

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: P163552

Luminaire Tested: **LDRL-SL3-F05-E-HSS**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P163552  
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-F05-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: (35) 4000K CCT, 70 CRI LEDs  
Ballast/Driver: -

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 6941.8 lumens  
Efficiency: N/A  
Efficacy: 52.1 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

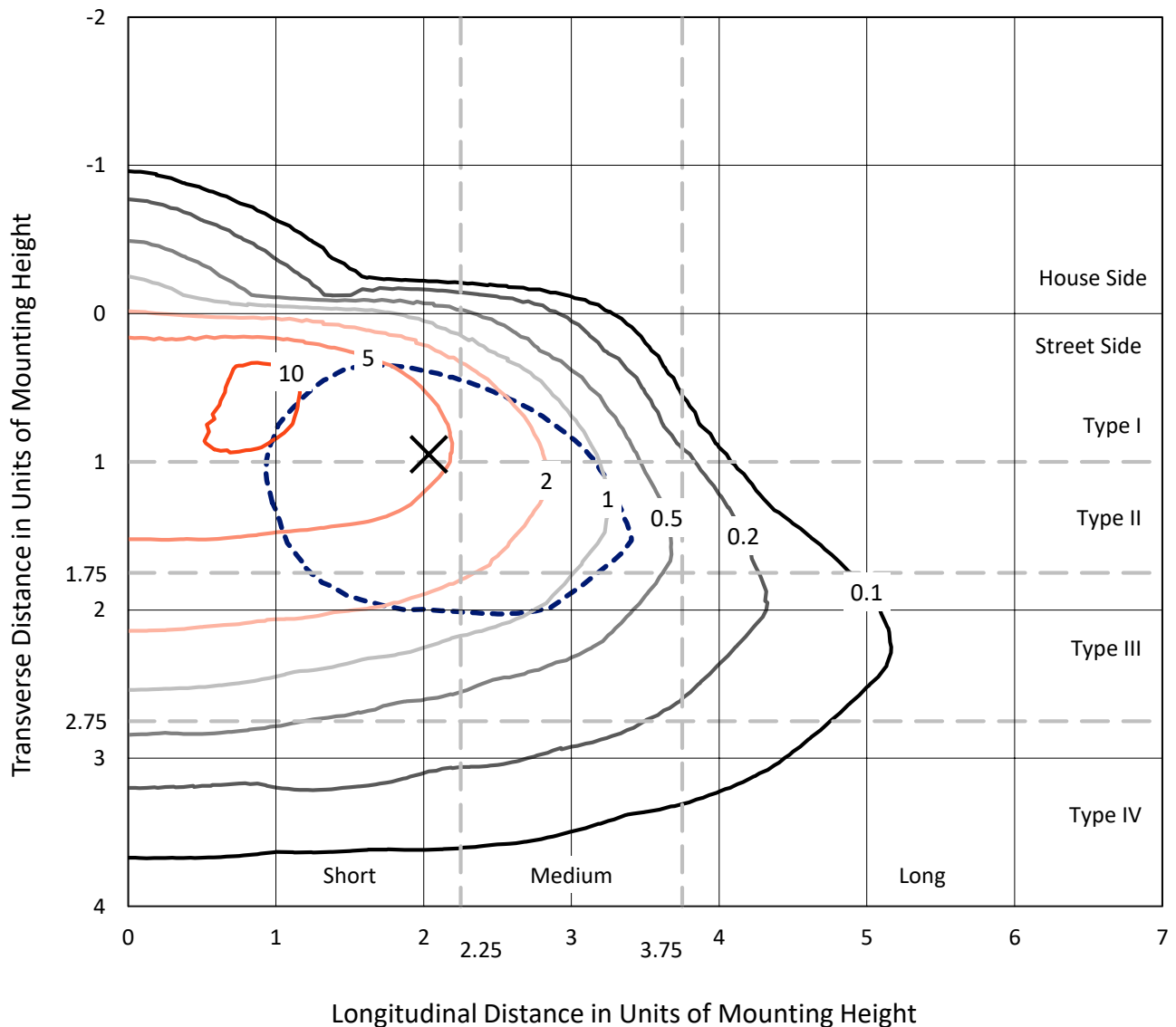
Input Watts (W): 133.3  
Input Voltage (V): NR  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



