

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: P163814

Luminaire Tested: **LDRL-SL4-F03-E-7060-HSS**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P163814  
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-F03-E-7060-HSS  
Description: RL LED ROADWAY LARGE CUTOFF COBRAHEAD LUMINAIRE  
(3) LIGHTBARS WITH AccuLED OPTICS - TYPE 4 W/ SPILL LIGHT CONTROL AND HOUSE SIDE SHIELD  
Light Source: (21) 5700K CCT, 70 CRI LEDs  
Ballast/Driver: -

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 5015.7 lumens  
Efficiency: N/A  
Efficacy: 64.1 lumens/watt  
Luminous Opening: Rectangular w/ Sides (W: 0.5' x L: 1' x H: 0.1')  
IES Classification: Type IV - Short - Semi-Cutoff  
BUG Rating: B0 - U0 - G2

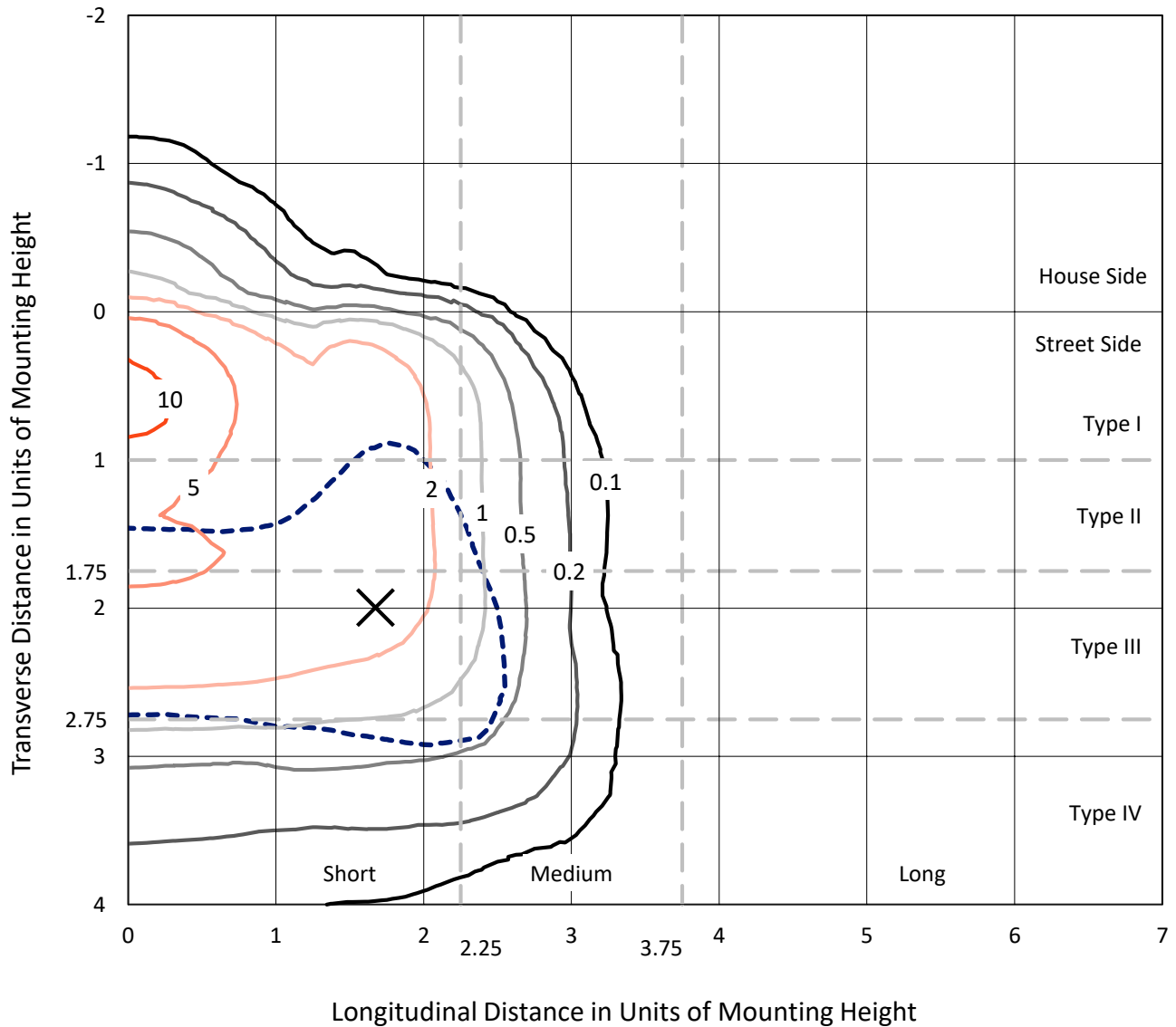
Input Watts (W): 78.3  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



