

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: P163547

Luminaire Tested: **LDRL-SL3-E05-E-HSS**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P163547  
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-E05-E-HSS  
Description: RL LED ROADWAY LARGE CUTOFF COBRAHEAD LUMINAIRE  
(5) LIGHTBARS WITH AccuLED OPTICS - TYPE 3 W/ SPILL LIGHT CONTROL AND HOUSE SIDE SHIELD  
Light Source: (105) 4000K CCT, 70 CRI LEDs  
Ballast/Driver: -

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 8408.9 lumens  
Efficiency: N/A  
Efficacy: 66.1 lumens/watt  
Luminous Opening: Rectangular w/ Sides (W: 0.83' x L: 1' x H: 0.1')  
IES Classification: Type III - Short - Non-Cutoff  
BUG Rating: B0 - U0 - G2

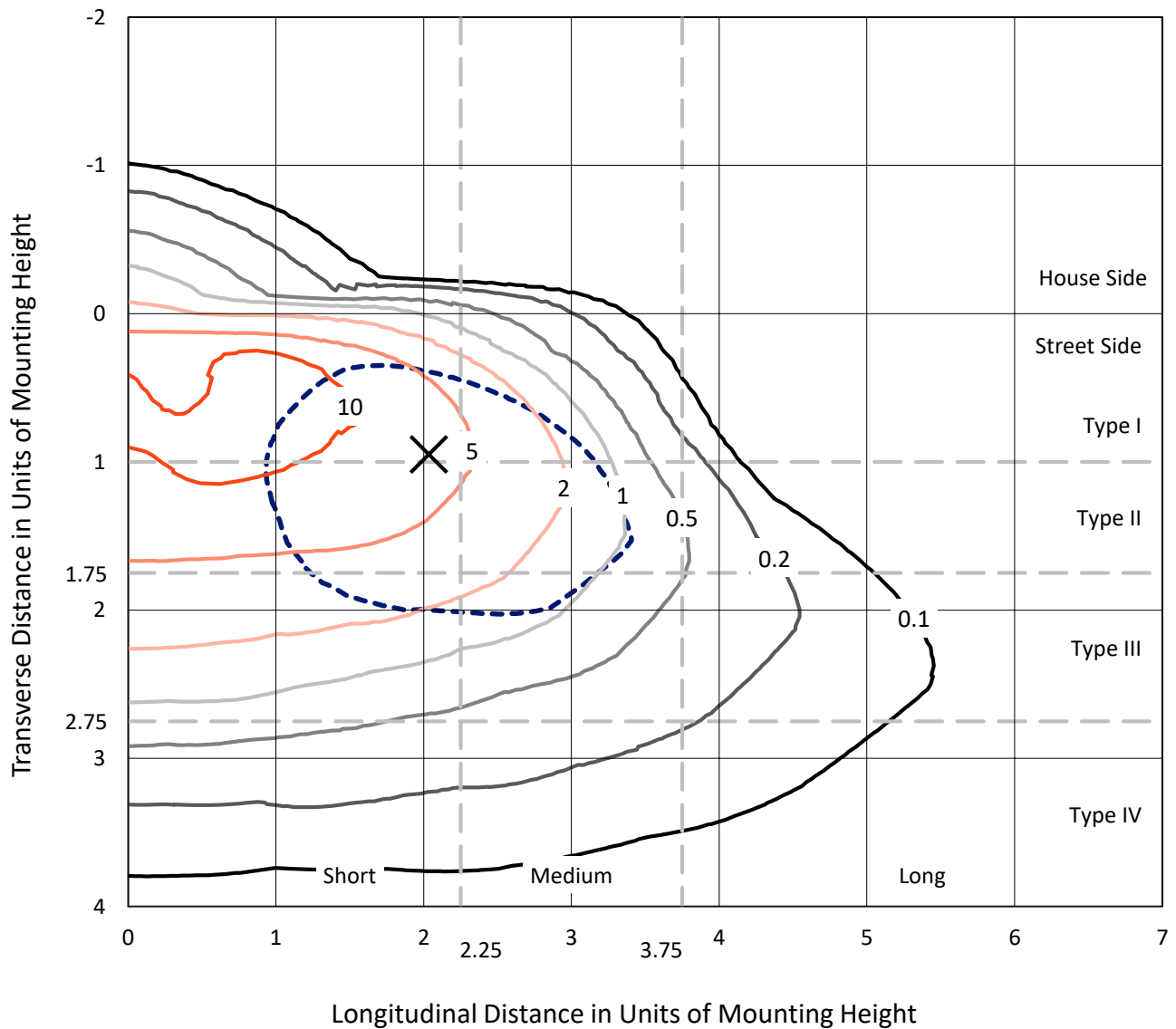
Input Watts (W): 127.3  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



