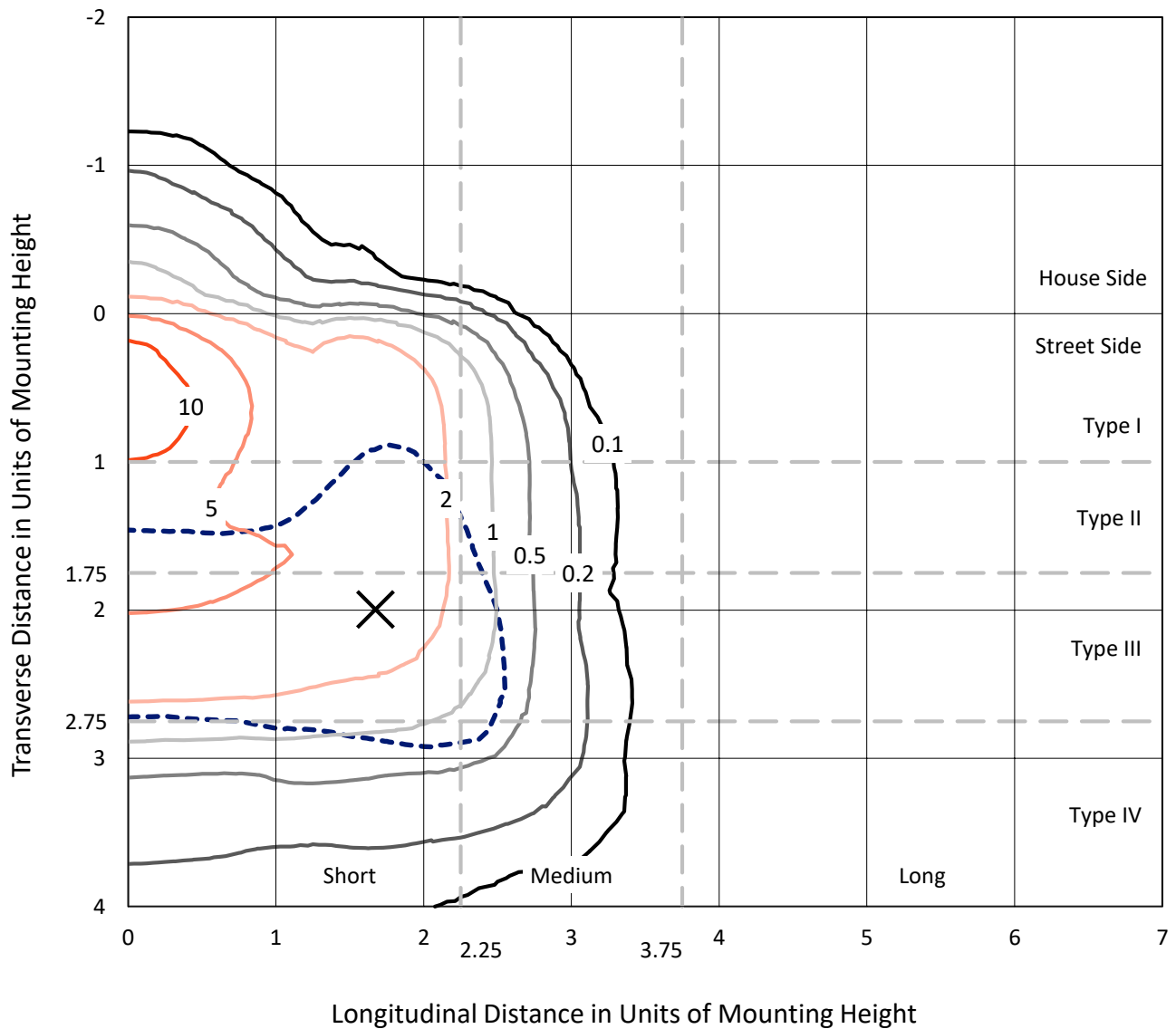


REPORT NUMBER: P163821

CATALOG NUMBER: LDRL-SL4-F04-E-7030-HSS

### Iso-Footcandle Lines of Horizontal Illumination