REPORT NUMBER: P163552  
 CATALOG NUMBER: LDRL-SL3-F05-E-HSS

### Iso-Footcandle Lines of Horizontal Illumination

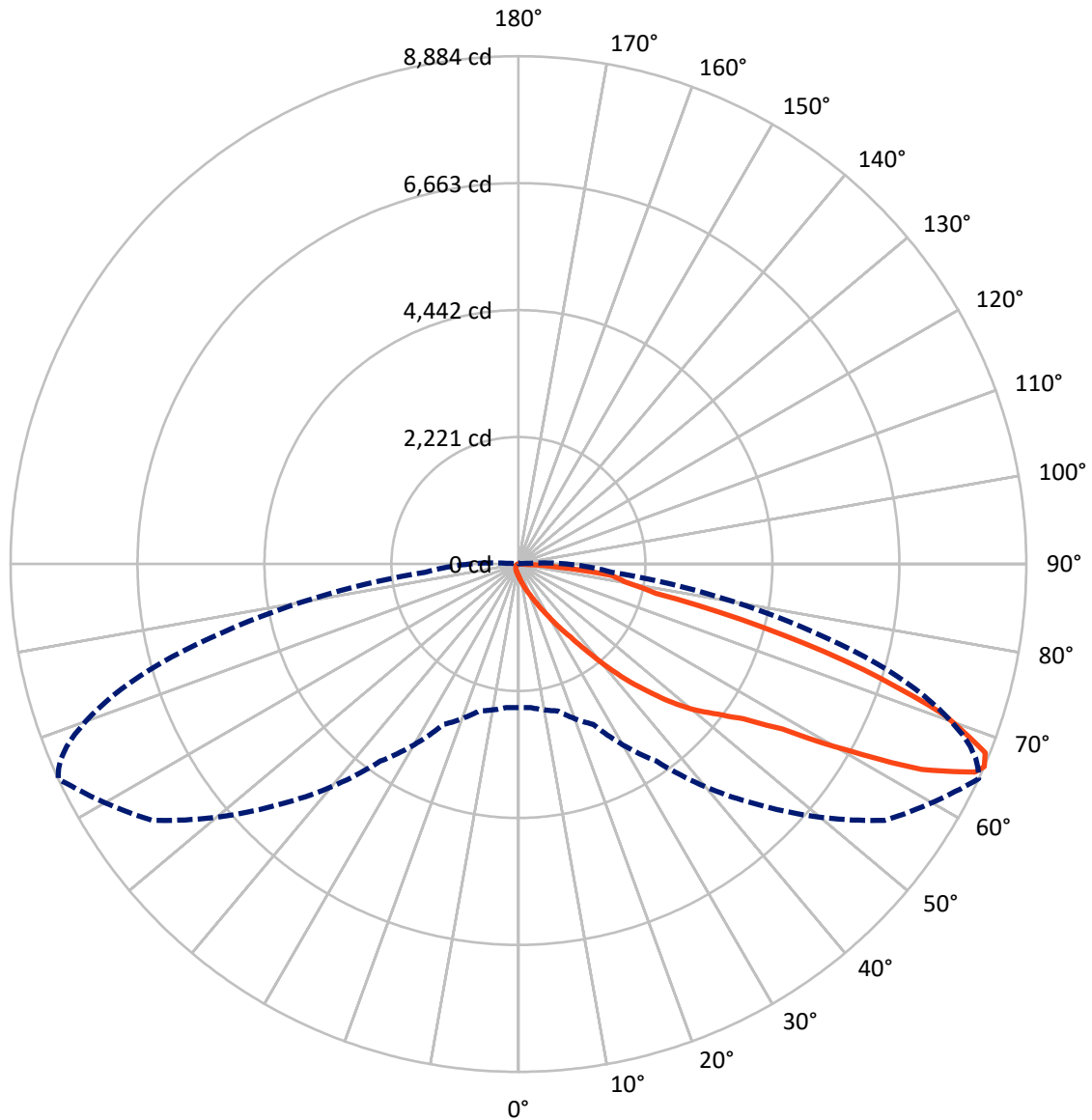
✕ Max cd  
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 11.5 fc  
 Type III - Short - Non-Cutoff

REPORT NUMBER: P163552  
CATALOG NUMBER: LDRL-SL3-F05-E-HSS

### Luminous Intensity Polar Plot



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

REPORT NUMBER: P163552

CATALOG NUMBER: LDRL-SL3-F05-E-HSS

**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	150.4	0.0	150.4
	% Fixture	2.2	0.0	2.2
<b>Street Side</b>	Lumens	6791.4	0.0	6791.4
	% Fixture	97.8	0.0	97.8
<b>Total</b>	Lumens	6941.8	0.0	6941.8
	% Fixture	100.0	0.0	100.0

