

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: P163541

Luminaire Tested: **LDRL-SL3-F04-E-7030-HSS**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P163541  
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (P33727)  
Test Lab: INNOVATION CENTER-P3  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: LUMARK  
Catalog Number: LDRL-SL3-F04-E-7030-HSS  
Description: RL LED ROADWAY LARGE CUTOFF COBRAHEAD LUMINAIRE  
(4) LIGHTBARS WITH AccuLED OPTICS - TYPE 3 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: 5072.2 lumens  
Efficiency: N/A  
Efficacy: 49.6 lumens/watt  
Luminous Opening: Rectangular w/ Sides (W: 0.67' x L: 1' x H: 0.1')  
IES Classification: Type III - Short - Non-Cutoff  
BUG Rating: B0 - U0 - G2

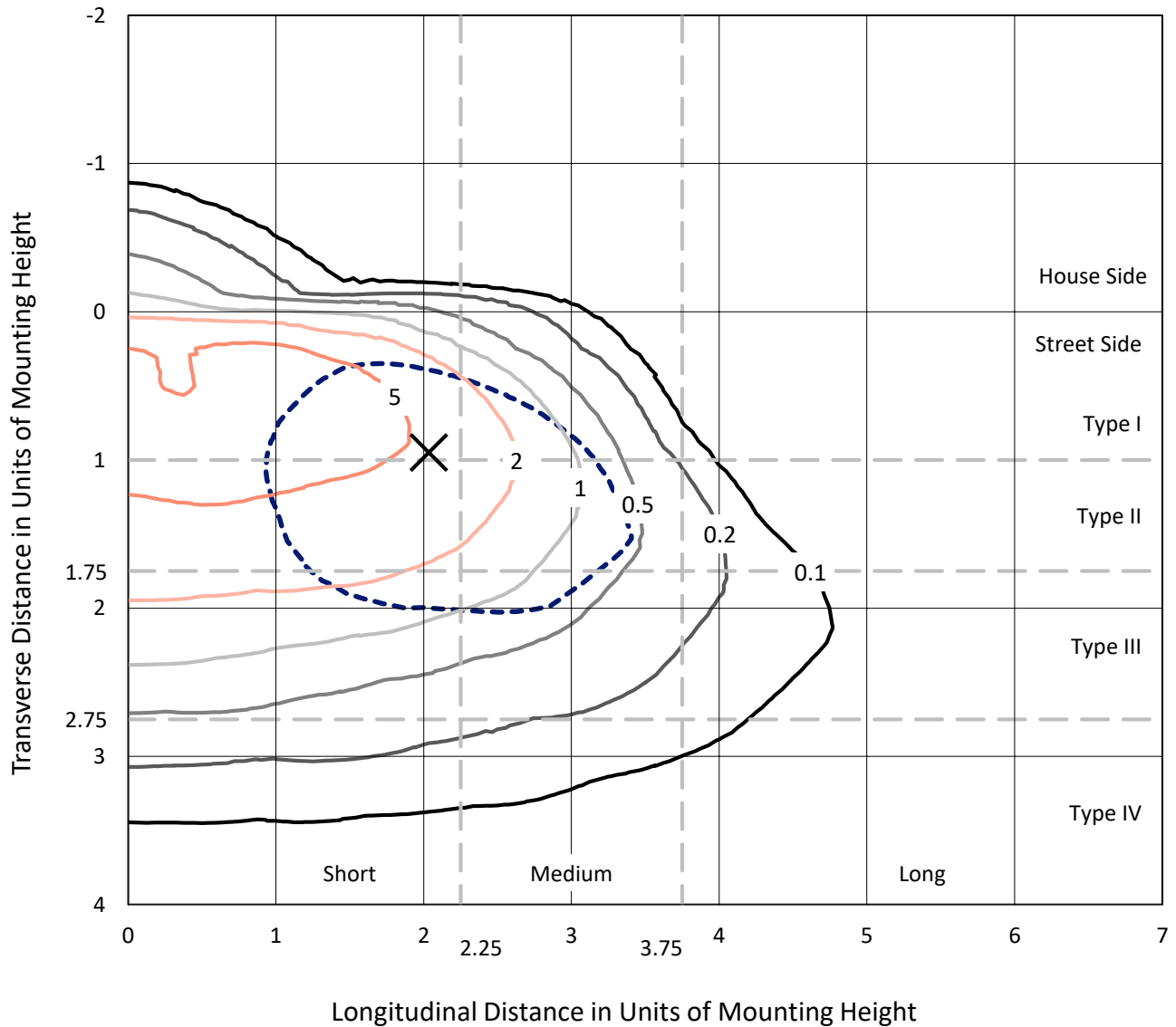
Input Watts (W): 102.2  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