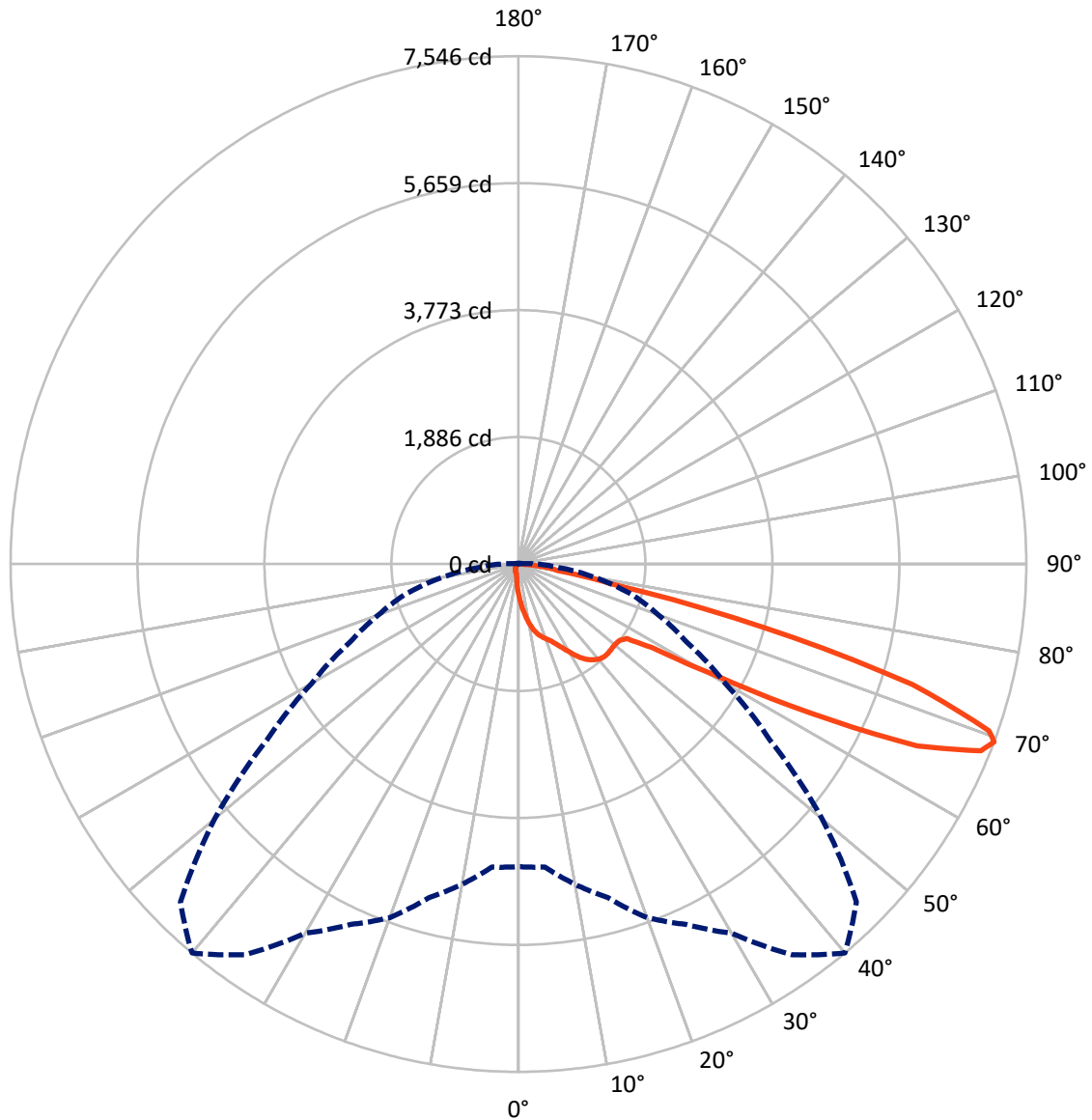
✕ Max cd  
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 13.3 fc  
 Type IV - Short - Semi-Cutoff