REPORT NUMBER: P163814  
 CATALOG NUMBER: LDRL-SL4-F03-E-7060-HSS

### Iso-Footcandle Lines of Horizontal Illumination

✕ Max cd  
 - - - 1/2 Max cd

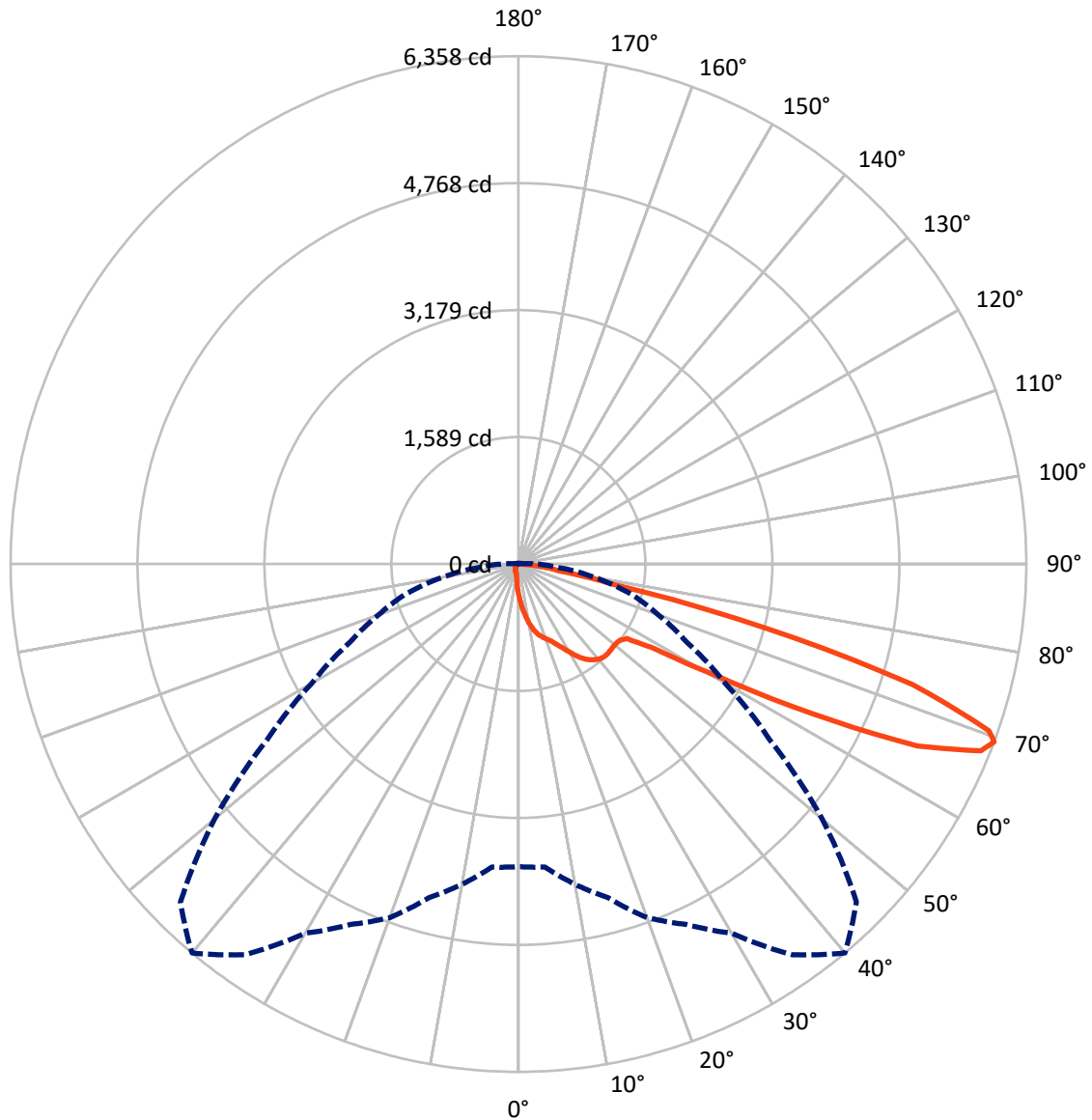


Based on 10 foot mounting height. Maximum calculated value = 11.2 fc  
 Type IV - Short - Semi-Cutoff

REPORT NUMBER: P163814

CATALOG NUMBER: LDRL-SL4-F03-E-7060-HSS

### Luminous Intensity Polar Plot



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

REPORT NUMBER: P163814

CATALOG NUMBER: LDRL-SL4-F03-E-7060-HSS

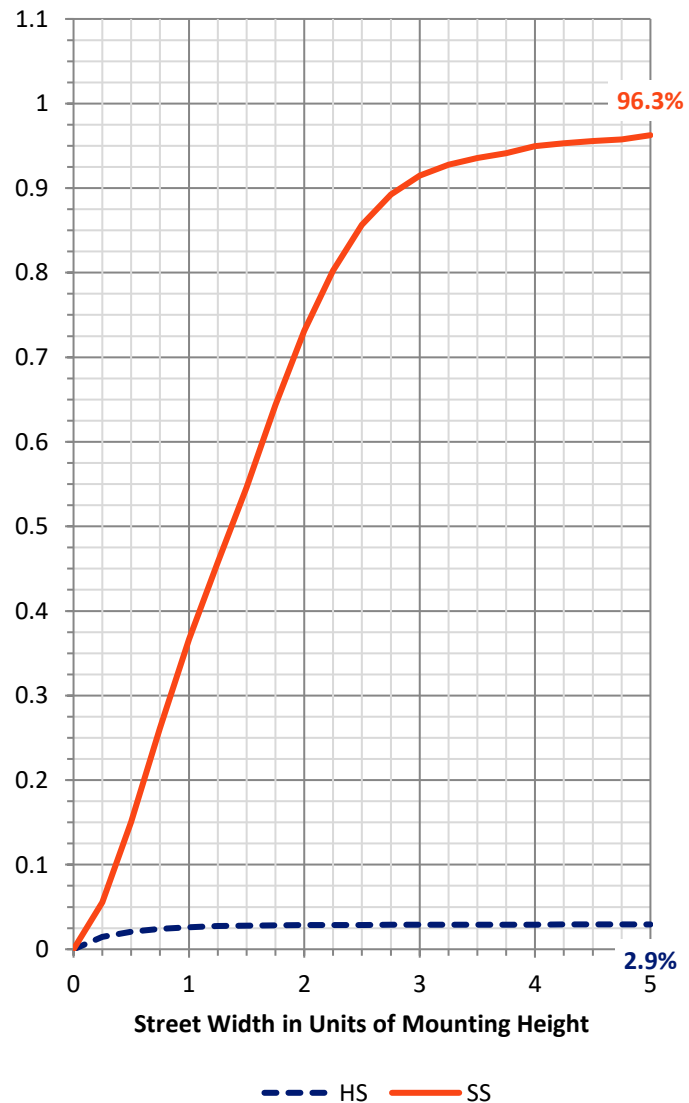
**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	149.3	0.0	149.3
	% Fixture	3.0	0.0	3.0
<b>Street Side</b>	Lumens	4866.4	0.0	4866.4
	% Fixture	97.0	0.0	97.0
<b>Total</b>	Lumens	5015.7	0.0	5015.7
	% Fixture	100.0	0.0	100.0

**Coefficient of Utilization**

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	38.9	0.8
10°-20°	134.2	2.7
20°-30°	256.9	5.1
30°-40°	427.2	8.5
40°-50°	578.1	11.5
50°-60°	904.2	18.0
60°-70°	1858.9	37.1
70°-80°	748.0	14.9
80°-90°	69.2	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°	5015.7	100.0
0°-180°	5015.7	100.0