REPORT NUMBER: P163547  
 CATALOG NUMBER: LDRL-SL3-E05-E-HSS

### Iso-Footcandle Lines of Horizontal Illumination

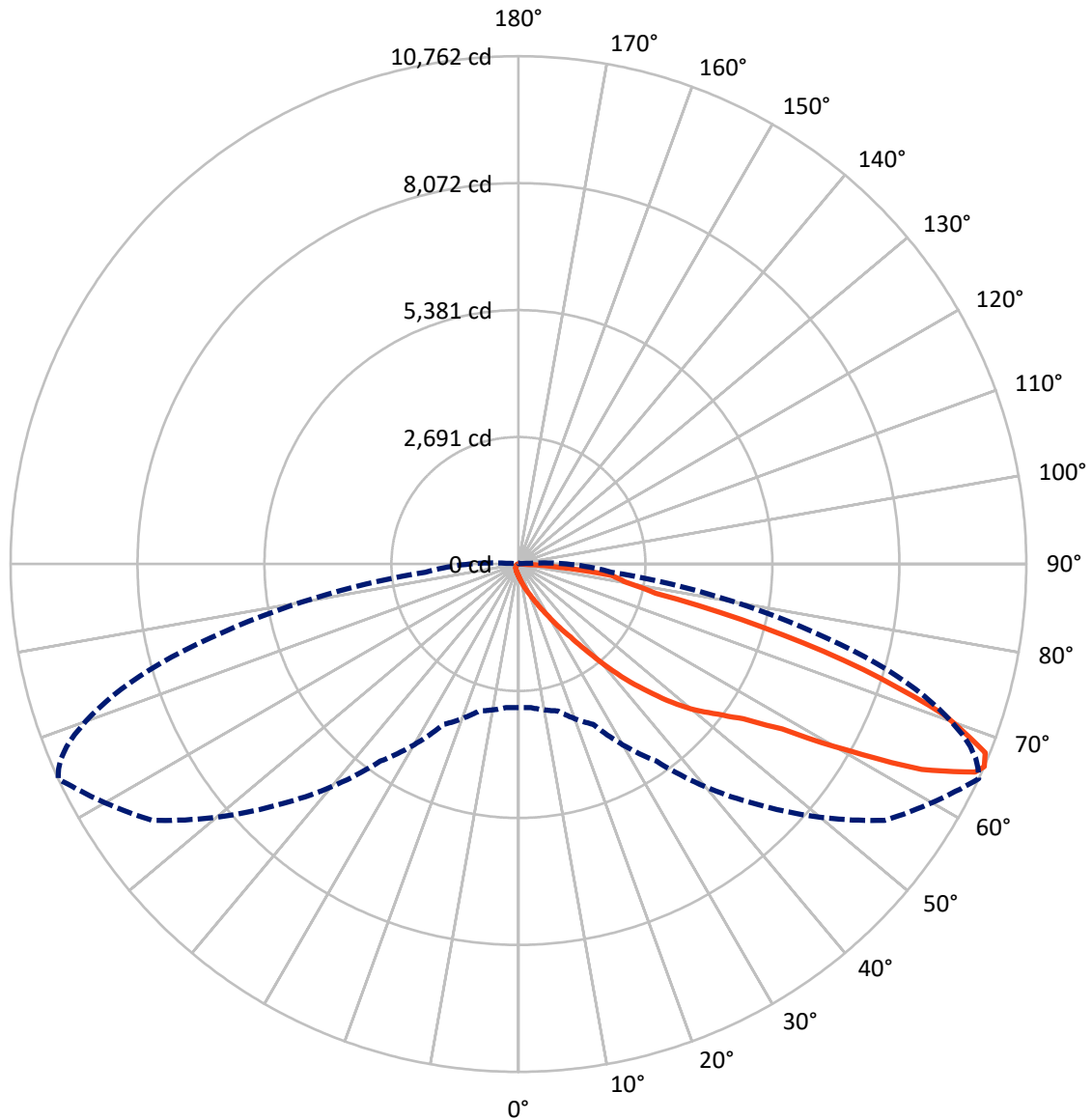
× Max cd  
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 13.9 fc  
 Type III - Short - Non-Cutoff