REPORT NUMBER: P163541  
 CATALOG NUMBER: LDRL-SL3-F04-E-7030-HSS

### Iso-Footcandle Lines of Horizontal Illumination

× Max cd  
 - - - 1/2 Max cd

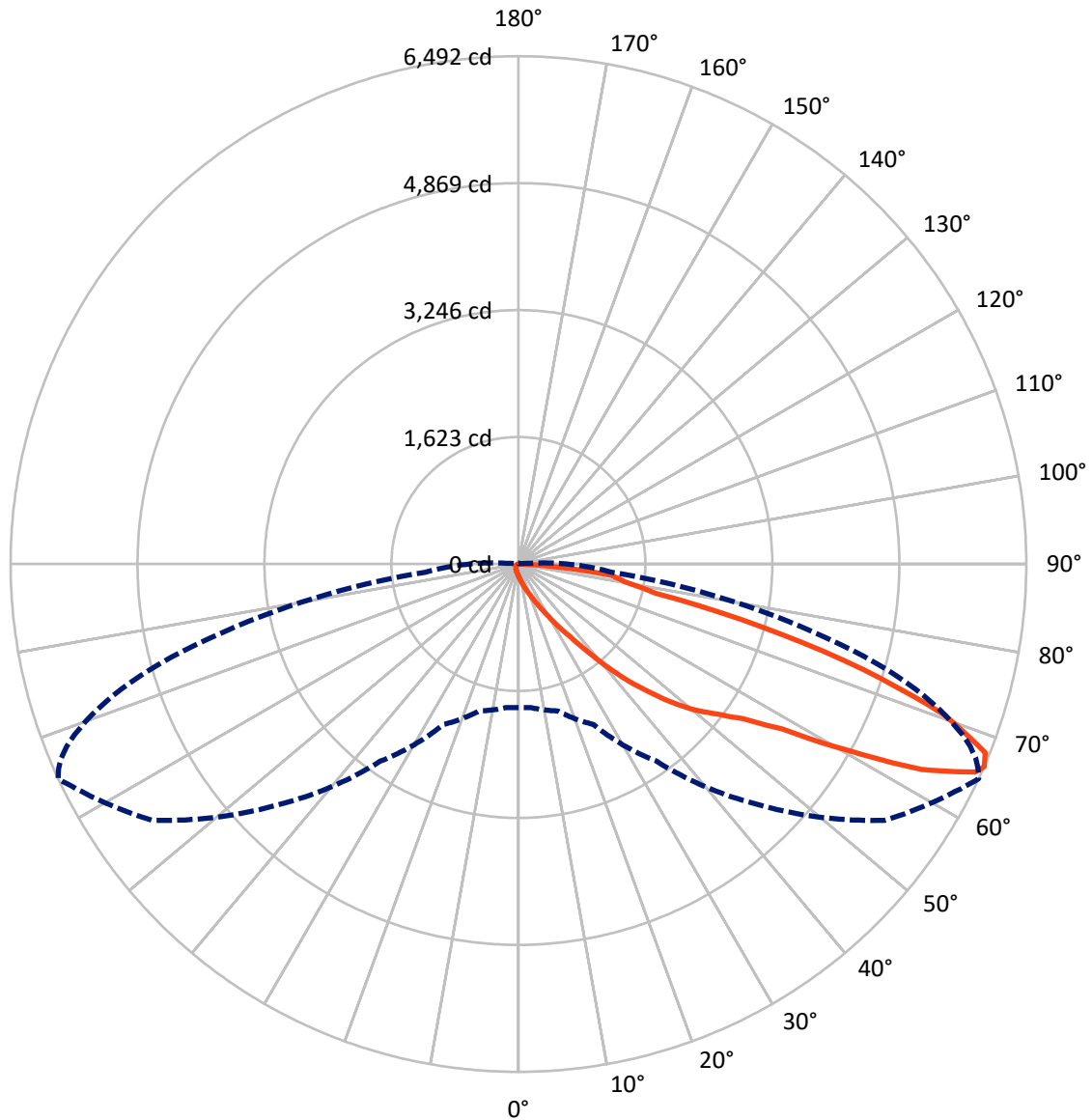


Based on 10 foot mounting height. Maximum calculated value = 8.4 fc  
 Type III - Short - Non-Cutoff