REPORT NUMBER: P163814

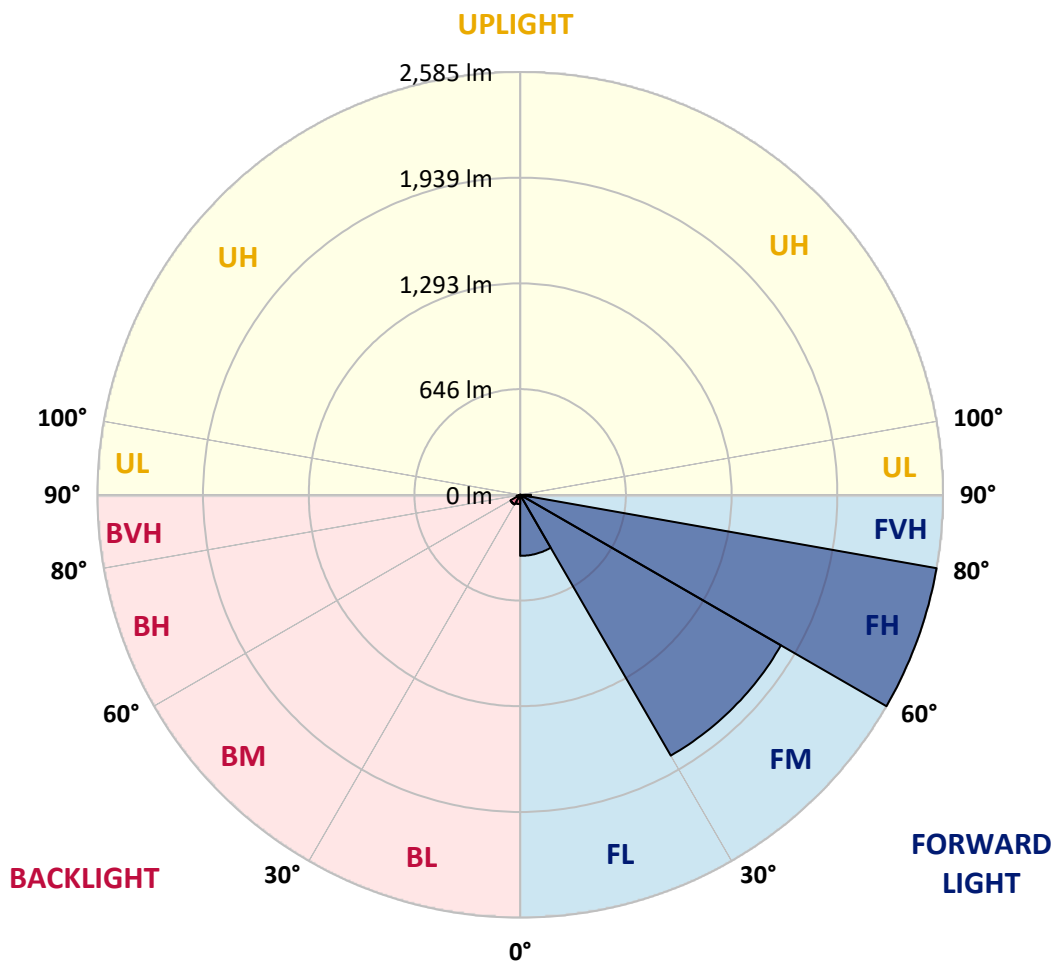
CATALOG NUMBER: LDRL-SL4-F03-E-7060-HSS

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

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	373.3	7.4			
FM (30°-60°)	1841.4	36.7			
FH (60°-80°)	2585.1	51.5			G2/5000
FVH (80°-90°)	66.6	1.3			G1/100
BL (0°-30°)	56.8	1.1	B0/110		
BM (30°-60°)	68.2	1.4	B0/220		
BH (60°-80°)	21.8	0.4	B0/110		G0/110
BVH (80°-90°)	2.6	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: P163814