REPORT NUMBER: P163547  
CATALOG NUMBER: LDRL-SL3-E05-E-HSS

### Luminous Intensity Polar Plot



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

REPORT NUMBER: P163547

CATALOG NUMBER: LDRL-SL3-E05-E-HSS

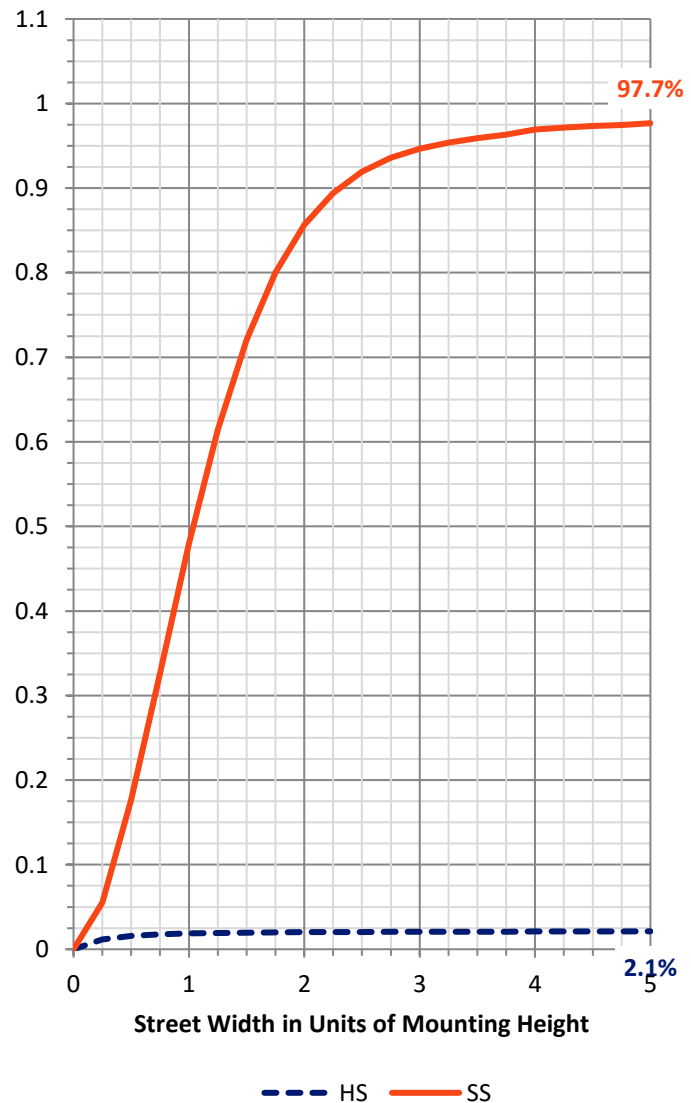
**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	182.2	0.0	182.2
	% Fixture	2.2	0.0	2.2
<b>Street Side</b>	Lumens	8226.7	0.0	8226.7
	% Fixture	97.8	0.0	97.8
<b>Total</b>	Lumens	8408.9	0.0	8408.9
	% Fixture	100.0	0.0	100.0

**Coefficient of Utilization**

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	28.4	0.3
10°-20°	120.5	1.4
20°-30°	259.8	3.1
30°-40°	554.9	6.6
40°-50°	1227.2	14.6
50°-60°	2079.7	24.7
60°-70°	2775.2	33.0
70°-80°	1222.4	14.5
80°-90°	140.8	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°	8408.9	100.0
0°-180°	8408.9	100.0