**Coefficient of Utilization**

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	23.5	0.3
10°-20°	99.5	1.4
20°-30°	214.5	3.1
30°-40°	458.1	6.6
40°-50°	1013.1	14.6
50°-60°	1716.8	24.7
60°-70°	2291.0	33.0
70°-80°	1009.1	14.5
80°-90°	116.2	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°	6941.8	100.0
0°-180°	6941.8	100.0



REPORT NUMBER: P163552

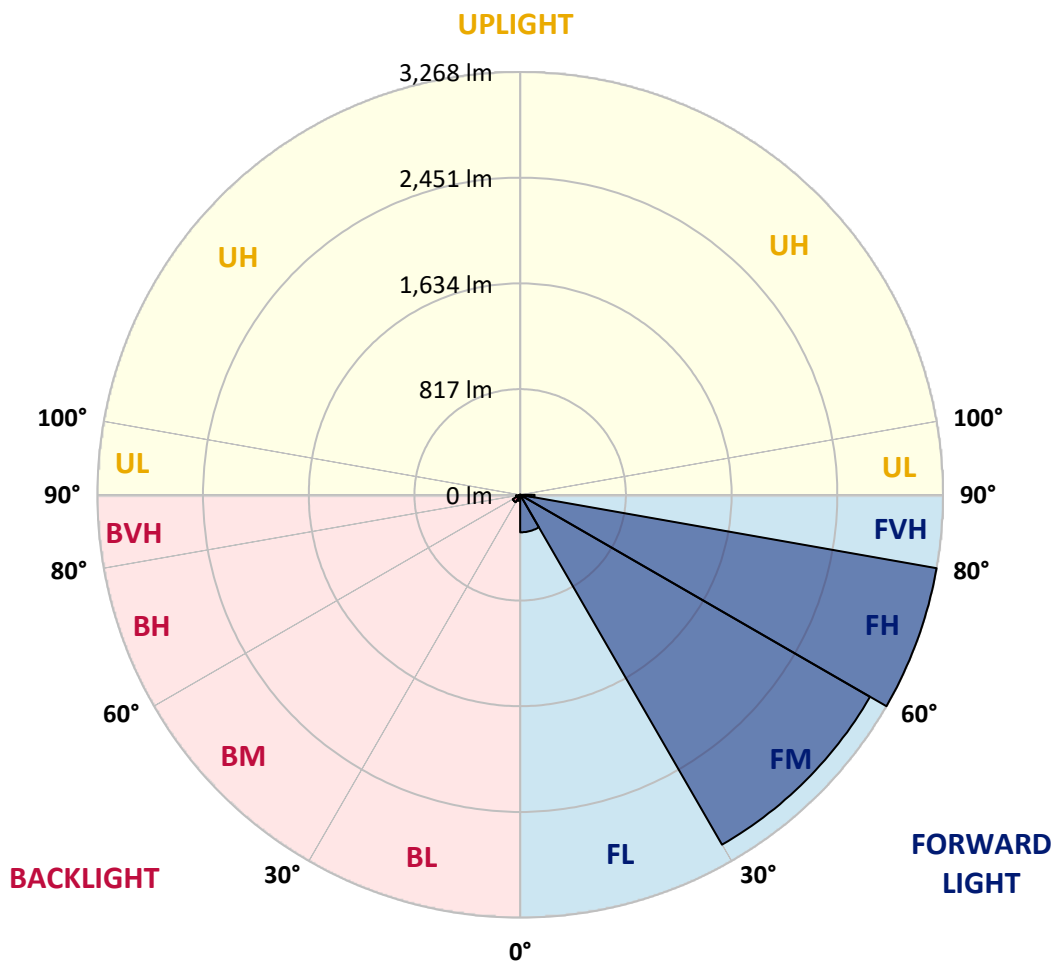
CATALOG NUMBER: LDRL-SL3-F05-E-HSS

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

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	290.0	4.2			
FM	(30°-60°)	3121.9	45.0			
FH	(60°-80°)	3267.9	47.1			G2/5000
FVH	(80°-90°)	111.6	1.6			G2/225
BL	(0°-30°)	47.5	0.7	B0/110		
BM	(30°-60°)	66.1	1.0	B0/220		
BH	(60°-80°)	32.3	0.5	B0/110		G0/110
BVH	(80°-90°)	4.6	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: P163552