REPORT NUMBER: P163821  
CATALOG NUMBER: LDRL-SL4-F04-E-7030-HSS

### Luminous Intensity Polar Plot



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

REPORT NUMBER: P163821

CATALOG NUMBER: LDRL-SL4-F04-E-7030-HSS

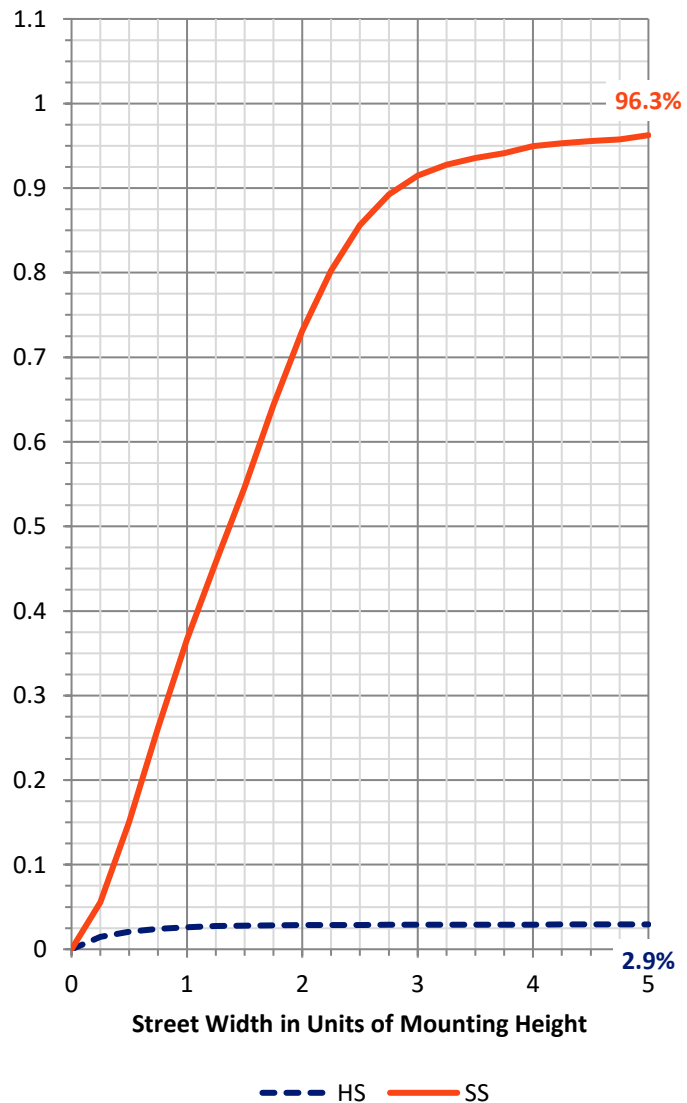
**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	177.3	0.0	177.3
	% Fixture	3.0	0.0	3.0
<b>Street Side</b>	Lumens	5775.5	0.0	5775.5
	% Fixture	97.0	0.0	97.0
<b>Total</b>	Lumens	5952.7	0.0	5952.7
	% Fixture	100.0	0.0	100.0

**Coefficient of Utilization**

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	46.2	0.8
10°-20°	159.3	2.7
20°-30°	304.9	5.1
30°-40°	507.1	8.5
40°-50°	686.1	11.5
50°-60°	1073.1	18.0
60°-70°	2206.2	37.1
70°-80°	887.7	14.9
80°-90°	82.1	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°	5952.7	100.0
0°-180°	5952.7	100.0