REPORT NUMBER: P163547

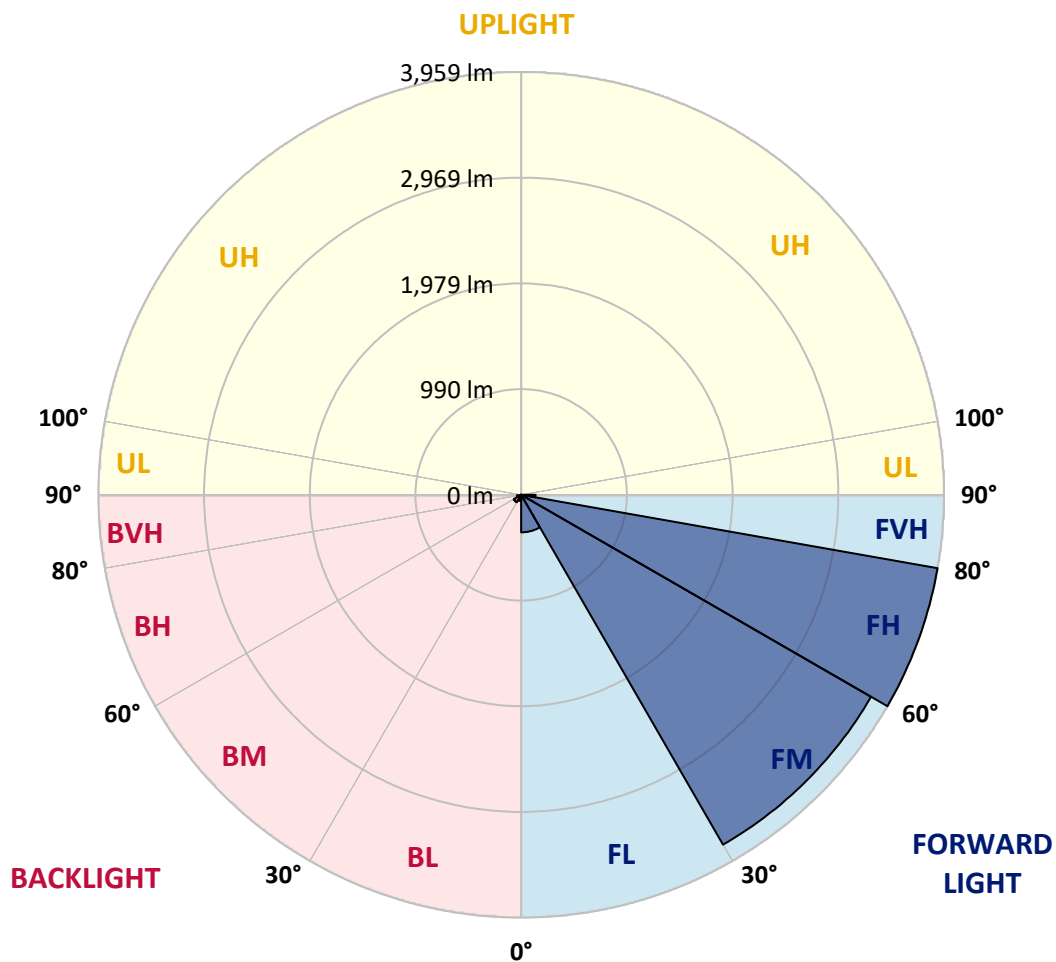
CATALOG NUMBER: LDRL-SL3-E05-E-HSS

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

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	351.2	4.2			
FM	(30°-60°)	3781.8	45.0			
FH	(60°-80°)	3958.5	47.1			G2/5000
FVH	(80°-90°)	135.2	1.6			G2/225
BL	(0°-30°)	57.5	0.7	B0/110		
BM	(30°-60°)	80.0	1.0	B0/220		
BH	(60°-80°)	39.1	0.5	B0/110		G0/110
BVH	(80°-90°)	5.6	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 III Short