REPORT NUMBER: P163541

CATALOG NUMBER: LDRL-SL3-F04-E-7030-HSS

### Luminous Intensity Polar Plot



— Vertical Plane Through 65-Deg Lateral    - - - Horizontal Cone Through 66-Deg Vertical

REPORT NUMBER: P163541

CATALOG NUMBER: LDRL-SL3-F04-E-7030-HSS

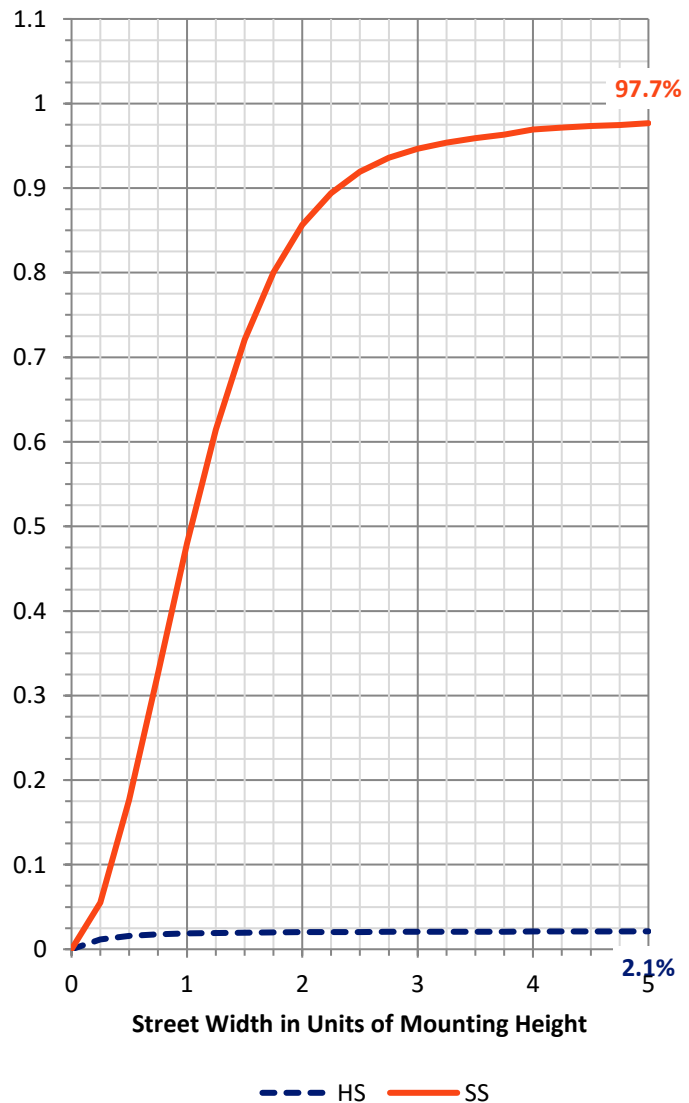
**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	109.9	0.0	109.9
	% Fixture	2.2	0.0	2.2
<b>Street Side</b>	Lumens	4962.3	0.0	4962.3
	% Fixture	97.8	0.0	97.8
<b>Total</b>	Lumens	5072.2	0.0	5072.2
	% Fixture	100.0	0.0	100.0

**Coefficient of Utilization**

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	17.1	0.3
10°-20°	72.7	1.4
20°-30°	156.7	3.1
30°-40°	334.7	6.6
40°-50°	740.2	14.6
50°-60°	1254.5	24.7
60°-70°	1674.0	33.0
70°-80°	737.4	14.5
80°-90°	84.9	1.7
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°	5072.2	100.0
0°-180°	5072.2	100.0