CATALOG NUMBER: LDRL-SL4-F03-E-7060-HSS

**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	378.8	378.8	378.8	378.8	378.8	378.8	378.8	378.8	378.8	378.8	378.8
2.5°	505.3	499.6	493.0	493.0	484.8	484.8	479.8	466.7	465.0	457.7	450.3
5°	645.0	640.1	631.9	624.5	617.9	606.4	598.2	582.6	565.3	548.9	534.1
7.5°	781.4	778.9	764.1	761.7	751.0	732.1	715.7	692.6	663.1	640.1	612.9
10°	907.9	902.2	898.9	884.9	869.3	848.8	823.3	795.4	760.8	724.7	686.1
12.5°	1008.2	1004.9	990.1	984.3	967.9	947.4	915.3	879.2	844.7	797.8	752.7
15°	1082.9	1077.2	1067.3	1058.3	1038.5	1020.5	990.9	951.5	909.6	858.6	804.4
17.5°	1145.4	1134.7	1132.2	1118.3	1097.7	1076.4	1043.5	1007.3	958.0	907.1	848.0
20°	1229.2	1214.4	1209.5	1188.9	1165.1	1135.5	1097.7	1052.5	1000.8	944.9	884.1
22.5°	1327.8	1317.1	1306.4	1288.4	1258.0	1216.0	1161.0	1111.7	1046.0	984.3	918.6
25°	1467.5	1458.5	1441.2	1416.5	1378.7	1328.6	1262.1	1189.8	1112.5	1033.6	956.4
27.5°	1603.1	1594.8	1582.5	1563.6	1520.9	1465.8	1383.6	1291.7	1193.9	1098.6	1013.1
30°	1730.4	1723.0	1710.7	1691.8	1654.0	1599.8	1506.9	1408.3	1286.7	1175.8	1073.1
32.5°	1867.6	1865.2	1851.2	1824.1	1791.2	1718.1	1617.0	1511.0	1387.8	1259.6	1139.6
35°	2022.9	2004.0	1990.8	1963.8	1907.9	1829.8	1711.5	1595.6	1465.8	1334.3	1200.4
37.5°	2154.4	2136.3	2119.9	2085.4	2017.2	1917.8	1783.8	1656.5	1522.6	1388.6	1252.2
40°	2250.5	2241.5	2221.7	2176.6	2100.2	1981.9	1837.2	1698.4	1563.6	1428.9	1294.1
42.5°	2322.0	2308.0	2285.8	2239.0	2148.6	2013.9	1858.6	1715.6	1582.5	1453.5	1321.2
45°	2348.3	2336.8	2316.2	2265.3	2167.5	2022.9	1857.7	1710.7	1583.3	1460.9	1339.3
47.5°	2332.7	2321.2	2303.1	2255.4	2159.3	2012.2	1842.9	1696.7	1575.1	1463.4	1355.7
50°	2280.9	2274.3	2260.4	2220.1	2133.8	1991.7	1829.8	1689.3	1573.5	1475.7	1378.7
52.5°	2276.0	2271.9	2254.6	2214.4	2126.4	1985.1	1828.2	1693.4	1587.5	1491.3	1395.2
55°	2781.3	2723.0	2592.3	2481.4	2299.0	2082.1	1911.2	1760.0	1646.6	1552.9	1485.6
57.5°	3953.0	3865.9	3694.2	3483.0	3064.0	2652.3	2322.8	2084.5	1967.1	1924.3	1949.8
60°	4501.8	4486.2	4459.1	4358.9	4144.4	3790.3	3395.9	2969.5	2798.6	2783.8	2835.6
62.5°	4762.3	4752.4	4760.7	4748.3	4681.8	4578.3	4464.9	4280.8	4111.6	4002.3	3770.6
65°	4882.3	4888.9	4935.7	4972.7	4980.9	5008.0	5091.0	5320.2	5487.8	5206.0	4562.7
67.5°	4577.5	4616.0	4723.7	4858.5	5016.2	5169.0	5415.5	5898.6	6242.9	5911.8	4998.1
69°	3789.5	3808.4	4071.3	4325.2	4710.6	4980.0	5337.5	5971.0	6357.9	5984.1	4963.6
70°	2983.5	3000.7	3282.5	3627.6	4279.2	4625.9	5093.4	5848.5	6250.4	5888.0	4786.1
72.5°	1345.9	1321.2	1420.6	1605.5	2313.8	2864.3	3681.8	4738.5	5156.7	4717.1	3580.8
75°	939.9	929.3	939.9	940.8	1050.9	1355.7	1710.7	2568.5	3176.5	2741.0	1710.7
77.5°	728.0	720.6	713.2	705.0	718.2	804.4	838.9	911.2	1183.2	1119.1	652.4
80°	576.0	569.4	587.5	581.7	581.7	591.6	585.0	557.9	507.0	470.0	420.7
82.5°	267.8	269.5	269.5	292.5	352.5	411.6	430.5	403.4	358.3	304.8	245.7
85°	25.5	28.8	48.5	74.8	148.7	167.6	168.4	139.7	139.7	110.1	88.7
87.5°	0.0	0.8	0.8	0.8	7.4	20.5	17.2	4.9	2.4	2.4	4.1
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: P163814