REPORT NUMBER: P163547

CATALOG NUMBER: LDRL-SL3-E05-E-HSS

**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	35°	45°	55°	65°	66°	67°	68°
0°	253.8	253.8	253.8	253.8	253.8	253.8	253.8	253.8	253.8	253.8	253.8
2.5°	320.1	318.5	312.0	312.0	302.3	295.8	287.8	279.7	279.7	278.1	276.4
5°	423.6	413.9	412.2	394.5	379.9	358.9	339.5	313.6	310.4	307.2	305.5
7.5°	538.3	536.7	522.2	501.2	472.1	433.3	394.5	352.4	346.0	342.7	336.3
10°	687.1	679.0	659.6	624.0	580.4	528.6	465.6	399.3	391.2	384.8	381.5
12.5°	829.3	814.8	803.5	758.2	703.2	627.3	551.3	455.9	449.4	441.3	428.4
15°	961.9	949.0	929.6	890.8	829.3	734.0	645.0	528.6	512.5	501.2	491.5
17.5°	1065.4	1057.3	1034.7	991.0	924.7	840.7	734.0	603.0	590.1	575.5	557.7
20°	1164.0	1152.7	1117.1	1057.3	986.2	921.5	839.0	700.0	682.2	664.4	645.0
22.5°	1257.8	1246.4	1188.2	1089.6	1013.6	986.2	957.1	809.9	782.5	767.9	748.5
25°	1388.7	1364.5	1273.9	1117.1	1015.3	1036.3	1086.4	952.2	926.3	905.3	874.6
27.5°	1564.9	1532.6	1390.3	1157.5	1021.7	1091.2	1235.1	1125.2	1097.7	1073.5	1039.5
30°	1763.8	1742.7	1573.0	1254.5	1068.6	1172.1	1401.6	1345.1	1312.7	1283.6	1243.2
32.5°	1964.2	1935.1	1767.0	1438.8	1194.7	1328.9	1610.2	1600.5	1558.5	1531.0	1487.3
35°	2140.4	2125.9	2001.4	1741.1	1482.5	1603.7	1888.2	1899.6	1862.4	1833.3	1784.8
37.5°	2260.1	2260.1	2235.8	2066.1	1940.0	2030.5	2297.3	2298.9	2261.7	2195.4	2171.2
40°	2321.5	2339.3	2426.6	2458.9	2452.5	2568.9	2834.0	2804.9	2774.2	2740.2	2659.4
42.5°	2447.6	2463.8	2649.7	2872.8	3018.3	3171.9	3354.5	3344.8	3307.7	3246.2	3171.9
45°	2661.0	2682.0	2903.5	3257.5	3556.6	3774.9	3891.3	3846.0	3808.8	3750.6	3711.8
47.5°	2932.6	2973.0	3223.6	3661.7	4022.2	4382.7	4504.0	4384.4	4352.0	4306.8	4243.7
50°	3222.0	3260.8	3527.5	4028.7	4436.1	4866.1	5068.2	4866.1	4819.2	4804.7	4733.6
52.5°	3472.6	3504.9	3761.9	4311.6	4753.0	5257.3	5551.6	5284.8	5250.9	5202.4	5150.6
55°	3621.3	3647.2	3888.0	4447.4	4968.0	5609.8	6018.8	5784.4	5734.3	5714.9	5640.5
57.5°	3671.4	3697.3	3913.9	4465.2	5084.4	5931.5	6586.2	6594.3	6534.5	6465.0	6442.4
60°	3671.4	3700.5	3883.2	4421.5	5197.5	6274.2	7342.8	8017.0	7887.6	7874.7	7792.3
62.5°	3519.4	3546.9	3731.2	4287.4	5349.5	6736.6	8396.9	9586.7	9549.6	9465.5	9329.7
65°	3189.7	3205.8	3386.9	3944.6	5291.3	7161.8	9310.3	10631.1	10571.3	10406.4	10231.8
66°	3040.9	3053.9	3223.6	3749.0	5100.5	7220.0	9472.0	10762.0	10663.4	10524.4	10327.2
67.5°	2825.9	2848.5	2968.2	3385.3	4643.0	7017.9	9370.1	10669.9	10584.2	10416.1	10218.8
70°	1886.6	1870.5	2292.4	2598.0	3537.2	5718.1	8406.6	9580.3	9581.9	9502.7	9423.5
72.5°	895.6	905.3	1028.2	1598.9	2315.0	3820.1	6691.3	7646.8	7756.7	7614.4	7515.8
75°	643.4	658.0	732.3	978.1	1380.6	2292.4	4337.5	5347.9	5351.1	5098.9	4874.2
77.5°	187.5	195.6	274.8	603.0	1034.7	1547.1	2491.3	2973.0	2903.5	2722.4	2552.7
80°	77.6	77.6	80.8	192.4	415.5	1050.8	1742.7	2289.2	2281.1	2211.6	2111.3
82.5°	29.1	30.7	38.8	79.2	98.6	258.7	1162.4	1986.9	1982.0	1883.4	1812.3
85°	3.2	3.2	9.7	33.9	37.2	48.5	232.8	876.2	871.4	876.2	767.9
87.5°	0.0	0.0	1.6	3.2	4.8	6.5	9.7	33.9	37.2	35.6	32.3
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: P163547