REPORT NUMBER: P163541

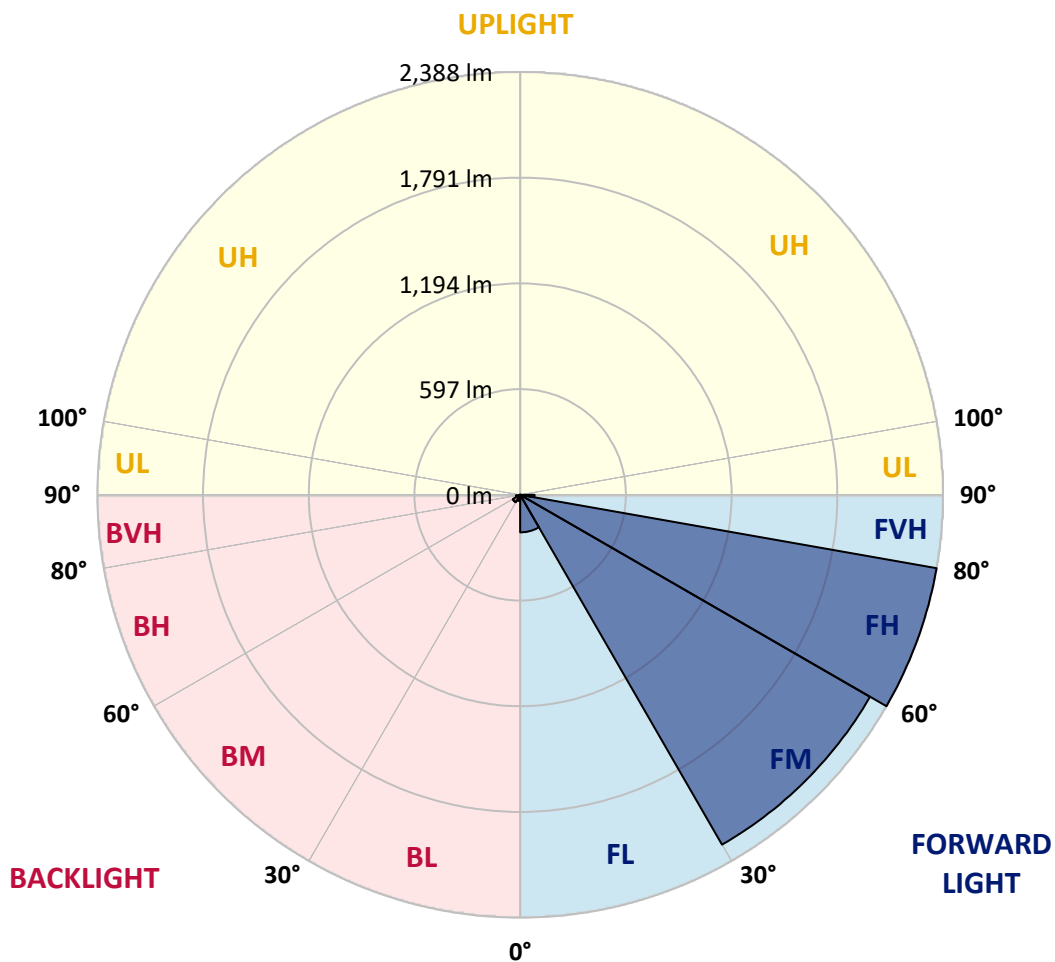
CATALOG NUMBER: LDRL-SL3-F04-E-7030-HSS

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

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	211.9	4.2			
FM (30°-60°)	2281.1	45.0			
FH (60°-80°)	2387.8	47.1			G2/5000
FVH (80°-90°)	81.5	1.6			G1/100
BL (0°-30°)	34.7	0.7	B0/110		
BM (30°-60°)	48.3	1.0	B0/220		
BH (60°-80°)	23.6	0.5	B0/110		G0/110
BVH (80°-90°)	3.4	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 III Short