REPORT NUMBER: P163821

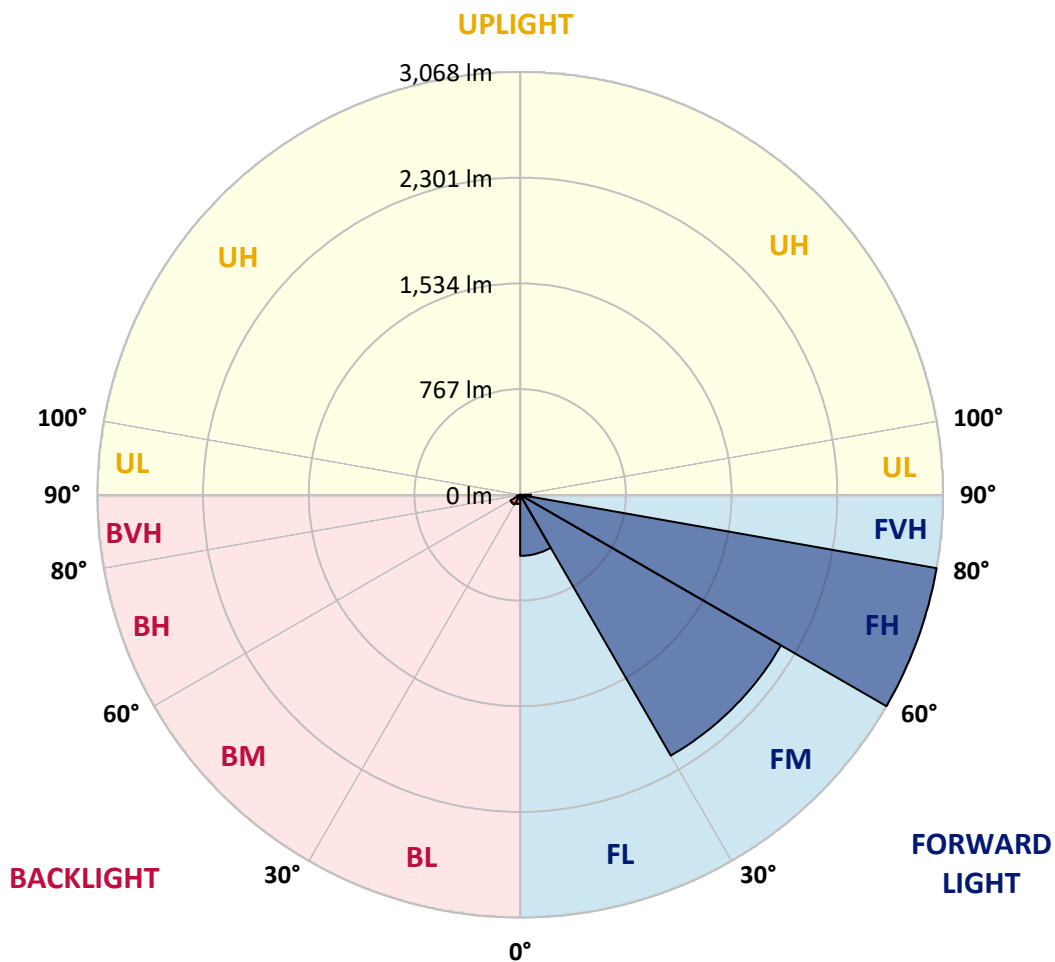
CATALOG NUMBER: LDRL-SL4-F04-E-7030-HSS

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

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	443.0	7.4			
FM (30°-60°)	2185.3	36.7			
FH (60°-80°)	3068.1	51.5			G2/5000
FVH (80°-90°)	79.1	1.3			G1/100
BL (0°-30°)	67.4	1.1	B0/110		
BM (30°-60°)	80.9	1.4	B0/220		
BH (60°-80°)	25.8	0.4	B0/110		G0/110
BVH (80°-90°)	3.1	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-G2**