CATALOG NUMBER: LDRL-SL3-E05-E-HSS

**CANDELA DISTRIBUTION (continued):**

	69°	70°	71°	72°	73°	74°	75°	76°	77°	78°	79°
0°	253.8	253.8	253.8	253.8	253.8	253.8	253.8	253.8	253.8	253.8	253.8
2.5°	276.4	273.2	273.2	271.6	271.6	271.6	270.0	268.4	268.4	266.7	265.1
5°	302.3	299.1	297.5	294.2	292.6	291.0	287.8	286.1	282.9	281.3	279.7
7.5°	333.0	326.6	324.9	320.1	315.2	312.0	308.8	303.9	300.7	294.2	292.6
10°	371.8	363.7	357.3	350.8	346.0	337.9	333.0	326.6	320.1	315.2	310.4
12.5°	421.9	410.6	400.9	394.5	383.1	373.4	363.7	358.9	346.0	339.5	331.4
15°	476.9	464.0	452.7	439.7	431.6	415.5	402.5	388.0	381.5	370.2	357.3
17.5°	548.0	527.0	509.2	496.3	480.1	464.0	449.4	434.9	415.5	402.5	386.4
20°	624.0	606.2	582.0	559.4	540.0	520.6	499.5	480.1	462.4	441.3	421.9
22.5°	721.0	695.2	666.1	643.4	617.6	596.5	567.4	541.6	512.5	485.0	462.4
25°	843.9	809.9	782.5	750.1	719.4	687.1	651.5	619.2	582.0	556.1	517.3
27.5°	995.9	963.5	926.3	884.3	853.6	805.1	758.2	717.8	674.1	633.7	590.1
30°	1189.9	1143.0	1104.2	1063.8	1002.3	955.4	900.5	845.5	785.7	745.3	679.0
32.5°	1422.7	1372.5	1314.3	1256.1	1199.6	1133.3	1065.4	997.5	931.2	856.8	788.9
35°	1707.2	1647.4	1581.1	1518.0	1430.7	1359.6	1273.9	1180.2	1105.8	1020.1	934.4
37.5°	2083.9	1985.2	1927.0	1860.8	1742.7	1645.7	1550.4	1456.6	1325.7	1235.1	1113.9
40°	2555.9	2497.7	2402.3	2295.6	2188.9	2061.2	1931.9	1807.4	1655.4	1529.4	1388.7
42.5°	3110.4	3024.8	2927.8	2774.2	2665.9	2515.5	2368.4	2203.5	2017.6	1855.9	1691.0
45°	3631.0	3529.1	3454.8	3301.2	3188.0	3010.2	2832.4	2657.8	2442.8	2234.2	2043.4
47.5°	4193.6	4109.5	3986.7	3862.2	3747.4	3546.9	3354.5	3142.8	2916.4	2669.1	2421.7
50°	4688.3	4622.0	4537.9	4387.6	4259.9	4091.7	3865.4	3634.2	3348.1	3102.4	2821.1
52.5°	5108.6	5056.9	4938.9	4832.2	4717.4	4559.0	4356.9	4135.4	3826.6	3556.6	3236.5
55°	5604.9	5567.7	5464.3	5398.0	5296.1	5144.2	4955.0	4749.7	4423.2	4128.9	3766.8
57.5°	6418.1	6389.0	6298.5	6271.0	6170.8	6038.2	5805.4	5585.5	5204.0	4838.6	4424.8
60°	7764.8	7706.6	7574.0	7506.1	7294.3	7116.5	6814.2	6511.9	6051.1	5585.5	5087.6
62.5°	9206.8	9043.5	8791.3	8574.7	8274.0	7965.2	7561.1	7098.7	6558.7	6005.9	5433.6
65°	9984.4	9706.4	9387.9	9043.5	8653.9	8199.6	7690.4	7135.9	6555.5	5971.9	5367.3
66°	10073.3	9759.7	9421.8	9038.7	8605.4	8122.0	7604.7	7022.7	6419.7	5850.7	5246.0
67.5°	9961.8	9633.6	9276.3	8851.2	8382.3	7881.2	7338.0	6733.3	6153.0	5575.8	4987.4
70°	9181.0	8854.4	8535.9	8088.1	7588.6	7084.2	6570.1	5894.3	5344.6	4814.4	4290.6
72.5°	7331.5	7110.0	6794.8	6411.6	5925.0	5333.3	4904.9	4300.3	3823.4	3309.3	2903.5
75°	4581.6	4269.6	3880.0	3391.7	3019.9	2539.8	2289.2	1830.0	1558.5	1320.8	1091.2
77.5°	2342.5	2108.1	1834.9	1560.1	1296.6	1034.7	800.2	565.8	381.5	265.1	197.2
80°	1935.1	1728.2	1501.9	1251.3	1018.5	790.5	569.1	388.0	247.3	161.7	126.1
82.5°	1598.9	1424.3	1222.2	989.4	787.3	620.8	431.6	281.3	174.6	113.2	88.9
85°	680.6	617.6	476.9	378.3	284.5	210.2	147.1	98.6	69.5	56.6	51.7
87.5°	29.1	32.3	30.7	24.2	17.8	17.8	16.2	12.9	12.9	12.9	12.9
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: P163547