REPORT NUMBER: P163541

CATALOG NUMBER: LDRL-SL3-F04-E-7030-HSS

**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	35°	45°	55°	65°	66°	67°	68°
0°	153.1	153.1	153.1	153.1	153.1	153.1	153.1	153.1	153.1	153.1	153.1
2.5°	193.1	192.1	188.2	188.2	182.3	178.4	173.6	168.7	168.7	167.7	166.7
5°	255.5	249.7	248.6	238.0	229.2	216.5	204.8	189.2	187.2	185.3	184.3
7.5°	324.7	323.7	315.0	302.3	284.8	261.4	238.0	212.6	208.7	206.7	202.9
10°	414.5	409.6	397.9	376.4	350.1	318.8	280.8	240.9	236.0	232.1	230.1
12.5°	500.2	491.5	484.7	457.3	424.2	378.4	332.5	275.0	271.1	266.2	258.4
15°	580.2	572.4	560.7	537.3	500.2	442.7	389.1	318.8	309.1	302.3	296.5
17.5°	642.6	637.8	624.1	597.8	557.8	507.1	442.7	363.7	355.9	347.1	336.4
20°	702.1	695.3	673.8	637.8	594.9	555.8	506.1	422.2	411.5	400.8	389.1
22.5°	758.7	751.8	716.7	657.2	611.4	594.9	577.3	488.5	472.0	463.2	451.5
25°	837.7	823.1	768.4	673.8	612.4	625.1	655.3	574.4	558.7	546.1	527.6
27.5°	943.9	924.5	838.6	698.2	616.3	658.2	745.0	678.7	662.1	647.5	627.0
30°	1063.9	1051.2	948.8	756.7	644.6	707.0	845.4	811.4	791.8	774.3	749.9
32.5°	1184.8	1167.2	1065.8	867.9	720.6	801.6	971.3	965.4	940.1	923.5	897.1
35°	1291.1	1282.3	1207.2	1050.2	894.2	967.3	1139.0	1145.8	1123.4	1105.8	1076.6
37.5°	1363.3	1363.3	1348.6	1246.3	1170.2	1224.8	1385.7	1386.7	1364.2	1324.3	1309.7
40°	1400.3	1411.1	1463.7	1483.2	1479.3	1549.5	1709.5	1691.9	1673.4	1652.9	1604.1
42.5°	1476.4	1486.2	1598.3	1732.9	1820.6	1913.3	2023.4	2017.6	1995.2	1958.1	1913.3
45°	1605.1	1617.8	1751.4	1964.9	2145.3	2277.0	2347.2	2319.9	2297.4	2262.3	2238.9
47.5°	1768.9	1793.3	1944.5	2208.7	2426.2	2643.6	2716.8	2644.6	2625.1	2597.8	2559.8
50°	1943.5	1966.9	2127.8	2430.1	2675.8	2935.2	3057.1	2935.2	2906.9	2898.2	2855.3
52.5°	2094.7	2114.1	2269.2	2600.7	2867.0	3171.2	3348.7	3187.8	3167.3	3138.1	3106.8
55°	2184.3	2200.0	2345.2	2682.6	2996.7	3383.8	3630.5	3489.1	3458.9	3447.2	3402.3
57.5°	2214.6	2230.2	2360.8	2693.4	3066.9	3577.8	3972.8	3977.6	3941.6	3899.7	3886.0
60°	2214.6	2232.1	2342.3	2667.0	3135.1	3784.6	4429.1	4835.8	4757.8	4750.0	4700.3
62.5°	2122.9	2139.5	2250.6	2586.1	3226.8	4063.5	5065.0	5782.6	5760.3	5709.5	5627.6
65°	1924.0	1933.7	2043.0	2379.4	3191.7	4320.0	5615.9	6412.6	6376.6	6277.1	6171.8
66°	1834.3	1842.1	1944.5	2261.4	3076.6	4355.1	5713.5	6491.6	6432.1	6348.3	6229.3
67.5°	1704.6	1718.2	1790.4	2042.0	2800.6	4233.2	5652.0	6436.0	6384.3	6282.9	6163.9
70°	1138.0	1128.3	1382.8	1567.1	2133.6	3449.1	5070.8	5778.8	5779.8	5732.0	5684.2
72.5°	540.2	546.1	620.2	964.4	1396.4	2304.3	4036.2	4612.5	4678.8	4593.0	4533.5
75°	388.1	396.9	441.7	590.0	832.8	1382.8	2616.4	3225.8	3227.8	3075.6	2940.1
77.5°	113.1	118.0	165.8	363.7	624.1	933.2	1502.7	1793.3	1751.4	1642.1	1539.8
80°	46.8	46.8	48.7	116.1	250.6	633.8	1051.2	1380.8	1375.9	1334.0	1273.5
82.5°	17.6	18.5	23.4	47.8	59.5	156.0	701.2	1198.5	1195.5	1136.1	1093.2
85°	1.9	1.9	5.9	20.4	22.4	29.3	140.4	528.5	525.6	528.5	463.2
87.5°	0.0	0.0	1.0	1.9	2.9	3.9	5.9	20.4	22.4	21.5	19.5
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: P163541