Type IV Short





REPORT NUMBER: P163821

CATALOG NUMBER: LDRL-SL4-F04-E-7030-HSS

**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	449.6	449.6	449.6	449.6	449.6	449.6	449.6	449.6	449.6	449.6	449.6
2.5°	599.7	592.9	585.1	585.1	575.3	575.3	569.5	553.9	551.9	543.2	534.4
5°	765.5	759.7	749.9	741.1	733.3	719.7	709.9	691.4	670.9	651.4	633.8
7.5°	927.4	924.5	906.9	903.9	891.3	868.8	849.4	822.0	786.9	759.7	727.5
10°	1077.5	1070.7	1066.8	1050.2	1031.7	1007.3	977.1	943.9	903.0	860.1	814.3
12.5°	1196.5	1192.6	1175.1	1168.2	1148.7	1124.4	1086.3	1043.4	1002.4	946.9	893.3
15°	1285.2	1278.4	1266.7	1256.0	1232.6	1211.2	1176.0	1129.2	1079.5	1019.0	954.7
17.5°	1359.4	1346.7	1343.7	1327.2	1302.8	1277.4	1238.4	1195.5	1137.0	1076.6	1006.4
20°	1458.8	1441.3	1435.4	1411.1	1382.8	1347.7	1302.8	1249.2	1187.8	1121.4	1049.3
22.5°	1575.8	1563.2	1550.5	1529.0	1493.0	1443.2	1377.9	1319.4	1241.4	1168.2	1090.2
25°	1741.6	1730.9	1710.4	1681.2	1636.3	1576.8	1497.9	1412.0	1320.3	1226.7	1135.1
27.5°	1902.5	1892.8	1878.2	1855.7	1805.0	1739.7	1642.1	1533.0	1416.9	1303.8	1202.3
30°	2053.7	2044.9	2030.3	2007.9	1963.0	1898.6	1788.4	1671.4	1527.1	1395.4	1273.5
32.5°	2216.5	2213.6	2197.0	2164.9	2125.8	2039.0	1919.1	1793.3	1647.0	1494.9	1352.5
35°	2400.8	2378.4	2362.8	2330.6	2264.3	2171.7	2031.3	1893.7	1739.7	1583.6	1424.7
37.5°	2556.9	2535.4	2515.9	2475.0	2394.0	2276.0	2117.0	1965.9	1807.0	1648.0	1486.2
40°	2670.9	2660.2	2636.8	2583.2	2492.5	2352.1	2180.4	2015.6	1855.7	1695.8	1535.9
42.5°	2755.8	2739.2	2712.9	2657.3	2550.0	2390.1	2205.8	2036.1	1878.2	1725.1	1568.1
45°	2787.0	2773.4	2748.9	2688.5	2572.4	2400.8	2204.8	2030.3	1879.1	1733.8	1589.5
47.5°	2768.5	2754.8	2733.4	2676.8	2562.7	2388.2	2187.2	2013.7	1869.4	1736.8	1609.0
50°	2707.0	2699.2	2682.6	2634.9	2532.5	2363.8	2171.7	2004.9	1867.4	1751.4	1636.3
52.5°	2701.2	2696.3	2675.8	2628.1	2523.7	2356.0	2169.7	2009.8	1884.0	1769.9	1655.8
55°	3300.9	3231.7	3076.6	2945.0	2728.5	2471.0	2268.2	2088.8	1954.2	1843.1	1763.1
57.5°	4691.5	4588.1	4384.3	4133.7	3636.4	3147.8	2756.8	2473.9	2334.5	2283.8	2314.0
60°	5342.9	5324.3	5292.2	5173.2	4918.7	4498.4	4030.3	3524.2	3321.4	3303.8	3365.3
62.5°	5652.0	5640.3	5650.1	5635.4	5556.4	5433.6	5299.0	5080.5	4879.7	4750.0	4475.0
65°	5794.3	5802.2	5857.7	5901.7	5911.4	5943.6	6042.1	6314.1	6513.1	6178.6	5415.1
67.5°	5432.6	5478.4	5606.2	5766.1	5953.3	6134.7	6427.2	7000.6	7409.2	7016.2	5931.9
69°	4497.4	4519.9	4831.9	5133.2	5590.6	5910.4	6334.6	7086.5	7545.7	7102.1	5890.9
70°	3540.8	3561.3	3895.7	4305.3	5078.6	5490.1	6045.0	6941.1	7418.0	6988.0	5680.3
72.5°	1597.3	1568.1	1686.1	1905.4	2746.0	3399.4	4369.7	5623.7	6120.1	5598.4	4249.7
75°	1115.5	1102.9	1115.5	1116.6	1247.2	1609.0	2030.3	3048.3	3770.0	3253.1	2030.3
77.5°	864.0	855.2	846.5	836.7	852.3	954.7	995.6	1081.5	1404.2	1328.2	774.3
80°	683.6	675.8	697.2	690.4	690.4	702.1	694.3	662.1	601.7	557.8	499.3
82.5°	317.9	319.9	319.9	347.1	418.3	488.5	511.0	478.8	425.2	361.8	291.6
85°	30.2	34.1	57.5	88.7	176.5	198.9	199.9	165.8	165.8	130.7	105.3
87.5°	0.0	1.0	1.0	1.0	8.7	24.4	20.4	5.9	2.9	2.9	4.9
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: P163821