CATALOG NUMBER: LDRL-SL3-E05-E-HSS

**CANDELA DISTRIBUTION (continued):**

	80°	81°	82°	83°	84°	85°	95°	105°	115°	125°	135°
0°	253.8	253.8	253.8	253.8	253.8	253.8	253.8	253.8	253.8	253.8	253.8
2.5°	265.1	263.5	261.9	261.9	260.3	258.7	249.0	240.9	231.2	224.7	218.2
5°	276.4	274.8	271.6	270.0	266.7	265.1	244.1	226.3	211.8	200.5	192.4
7.5°	287.8	286.1	281.3	276.4	274.8	271.6	237.6	215.0	195.6	182.7	174.6
10°	302.3	297.5	292.6	286.1	281.3	276.4	231.2	202.1	181.1	169.7	161.7
12.5°	323.3	315.2	307.2	299.1	292.6	284.5	227.9	190.8	169.7	156.8	148.7
15°	347.6	336.3	326.6	316.9	305.5	297.5	221.5	181.1	160.0	147.1	137.4
17.5°	370.2	357.3	342.7	328.2	316.9	305.5	215.0	171.4	150.3	137.4	127.7
20°	402.5	383.1	365.4	347.6	331.4	316.9	205.3	161.7	142.3	127.7	118.0
22.5°	438.1	415.5	392.8	368.6	347.6	328.2	197.2	153.6	134.2	119.6	108.3
25°	483.4	455.9	425.2	394.5	370.2	344.3	189.1	145.5	126.1	111.5	100.2
27.5°	546.4	507.6	473.7	434.9	397.7	368.6	182.7	139.0	118.0	103.5	92.1
30°	632.1	575.5	522.2	480.1	436.5	394.5	176.2	130.9	111.5	95.4	82.4
32.5°	727.5	661.2	599.8	536.7	481.8	433.3	169.7	124.5	103.5	87.3	76.0
35°	845.5	761.4	679.0	606.2	540.0	475.3	163.3	118.0	97.0	79.2	67.9
37.5°	1015.3	910.2	801.9	708.1	622.4	536.7	158.4	111.5	88.9	71.1	59.8
40°	1248.1	1112.3	979.7	852.0	740.4	633.7	152.0	105.1	82.4	64.7	53.3
42.5°	1500.3	1335.4	1160.8	1016.9	863.3	729.1	145.5	98.6	76.0	58.2	46.9
45°	1813.9	1608.6	1396.8	1201.2	1013.6	840.7	139.0	92.1	67.9	51.7	40.4
47.5°	2156.6	1894.7	1655.4	1409.7	1186.6	979.7	130.9	87.3	61.4	45.3	35.6
50°	2509.0	2232.6	1930.3	1650.6	1385.5	1118.7	122.9	79.2	55.0	40.4	29.1
52.5°	2889.0	2562.4	2253.6	1906.0	1597.3	1301.4	114.8	72.7	50.1	35.6	24.2
55°	3372.3	3007.0	2644.8	2255.2	1883.4	1513.2	106.7	64.7	43.6	30.7	19.4
57.5°	3980.2	3546.9	3102.4	2662.6	2211.6	1791.2	100.2	56.6	37.2	25.9	16.2
60°	4554.1	4048.1	3509.7	3003.7	2494.5	2004.6	90.5	50.1	32.3	21.0	16.2
62.5°	4851.6	4274.4	3694.0	3136.3	2593.1	2080.6	80.8	42.0	27.5	17.8	14.5
65°	4778.8	4190.4	3627.8	3065.2	2533.3	2032.1	71.1	37.2	24.2	16.2	14.5
66°	4673.7	4091.7	3525.9	2990.8	2483.2	1980.4	66.3	35.6	22.6	16.2	12.9
67.5°	4444.2	3881.6	3341.6	2843.7	2345.8	1881.8	59.8	32.3	21.0	14.5	12.9
70°	3795.9	3285.0	2853.4	2410.4	2004.6	1585.9	48.5	27.5	17.8	12.9	12.9
72.5°	2512.3	2164.7	1876.9	1615.0	1349.9	1047.6	40.4	22.6	14.5	12.9	11.3
75°	947.4	856.8	735.6	661.2	577.1	506.0	32.3	14.5	11.3	11.3	11.3
77.5°	168.1	155.2	137.4	126.1	116.4	106.7	25.9	9.7	9.7	11.3	11.3
80°	113.2	105.1	95.4	87.3	80.8	72.7	17.8	8.1	9.7	9.7	11.3
82.5°	80.8	76.0	71.1	64.7	59.8	53.3	11.3	8.1	9.7	9.7	9.7
85°	48.5	45.3	42.0	38.8	33.9	32.3	8.1	8.1	8.1	9.7	9.7
87.5°	12.9	11.3	12.9	12.9	9.7	11.3	6.5	6.5	6.5	8.1	8.1
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: P163547