CATALOG NUMBER: LDRL-SL3-F04-E-7030-HSS

**CANDELA DISTRIBUTION (continued):**

	69°	70°	71°	72°	73°	74°	75°	76°	77°	78°	79°
0°	153.1	153.1	153.1	153.1	153.1	153.1	153.1	153.1	153.1	153.1	153.1
2.5°	166.7	164.8	164.8	163.8	163.8	163.8	162.9	161.9	161.9	160.9	159.9
5°	182.3	180.4	179.5	177.5	176.5	175.5	173.6	172.6	170.6	169.7	168.7
7.5°	200.9	197.0	196.0	193.1	190.1	188.2	186.3	183.3	181.4	177.5	176.5
10°	224.3	219.4	215.5	211.6	208.7	203.8	200.9	197.0	193.1	190.1	187.2
12.5°	254.5	247.7	241.8	238.0	231.1	225.2	219.4	216.5	208.7	204.8	199.9
15°	287.7	279.9	273.1	265.2	260.3	250.6	242.8	234.0	230.1	223.3	215.5
17.5°	330.6	317.9	307.1	299.4	289.6	279.9	271.1	262.3	250.6	242.8	233.1
20°	376.4	365.7	351.1	337.4	325.7	314.0	301.3	289.6	278.9	266.2	254.5
22.5°	434.9	419.3	401.8	388.1	372.5	359.8	342.3	326.7	309.1	292.5	278.9
25°	509.0	488.5	472.0	452.5	433.9	414.5	393.0	373.5	351.1	335.4	312.0
27.5°	600.7	581.2	558.7	533.4	514.9	485.6	457.3	433.0	406.6	382.2	355.9
30°	717.7	689.5	666.0	641.7	604.6	576.3	543.2	510.0	473.9	449.6	409.6
32.5°	858.2	827.9	792.8	757.7	723.6	683.6	642.6	601.7	561.7	516.8	475.9
35°	1029.8	993.7	953.7	915.6	863.0	820.1	768.4	711.9	667.0	615.3	563.6
37.5°	1257.0	1197.5	1162.4	1122.4	1051.2	992.7	935.2	878.6	799.7	745.0	671.9
40°	1541.7	1506.6	1449.1	1384.7	1320.3	1243.3	1165.3	1090.2	998.5	922.5	837.7
42.5°	1876.2	1824.5	1766.0	1673.4	1608.1	1517.3	1428.6	1329.1	1217.0	1119.5	1020.0
45°	2190.2	2128.7	2083.9	1991.3	1923.0	1815.7	1708.5	1603.2	1473.5	1347.7	1232.6
47.5°	2529.6	2478.8	2404.8	2329.7	2260.4	2139.5	2023.4	1895.7	1759.2	1610.0	1460.8
50°	2828.0	2788.0	2737.2	2646.6	2569.5	2468.1	2331.6	2192.1	2019.6	1871.4	1701.7
52.5°	3081.5	3050.3	2979.1	2914.8	2845.5	2750.0	2628.1	2494.5	2308.2	2145.3	1952.2
55°	3380.8	3358.4	3296.0	3256.0	3194.6	3103.0	2988.8	2865.0	2668.1	2490.5	2272.1
57.5°	3871.4	3853.8	3799.2	3782.6	3722.2	3642.2	3501.8	3369.1	3139.0	2918.6	2669.0
60°	4683.7	4648.6	4568.6	4527.6	4399.9	4292.6	4110.3	3927.9	3650.0	3369.1	3068.8
62.5°	5553.5	5455.0	5302.9	5172.2	4990.8	4804.6	4560.8	4281.9	3956.2	3622.7	3277.5
65°	6022.5	5854.8	5662.7	5455.0	5220.0	4946.0	4638.8	4304.3	3954.2	3602.2	3237.5
66°	6076.2	5887.0	5683.2	5452.1	5190.7	4899.1	4587.1	4236.1	3872.3	3529.1	3164.4
67.5°	6008.9	5810.9	5595.4	5339.0	5056.2	4753.9	4426.2	4061.5	3711.5	3363.3	3008.4
70°	5537.9	5340.9	5148.8	4878.7	4577.4	4273.2	3963.1	3555.4	3223.8	2904.0	2588.1
72.5°	4422.3	4288.7	4098.6	3867.4	3573.9	3217.0	2958.6	2593.9	2306.3	1996.2	1751.4
75°	2763.6	2575.4	2340.4	2045.9	1821.6	1532.0	1380.8	1103.8	940.1	796.7	658.2
77.5°	1413.0	1271.6	1106.8	941.0	782.1	624.1	482.7	341.3	230.1	159.9	119.0
80°	1167.2	1042.4	905.9	754.8	614.4	476.8	343.3	234.0	149.2	97.5	76.1
82.5°	964.4	859.1	737.2	596.8	474.9	374.5	260.3	169.7	105.3	68.3	53.6
85°	410.5	372.5	287.7	228.2	171.6	126.8	88.7	59.5	41.9	34.1	31.2
87.5°	17.6	19.5	18.5	14.6	10.7	10.7	9.8	7.8	7.8	7.8	7.8
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: P163541