CATALOG NUMBER: LDRL-SL4-F04-E-7030-HSS

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°	105°
0°	449.6	449.6	449.6	449.6	449.6	449.6	449.6	449.6	449.6	449.6	449.6
2.5°	518.8	515.9	504.2	492.4	481.7	470.0	459.3	448.6	436.9	428.1	417.4
5°	606.6	585.1	560.7	537.3	513.9	489.6	464.2	441.7	418.3	396.9	376.4
7.5°	695.3	653.4	620.2	578.3	540.2	502.2	467.1	431.0	397.9	366.7	337.4
10°	770.4	719.7	668.0	614.4	559.8	509.0	460.3	417.4	373.5	335.4	299.4
12.5°	831.8	767.4	704.0	636.8	575.3	511.0	450.5	398.8	347.1	304.3	267.2
15°	887.4	813.3	737.2	659.2	581.2	508.1	440.8	376.4	323.7	275.0	233.1
17.5°	932.2	847.4	761.6	673.8	590.0	504.2	428.1	360.8	299.4	248.6	207.7
20°	971.3	882.5	789.9	691.4	595.8	503.2	417.4	341.3	277.9	224.3	184.3
22.5°	1007.3	918.6	819.1	713.8	604.6	502.2	407.6	326.7	259.4	205.7	165.8
25°	1048.3	954.7	850.3	737.2	620.2	506.1	401.8	315.0	242.8	188.2	151.2
27.5°	1094.1	995.6	887.4	766.5	640.7	513.9	399.8	302.3	228.2	171.6	139.5
30°	1158.5	1044.4	924.5	795.7	659.2	522.7	397.9	294.5	213.5	158.9	127.8
32.5°	1215.0	1092.1	965.4	826.0	679.7	531.5	396.9	283.7	199.9	146.3	119.0
35°	1274.6	1136.1	1000.5	855.2	697.2	541.2	395.9	276.0	187.2	133.6	110.2
37.5°	1326.2	1173.1	1027.8	880.5	716.7	550.0	396.9	269.1	175.5	122.9	102.4
40°	1370.1	1211.2	1058.1	903.9	737.2	563.6	397.9	262.3	163.8	113.1	95.5
42.5°	1409.1	1247.2	1090.2	930.3	760.6	579.2	403.7	256.5	154.1	104.4	88.7
45°	1439.3	1280.4	1125.3	967.3	798.6	604.6	414.5	252.6	144.3	96.5	82.9
47.5°	1470.5	1329.1	1184.8	1025.9	854.2	644.6	433.0	251.6	136.5	90.7	78.0
50°	1513.4	1377.9	1237.5	1085.3	905.0	685.5	455.4	252.6	126.8	84.8	73.1
52.5°	1544.7	1427.6	1305.7	1188.7	1025.9	810.3	542.2	270.1	121.9	80.0	67.3
55°	1728.9	1708.5	1711.4	1730.9	1605.1	1378.8	906.9	390.1	143.3	90.7	66.3
57.5°	2437.9	2510.1	2552.0	2551.0	2343.3	1943.5	1218.0	501.3	159.9	105.3	79.0
60°	3370.1	3315.5	3238.5	3048.3	2772.3	2218.5	1362.3	539.3	138.5	83.8	72.1
62.5°	4194.1	3874.3	3590.5	3282.3	2920.6	2314.0	1391.6	536.4	120.9	63.4	50.7
65°	4708.1	4132.7	3674.4	3288.2	2862.1	2234.1	1316.5	492.4	102.4	51.7	41.9
67.5°	4830.9	3993.3	3344.8	2852.3	2391.1	1738.7	966.4	370.5	80.0	42.9	37.0
69°	4562.7	3549.6	2771.4	2212.6	1739.7	1153.6	597.8	234.0	61.4	39.0	34.1
70°	4197.1	3087.3	2257.5	1775.7	1288.2	810.3	418.3	164.8	49.7	36.1	31.2
72.5°	2700.2	1621.7	1109.7	772.3	531.5	322.8	163.8	74.1	38.0	30.2	25.3
75°	1047.3	599.7	434.9	330.6	258.4	179.5	99.5	47.8	32.2	25.3	19.5
77.5°	515.9	394.9	322.8	221.4	128.7	80.0	53.6	37.0	26.3	18.5	12.7
80°	407.6	271.1	161.9	100.4	76.1	57.5	41.0	30.2	19.5	11.7	8.7
82.5°	208.7	114.1	83.8	68.3	56.6	44.9	33.2	21.5	12.7	7.8	6.8
85°	65.3	47.8	42.9	41.9	39.0	32.2	23.4	13.6	7.8	4.9	4.9
87.5°	4.9	6.8	8.7	6.8	7.8	6.8	8.7	5.9	3.9	3.9	2.9
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: P163821