CATALOG NUMBER: LDRL-SL3-E05-E-HSS

**CANDELA DISTRIBUTION (continued):**

	145°	155°	165°	175°	180°
0°	253.8	253.8	253.8	253.8	253.8
2.5°	215.0	215.0	211.8	216.6	216.6
5°	185.9	185.9	184.3	185.9	185.9
7.5°	169.7	168.1	168.1	168.1	169.7
10°	155.2	153.6	153.6	153.6	153.6
12.5°	142.3	140.6	139.0	140.6	140.6
15°	130.9	127.7	127.7	127.7	127.7
17.5°	121.2	118.0	116.4	116.4	116.4
20°	111.5	106.7	106.7	106.7	106.7
22.5°	101.8	97.0	97.0	97.0	97.0
25°	92.1	87.3	87.3	87.3	87.3
27.5°	84.1	79.2	79.2	79.2	79.2
30°	74.4	71.1	71.1	72.7	71.1
32.5°	67.9	63.0	63.0	64.7	64.7
35°	59.8	56.6	56.6	56.6	56.6
37.5°	51.7	48.5	48.5	48.5	48.5
40°	45.3	42.0	40.4	42.0	42.0
42.5°	38.8	35.6	33.9	33.9	33.9
45°	33.9	29.1	27.5	29.1	29.1
47.5°	27.5	24.2	24.2	25.9	25.9
50°	21.0	21.0	22.6	25.9	25.9
52.5°	19.4	19.4	22.6	25.9	25.9
55°	17.8	19.4	22.6	24.2	25.9
57.5°	16.2	19.4	22.6	24.2	24.2
60°	16.2	17.8	21.0	24.2	24.2
62.5°	14.5	16.2	19.4	22.6	22.6
65°	14.5	16.2	19.4	22.6	22.6
66°	14.5	16.2	19.4	22.6	22.6
67.5°	14.5	16.2	19.4	22.6	22.6
70°	14.5	16.2	19.4	21.0	21.0
72.5°	12.9	14.5	17.8	21.0	21.0
75°	12.9	14.5	17.8	21.0	21.0
77.5°	12.9	14.5	17.8	21.0	21.0
80°	12.9	14.5	17.8	19.4	21.0
82.5°	11.3	14.5	16.2	19.4	19.4
85°	11.3	12.9	16.2	17.8	19.4
87.5°	9.7	11.3	12.9	16.2	16.2
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)