CATALOG NUMBER: LDRL-SL3-F04-E-7030-HSS

**CANDELA DISTRIBUTION (continued):**

	80°	81°	82°	83°	84°	85°	95°	105°	115°	125°	135°
0°	153.1	153.1	153.1	153.1	153.1	153.1	153.1	153.1	153.1	153.1	153.1
2.5°	159.9	158.9	158.0	158.0	157.0	156.0	150.2	145.3	139.5	135.5	131.6
5°	166.7	165.8	163.8	162.9	160.9	159.9	147.2	136.5	127.8	120.9	116.1
7.5°	173.6	172.6	169.7	166.7	165.8	163.8	143.3	129.7	118.0	110.2	105.3
10°	182.3	179.5	176.5	172.6	169.7	166.7	139.5	121.9	109.2	102.4	97.5
12.5°	195.0	190.1	185.3	180.4	176.5	171.6	137.5	115.1	102.4	94.6	89.7
15°	209.7	202.9	197.0	191.2	184.3	179.5	133.6	109.2	96.5	88.7	82.9
17.5°	223.3	215.5	206.7	198.0	191.2	184.3	129.7	103.4	90.7	82.9	77.0
20°	242.8	231.1	220.4	209.7	199.9	191.2	123.8	97.5	85.8	77.0	71.2
22.5°	264.3	250.6	236.9	222.3	209.7	198.0	119.0	92.7	80.9	72.1	65.3
25°	291.6	275.0	256.5	238.0	223.3	207.7	114.1	87.8	76.1	67.3	60.4
27.5°	329.6	306.2	285.7	262.3	239.9	222.3	110.2	83.8	71.2	62.4	55.6
30°	381.3	347.1	315.0	289.6	263.3	238.0	106.3	79.0	67.3	57.5	49.7
32.5°	438.8	398.8	361.8	323.7	290.6	261.4	102.4	75.1	62.4	52.7	45.8
35°	510.0	459.3	409.6	365.7	325.7	286.7	98.5	71.2	58.5	47.8	41.0
37.5°	612.4	549.0	483.7	427.1	375.4	323.7	95.5	67.3	53.6	42.9	36.1
40°	752.8	670.9	590.9	513.9	446.6	382.2	91.7	63.4	49.7	39.0	32.2
42.5°	905.0	805.5	700.2	613.4	520.7	439.8	87.8	59.5	45.8	35.1	28.3
45°	1094.1	970.3	842.5	724.6	611.4	507.1	83.8	55.6	41.0	31.2	24.4
47.5°	1300.8	1142.9	998.5	850.3	715.8	590.9	79.0	52.7	37.0	27.3	21.5
50°	1513.4	1346.7	1164.3	995.6	835.7	674.8	74.1	47.8	33.2	24.4	17.6
52.5°	1742.6	1545.6	1359.4	1149.7	963.5	785.0	69.2	43.9	30.2	21.5	14.6
55°	2034.2	1813.8	1595.3	1360.3	1136.1	912.8	64.4	39.0	26.3	18.5	11.7
57.5°	2400.8	2139.5	1871.4	1606.1	1334.0	1080.4	60.4	34.1	22.4	15.6	9.8
60°	2747.0	2441.8	2117.0	1811.8	1504.7	1209.2	54.6	30.2	19.5	12.7	9.8
62.5°	2926.5	2578.3	2228.2	1891.8	1564.1	1255.0	48.7	25.3	16.6	10.7	8.7
65°	2882.5	2527.6	2188.3	1848.9	1528.1	1225.8	42.9	22.4	14.6	9.8	8.7
66°	2819.2	2468.1	2126.8	1804.0	1497.9	1194.6	40.0	21.5	13.6	9.8	7.8
67.5°	2680.7	2341.4	2015.6	1715.3	1415.0	1135.1	36.1	19.5	12.7	8.7	7.8
70°	2289.7	1981.5	1721.2	1453.9	1209.2	956.6	29.3	16.6	10.7	7.8	7.8
72.5°	1515.4	1305.7	1132.1	974.2	814.3	631.9	24.4	13.6	8.7	7.8	6.8
75°	571.5	516.8	443.7	398.8	348.1	305.2	19.5	8.7	6.8	6.8	6.8
77.5°	101.4	93.6	82.9	76.1	70.2	64.4	15.6	5.9	5.9	6.8	6.8
80°	68.3	63.4	57.5	52.7	48.7	43.9	10.7	4.9	5.9	5.9	6.8
82.5°	48.7	45.8	42.9	39.0	36.1	32.2	6.8	4.9	5.9	5.9	5.9
85°	29.3	27.3	25.3	23.4	20.4	19.5	4.9	4.9	4.9	5.9	5.9
87.5°	7.8	6.8	7.8	7.8	5.9	6.8	3.9	3.9	3.9	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: P163541