CATALOG NUMBER: LDRL-SL4-F03-E-7060-HSS

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°	105°
0°	378.8	378.8	378.8	378.8	378.8	378.8	378.8	378.8	378.8	378.8	378.8
2.5°	437.1	434.7	424.8	414.9	405.9	396.0	387.0	378.0	368.1	360.7	351.7
5°	511.1	493.0	472.5	452.7	433.0	412.5	391.1	372.2	352.5	334.4	317.1
7.5°	585.9	550.5	522.6	487.3	455.2	423.2	393.6	363.2	335.2	309.0	284.3
10°	649.1	606.4	562.8	517.6	471.7	428.9	387.8	351.7	314.7	282.6	252.2
12.5°	700.9	646.6	593.2	536.6	484.8	430.5	379.6	336.1	292.5	256.4	225.2
15°	747.7	685.3	621.2	555.5	489.7	428.1	371.4	317.1	272.8	231.7	196.4
17.5°	785.5	714.0	641.7	567.8	497.1	424.8	360.7	304.0	252.2	209.5	175.0
20°	818.4	743.6	665.5	582.6	502.0	424.0	351.7	287.6	234.1	189.0	155.3
22.5°	848.8	774.0	690.2	601.5	509.4	423.2	343.5	275.3	218.5	173.4	139.7
25°	883.3	804.4	716.5	621.2	522.6	426.4	338.5	265.4	204.6	158.6	127.4
27.5°	921.9	838.9	747.7	645.8	539.8	433.0	336.9	254.7	192.3	144.6	117.5
30°	976.1	880.0	778.9	670.5	555.5	440.4	335.2	248.1	179.9	133.9	107.6
32.5°	1023.8	920.2	813.4	695.9	572.7	447.8	334.4	239.1	168.4	123.2	100.2
35°	1073.9	957.2	843.0	720.6	587.5	456.0	333.6	232.5	157.8	112.6	92.9
37.5°	1117.4	988.4	866.0	741.9	603.9	463.4	334.4	226.8	147.9	103.5	86.2
40°	1154.4	1020.5	891.5	761.7	621.2	474.9	335.2	221.0	138.0	95.3	80.5
42.5°	1187.3	1050.9	918.6	783.9	640.9	488.1	340.2	216.1	129.8	87.9	74.8
45°	1212.8	1078.9	948.2	815.1	672.9	509.4	349.2	212.8	121.6	81.3	69.8
47.5°	1239.1	1119.9	998.3	864.4	719.8	543.1	364.8	212.0	115.0	76.4	65.7
50°	1275.2	1161.0	1042.7	914.5	762.5	577.6	383.7	212.8	106.8	71.5	61.6
52.5°	1301.5	1202.9	1100.2	1001.6	864.4	682.8	456.9	227.6	102.7	67.4	56.7
55°	1456.8	1439.6	1442.0	1458.5	1352.4	1161.8	764.1	328.7	120.8	76.4	55.9
57.5°	2054.1	2115.0	2150.3	2149.5	1974.4	1637.6	1026.2	422.4	134.7	88.7	66.5
60°	2839.6	2793.6	2728.7	2568.5	2335.9	1869.3	1147.9	454.4	116.7	70.6	60.8
62.5°	3533.9	3264.5	3025.3	2765.7	2460.9	1949.8	1172.5	451.9	101.9	53.4	42.7
65°	3967.0	3482.2	3096.0	2770.6	2411.6	1882.4	1109.2	414.9	86.2	43.6	35.3
67.5°	4070.5	3364.7	2818.3	2403.3	2014.7	1465.0	814.3	312.2	67.4	36.1	31.2
69°	3844.5	2990.8	2335.1	1864.3	1465.8	972.0	503.7	197.2	51.7	32.9	28.8
70°	3536.4	2601.4	1902.1	1496.2	1085.4	682.8	352.5	138.9	41.9	30.4	26.3
72.5°	2275.2	1366.4	935.0	650.8	447.8	272.0	138.0	62.5	32.0	25.5	21.3
75°	882.5	505.3	366.4	278.5	217.7	151.2	83.8	40.3	27.1	21.3	16.4
77.5°	434.7	332.7	272.0	186.5	108.5	67.4	45.2	31.2	22.2	15.6	10.7
80°	343.5	228.4	136.4	84.6	64.1	48.5	34.5	25.5	16.4	9.9	7.4
82.5°	175.9	96.1	70.6	57.5	47.7	37.8	28.0	18.1	10.7	6.6	5.7
85°	55.0	40.3	36.1	35.3	32.9	27.1	19.7	11.5	6.6	4.1	4.1
87.5°	4.1	5.7	7.4	5.7	6.6	5.7	7.4	4.9	3.3	3.3	2.4
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: P163814