CATALOG NUMBER: LDRL-SL3-F05-E-HSS

**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	35°	45°	55°	65°	66°	67°	68°
0°	209.5	209.5	209.5	209.5	209.5	209.5	209.5	209.5	209.5	209.5	209.5
2.5°	264.3	262.9	257.6	257.6	249.6	244.2	237.6	230.9	230.9	229.6	228.2
5°	349.7	341.7	340.3	325.7	313.6	296.3	280.3	258.9	256.2	253.6	252.2
7.5°	444.4	443.1	431.1	413.8	389.7	357.7	325.7	290.9	285.6	282.9	277.6
10°	567.2	560.5	544.5	515.1	479.1	436.4	384.4	329.6	322.9	317.7	314.9
12.5°	684.6	672.6	663.3	625.9	580.5	517.9	455.1	376.4	371.0	364.3	353.7
15°	794.1	783.4	767.4	735.4	684.6	605.9	532.5	436.4	423.1	413.8	405.7
17.5°	879.5	872.8	854.2	818.1	763.4	694.0	605.9	497.8	487.1	475.1	460.4
20°	960.9	951.6	922.2	872.8	814.1	760.7	692.6	577.9	563.2	548.5	532.5
22.5°	1038.3	1028.9	980.9	899.5	836.8	814.1	790.1	668.6	646.0	633.9	617.9
25°	1146.4	1126.4	1051.6	922.2	838.2	855.5	896.9	786.1	764.7	747.3	722.0
27.5°	1291.9	1265.2	1147.7	955.5	843.4	900.8	1019.6	928.9	906.2	886.2	858.1
30°	1456.1	1438.6	1298.6	1035.6	882.2	967.6	1157.1	1110.4	1083.7	1059.6	1026.3
32.5°	1621.5	1597.5	1458.7	1187.8	986.3	1097.0	1329.3	1321.3	1286.6	1263.9	1227.8
35°	1767.0	1755.0	1652.2	1437.3	1223.8	1323.9	1558.8	1568.2	1537.5	1513.4	1473.4
37.5°	1865.8	1865.8	1845.7	1705.6	1601.5	1676.2	1896.5	1897.8	1867.1	1812.4	1792.4
40°	1916.5	1931.2	2003.2	2029.9	2024.6	2120.7	2339.5	2315.5	2290.2	2262.1	2195.4
42.5°	2020.6	2033.9	2187.4	2371.6	2491.7	2618.5	2769.2	2761.2	2730.6	2679.8	2618.5
45°	2196.7	2214.1	2396.9	2689.1	2936.1	3116.3	3212.4	3175.0	3144.3	3096.2	3064.2
47.5°	2420.9	2454.3	2661.2	3022.8	3320.4	3618.0	3718.2	3619.4	3592.7	3555.4	3503.3
50°	2659.8	2691.9	2912.0	3325.8	3662.1	4017.1	4183.9	4017.1	3978.4	3966.4	3907.7
52.5°	2866.7	2893.4	3105.5	3559.3	3923.7	4340.0	4583.0	4362.7	4334.7	4294.7	4251.9
55°	2989.5	3010.9	3209.6	3671.4	4101.2	4631.0	4968.7	4775.2	4733.8	4717.8	4656.4
57.5°	3030.8	3052.2	3231.0	3686.1	4197.3	4896.6	5437.1	5443.8	5394.4	5337.0	5318.4
60°	3030.8	3054.9	3205.7	3650.1	4290.7	5179.5	6061.7	6618.2	6511.4	6500.8	6432.7
62.5°	2905.4	2928.1	3080.2	3539.4	4416.1	5561.2	6931.9	7914.1	7883.4	7814.0	7701.9
65°	2633.2	2646.5	2796.0	3256.4	4368.1	5912.2	7685.9	8776.2	8726.9	8590.7	8446.6
66°	2510.3	2521.1	2661.2	3094.9	4210.6	5960.3	7819.4	8884.3	8802.9	8688.2	8525.4
67.5°	2332.9	2351.5	2450.3	2794.6	3832.9	5793.5	7735.3	8808.3	8737.5	8598.8	8435.9
70°	1557.4	1544.1	1892.4	2144.7	2920.0	4720.4	6939.9	7908.8	7910.1	7844.7	7779.3
72.5°	739.3	747.3	848.8	1319.9	1911.1	3153.6	5523.8	6312.6	6403.3	6285.9	6204.5
75°	531.1	543.2	604.5	807.4	1139.7	1892.4	3580.7	4414.8	4417.5	4209.3	4023.8
77.5°	154.8	161.5	226.9	497.8	854.2	1277.2	2056.6	2454.3	2396.9	2247.4	2107.3
80°	64.1	64.1	66.7	158.8	343.0	867.5	1438.6	1889.8	1883.1	1825.7	1742.9
82.5°	24.0	25.3	32.0	65.4	81.4	213.6	959.6	1640.2	1636.2	1554.8	1496.1
85°	2.6	2.6	8.0	28.0	30.7	40.0	192.2	723.3	719.4	723.3	633.9
87.5°	0.0	0.0	1.3	2.6	4.0	5.4	8.0	28.0	30.7	29.4	26.7
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: P163552