CATALOG NUMBER: LDRL-SL4-F04-E-7030-HSS

**CANDELA DISTRIBUTION (continued):**

	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°	160°
0°	449.6	449.6	449.6	449.6	449.6	449.6	449.6	449.6	449.6	449.6	449.6
2.5°	409.6	397.9	387.1	380.3	367.6	362.8	357.9	355.9	347.1	349.1	341.3
5°	357.9	337.4	321.8	306.2	291.6	280.8	272.0	261.4	252.6	248.6	240.9
7.5°	311.1	284.8	264.3	247.7	230.1	216.5	204.8	197.0	189.2	181.4	177.5
10°	270.1	241.8	218.4	201.8	185.3	173.6	164.8	158.9	154.1	151.2	150.2
12.5°	232.1	204.8	183.3	168.7	156.0	150.2	146.3	143.3	142.4	141.4	141.4
15°	202.9	175.5	158.9	148.2	142.4	139.5	138.5	136.5	134.6	133.6	133.6
17.5°	175.5	155.0	143.3	137.5	134.6	132.6	130.7	128.7	126.8	125.8	125.8
20°	157.0	140.4	134.6	130.7	127.8	125.8	122.9	120.9	119.9	119.0	118.0
22.5°	142.4	131.6	127.8	124.8	120.9	118.0	116.1	114.1	112.1	111.2	110.2
25°	131.6	124.8	121.9	118.0	114.1	111.2	108.2	105.3	103.4	102.4	100.4
27.5°	123.8	119.0	115.1	110.2	106.3	103.4	100.4	97.5	95.5	93.6	92.7
30°	117.0	112.1	107.2	103.4	98.5	95.5	91.7	88.7	87.8	85.8	83.8
32.5°	110.2	105.3	100.4	95.5	90.7	86.8	84.8	80.9	79.0	78.0	76.1
35°	102.4	97.5	91.7	87.8	82.9	79.0	76.1	73.1	71.2	69.2	68.3
37.5°	95.5	89.7	83.8	79.0	75.1	71.2	68.3	65.3	63.4	61.4	60.4
40°	87.8	81.9	76.1	71.2	67.3	64.4	61.4	58.5	56.6	55.6	55.6
42.5°	80.9	74.1	68.3	64.4	61.4	57.5	54.6	51.7	50.7	49.7	50.7
45°	74.1	67.3	62.4	58.5	55.6	51.7	48.7	46.8	45.8	46.8	47.8
47.5°	68.3	61.4	56.6	53.6	50.7	47.8	44.9	42.9	42.9	44.9	46.8
50°	62.4	55.6	51.7	49.7	46.8	43.9	40.0	39.0	40.0	41.9	43.9
52.5°	56.6	48.7	45.8	44.9	41.9	39.0	36.1	35.1	36.1	38.0	37.0
55°	50.7	42.9	41.9	41.0	38.0	34.1	31.2	31.2	31.2	30.2	28.3
57.5°	48.7	38.0	37.0	36.1	33.2	29.3	27.3	25.3	24.4	21.5	20.4
60°	50.7	34.1	34.1	32.2	29.3	25.3	22.4	19.5	17.6	15.6	15.6
62.5°	41.0	31.2	30.2	28.3	24.4	20.4	17.6	14.6	13.6	12.7	12.7
65°	33.2	28.3	26.3	23.4	20.4	16.6	13.6	11.7	10.7	10.7	11.7
67.5°	30.2	25.3	22.4	19.5	16.6	12.7	10.7	9.8	9.8	10.7	10.7
69°	28.3	23.4	20.4	17.6	14.6	11.7	9.8	9.8	9.8	9.8	10.7
70°	26.3	22.4	19.5	16.6	12.7	9.8	8.7	8.7	9.8	9.8	10.7
72.5°	20.4	17.6	16.6	13.6	9.8	8.7	7.8	8.7	8.7	9.8	9.8
75°	15.6	12.7	12.7	10.7	7.8	6.8	6.8	7.8	7.8	8.7	8.7
77.5°	10.7	8.7	8.7	7.8	6.8	5.9	5.9	6.8	7.8	7.8	8.7
80°	7.8	6.8	5.9	6.8	5.9	4.9	5.9	6.8	6.8	7.8	7.8
82.5°	5.9	5.9	5.9	5.9	4.9	4.9	5.9	5.9	6.8	7.8	7.8
85°	4.9	4.9	4.9	4.9	4.9	4.9	4.9	5.9	5.9	6.8	6.8
87.5°	2.9	2.9	2.9	3.9	3.9	4.9	4.9	4.9	4.9	5.9	5.9
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: P163821