CATALOG NUMBER: LDRL-SL4-F03-E-7060-HSS

**CANDELA DISTRIBUTION (continued):**

	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°	160°
0°	378.8	378.8	378.8	378.8	378.8	378.8	378.8	378.8	378.8	378.8	378.8
2.5°	345.1	335.2	326.2	320.4	309.8	305.7	301.5	299.9	292.5	294.2	287.6
5°	301.5	284.3	271.1	258.0	245.7	236.6	229.2	220.2	212.8	209.5	202.9
7.5°	262.1	239.9	222.7	208.7	193.9	182.4	172.5	166.0	159.4	152.8	149.5
10°	227.6	203.8	184.0	170.1	156.1	146.3	138.9	133.9	129.8	127.4	126.6
12.5°	195.6	172.5	154.5	142.2	131.5	126.6	123.2	120.8	119.9	119.1	119.1
15°	170.9	147.9	133.9	124.9	119.9	117.5	116.7	115.0	113.4	112.6	112.6
17.5°	147.9	130.6	120.8	115.8	113.4	111.8	110.1	108.5	106.8	106.0	106.0
20°	132.3	118.3	113.4	110.1	107.6	106.0	103.5	101.9	101.0	100.2	99.4
22.5°	119.9	110.9	107.6	105.2	101.9	99.4	97.8	96.1	94.5	93.7	92.9
25°	110.9	105.2	102.7	99.4	96.1	93.7	91.2	88.7	87.1	86.2	84.6
27.5°	104.3	100.2	97.0	92.9	89.6	87.1	84.6	82.2	80.5	78.9	78.1
30°	98.6	94.5	90.4	87.1	83.0	80.5	77.3	74.8	73.9	72.3	70.6
32.5°	92.9	88.7	84.6	80.5	76.4	73.1	71.5	68.2	66.5	65.7	64.1
35°	86.2	82.2	77.3	73.9	69.8	66.5	64.1	61.6	60.0	58.3	57.5
37.5°	80.5	75.6	70.6	66.5	63.3	60.0	57.5	55.0	53.4	51.7	50.9
40°	73.9	69.0	64.1	60.0	56.7	54.2	51.7	49.3	47.7	46.8	46.8
42.5°	68.2	62.5	57.5	54.2	51.7	48.5	46.0	43.6	42.7	41.9	42.7
45°	62.5	56.7	52.6	49.3	46.8	43.6	41.1	39.4	38.6	39.4	40.3
47.5°	57.5	51.7	47.7	45.2	42.7	40.3	37.8	36.1	36.1	37.8	39.4
50°	52.6	46.8	43.6	41.9	39.4	36.9	33.7	32.9	33.7	35.3	36.9
52.5°	47.7	41.1	38.6	37.8	35.3	32.9	30.4	29.6	30.4	32.0	31.2
55°	42.7	36.1	35.3	34.5	32.0	28.8	26.3	26.3	26.3	25.5	23.8
57.5°	41.1	32.0	31.2	30.4	28.0	24.6	23.0	21.3	20.5	18.1	17.2
60°	42.7	28.8	28.8	27.1	24.6	21.3	18.9	16.4	14.8	13.2	13.2
62.5°	34.5	26.3	25.5	23.8	20.5	17.2	14.8	12.3	11.5	10.7	10.7
65°	28.0	23.8	22.2	19.7	17.2	14.0	11.5	9.9	9.0	9.0	9.9
67.5°	25.5	21.3	18.9	16.4	14.0	10.7	9.0	8.2	8.2	9.0	9.0
69°	23.8	19.7	17.2	14.8	12.3	9.9	8.2	8.2	8.2	8.2	9.0
70°	22.2	18.9	16.4	14.0	10.7	8.2	7.4	7.4	8.2	8.2	9.0
72.5°	17.2	14.8	14.0	11.5	8.2	7.4	6.6	7.4	7.4	8.2	8.2
75°	13.2	10.7	10.7	9.0	6.6	5.7	5.7	6.6	6.6	7.4	7.4
77.5°	9.0	7.4	7.4	6.6	5.7	4.9	4.9	5.7	6.6	6.6	7.4
80°	6.6	5.7	4.9	5.7	4.9	4.1	4.9	5.7	5.7	6.6	6.6
82.5°	4.9	4.9	4.9	4.9	4.1	4.1	4.9	4.9	5.7	6.6	6.6
85°	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.9	4.9	5.7	5.7
87.5°	2.4	2.4	2.4	3.3	3.3	4.1	4.1	4.1	4.1	4.9	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: P163814