CATALOG NUMBER: LDRL-SL3-F04-E-7030-HSS

**CANDELA DISTRIBUTION (continued):**

	145°	155°	165°	175°	180°
0°	153.1	153.1	153.1	153.1	153.1
2.5°	129.7	129.7	127.8	130.7	130.7
5°	112.1	112.1	111.2	112.1	112.1
7.5°	102.4	101.4	101.4	101.4	102.4
10°	93.6	92.7	92.7	92.7	92.7
12.5°	85.8	84.8	83.8	84.8	84.8
15°	79.0	77.0	77.0	77.0	77.0
17.5°	73.1	71.2	70.2	70.2	70.2
20°	67.3	64.4	64.4	64.4	64.4
22.5°	61.4	58.5	58.5	58.5	58.5
25°	55.6	52.7	52.7	52.7	52.7
27.5°	50.7	47.8	47.8	47.8	47.8
30°	44.9	42.9	42.9	43.9	42.9
32.5°	41.0	38.0	38.0	39.0	39.0
35°	36.1	34.1	34.1	34.1	34.1
37.5°	31.2	29.3	29.3	29.3	29.3
40°	27.3	25.3	24.4	25.3	25.3
42.5°	23.4	21.5	20.4	20.4	20.4
45°	20.4	17.6	16.6	17.6	17.6
47.5°	16.6	14.6	14.6	15.6	15.6
50°	12.7	12.7	13.6	15.6	15.6
52.5°	11.7	11.7	13.6	15.6	15.6
55°	10.7	11.7	13.6	14.6	15.6
57.5°	9.8	11.7	13.6	14.6	14.6
60°	9.8	10.7	12.7	14.6	14.6
62.5°	8.7	9.8	11.7	13.6	13.6
65°	8.7	9.8	11.7	13.6	13.6
66°	8.7	9.8	11.7	13.6	13.6
67.5°	8.7	9.8	11.7	13.6	13.6
70°	8.7	9.8	11.7	12.7	12.7
72.5°	7.8	8.7	10.7	12.7	12.7
75°	7.8	8.7	10.7	12.7	12.7
77.5°	7.8	8.7	10.7	12.7	12.7
80°	7.8	8.7	10.7	11.7	12.7
82.5°	6.8	8.7	9.8	11.7	11.7
85°	6.8	7.8	9.8	10.7	11.7
87.5°	5.9	6.8	7.8	9.8	9.8
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)