CATALOG NUMBER: LDRL-SL4-F04-E-7030-HSS

**CANDELA DISTRIBUTION (continued):**

	165°	170°	175°	180°
0°	449.6	449.6	449.6	449.6
2.5°	339.4	338.4	334.5	335.4
5°	238.0	232.1	236.0	235.0
7.5°	174.6	173.6	172.6	174.6
10°	149.2	149.2	148.2	149.2
12.5°	140.4	140.4	140.4	140.4
15°	133.6	133.6	132.6	132.6
17.5°	125.8	125.8	125.8	124.8
20°	118.0	117.0	117.0	117.0
22.5°	109.2	108.2	108.2	108.2
25°	100.4	99.5	99.5	99.5
27.5°	91.7	90.7	89.7	89.7
30°	82.9	81.9	80.9	80.9
32.5°	74.1	73.1	72.1	72.1
35°	66.3	66.3	65.3	64.4
37.5°	59.5	59.5	59.5	59.5
40°	54.6	55.6	55.6	55.6
42.5°	51.7	52.7	53.6	54.6
45°	49.7	51.7	52.7	52.7
47.5°	48.7	49.7	50.7	50.7
50°	44.9	43.9	43.9	43.9
52.5°	36.1	34.1	33.2	32.2
55°	26.3	25.3	23.4	23.4
57.5°	18.5	18.5	17.6	17.6
60°	14.6	14.6	13.6	14.6
62.5°	12.7	12.7	12.7	12.7
65°	11.7	11.7	11.7	11.7
67.5°	11.7	11.7	11.7	11.7
69°	10.7	10.7	10.7	10.7
70°	10.7	10.7	10.7	10.7
72.5°	9.8	9.8	9.8	9.8
75°	8.7	9.8	9.8	9.8
77.5°	8.7	8.7	8.7	8.7
80°	7.8	7.8	8.7	8.7
82.5°	7.8	7.8	7.8	7.8
85°	6.8	6.8	7.8	7.8
87.5°	5.9	5.9	6.8	6.8
90°	0.0	0.0	0.0	0.0

(END OF REPORT)