CATALOG NUMBER: LDRL-SL4-F03-E-7060-HSS

**CANDELA DISTRIBUTION (continued):**

	165°	170°	175°	180°
0°	378.8	378.8	378.8	378.8
2.5°	285.9	285.1	281.8	282.6
5°	200.5	195.6	198.8	198.0
7.5°	147.1	146.3	145.4	147.1
10°	125.7	125.7	124.9	125.7
12.5°	118.3	118.3	118.3	118.3
15°	112.6	112.6	111.8	111.8
17.5°	106.0	106.0	106.0	105.2
20°	99.4	98.6	98.6	98.6
22.5°	92.0	91.2	91.2	91.2
25°	84.6	83.8	83.8	83.8
27.5°	77.3	76.4	75.6	75.6
30°	69.8	69.0	68.2	68.2
32.5°	62.5	61.6	60.8	60.8
35°	55.9	55.9	55.0	54.2
37.5°	50.1	50.1	50.1	50.1
40°	46.0	46.8	46.8	46.8
42.5°	43.6	44.4	45.2	46.0
45°	41.9	43.6	44.4	44.4
47.5°	41.1	41.9	42.7	42.7
50°	37.8	36.9	36.9	36.9
52.5°	30.4	28.8	28.0	27.1
55°	22.2	21.3	19.7	19.7
57.5°	15.6	15.6	14.8	14.8
60°	12.3	12.3	11.5	12.3
62.5°	10.7	10.7	10.7	10.7
65°	9.9	9.9	9.9	9.9
67.5°	9.9	9.9	9.9	9.9
69°	9.0	9.0	9.0	9.0
70°	9.0	9.0	9.0	9.0
72.5°	8.2	8.2	8.2	8.2
75°	7.4	8.2	8.2	8.2
77.5°	7.4	7.4	7.4	7.4
80°	6.6	6.6	7.4	7.4
82.5°	6.6	6.6	6.6	6.6
85°	5.7	5.7	6.6	6.6
87.5°	4.9	4.9	5.7	5.7
90°	0.0	0.0	0.0	0.0

(END OF REPORT)