CATALOG NUMBER: LDRL-SL3-F05-E-HSS

**CANDELA DISTRIBUTION (continued):**

	69°	70°	71°	72°	73°	74°	75°	76°	77°	78°	79°
0°	209.5	209.5	209.5	209.5	209.5	209.5	209.5	209.5	209.5	209.5	209.5
2.5°	228.2	225.5	225.5	224.2	224.2	224.2	222.9	221.6	221.6	220.2	218.8
5°	249.6	246.9	245.6	242.9	241.5	240.2	237.6	236.2	233.5	232.2	230.9
7.5°	274.9	269.6	268.2	264.3	260.2	257.6	254.9	250.9	248.2	242.9	241.5
10°	306.9	300.2	295.0	289.6	285.6	278.9	274.9	269.6	264.3	260.2	256.2
12.5°	348.3	339.0	331.0	325.7	316.3	308.3	300.2	296.3	285.6	280.3	273.6
15°	393.7	383.0	373.7	363.0	356.3	343.0	332.3	320.3	314.9	305.6	295.0
17.5°	452.4	435.1	420.4	409.7	396.3	383.0	371.0	359.0	343.0	332.3	319.0
20°	515.1	500.4	480.5	461.8	445.8	429.8	412.3	396.3	381.7	364.3	348.3
22.5°	595.2	573.9	549.9	531.1	509.8	492.4	468.4	447.1	423.1	400.4	381.7
25°	696.7	668.6	646.0	619.2	593.9	567.2	537.8	511.2	480.5	459.1	427.0
27.5°	822.1	795.4	764.7	730.0	704.7	664.6	625.9	592.6	556.5	523.1	487.1
30°	982.3	943.6	911.5	878.2	827.4	788.7	743.4	698.0	648.6	615.3	560.5
32.5°	1174.5	1133.0	1085.0	1036.9	990.3	935.6	879.5	823.5	768.7	707.3	651.3
35°	1409.3	1360.0	1305.2	1253.1	1181.1	1122.4	1051.6	974.3	912.9	842.1	771.4
37.5°	1720.3	1638.8	1590.8	1536.1	1438.6	1358.6	1279.9	1202.5	1094.4	1019.6	919.6
40°	2110.0	2061.9	1983.2	1895.1	1807.0	1701.6	1594.8	1492.1	1366.6	1262.6	1146.4
42.5°	2567.7	2497.0	2417.0	2290.2	2200.8	2076.6	1955.2	1819.0	1665.6	1532.1	1396.0
45°	2997.5	2913.4	2852.0	2725.2	2631.8	2485.0	2338.2	2194.1	2016.6	1844.4	1686.9
47.5°	3461.9	3392.5	3291.1	3188.3	3093.6	2928.1	2769.2	2594.5	2407.6	2203.4	1999.2
50°	3870.3	3815.6	3746.1	3622.1	3516.7	3377.8	3191.0	3000.1	2763.9	2561.1	2328.9
52.5°	4217.3	4174.6	4077.2	3989.1	3894.3	3763.6	3596.7	3413.9	3159.0	2936.1	2671.8
55°	4627.0	4596.3	4510.9	4456.2	4372.1	4246.7	4090.5	3921.0	3651.5	3408.5	3109.6
57.5°	5298.3	5274.3	5199.6	5176.9	5094.1	4984.7	4792.5	4611.0	4296.0	3994.4	3652.8
60°	6410.0	6362.0	6252.5	6196.5	6021.6	5874.8	5625.3	5375.7	4995.3	4611.0	4199.9
62.5°	7600.4	7465.6	7257.4	7078.6	6830.4	6575.5	6241.9	5860.2	5414.4	4958.0	4485.6
65°	8242.4	8012.9	7749.9	7465.6	7144.0	6769.0	6348.6	5890.9	5411.7	4930.0	4430.8
66°	8315.8	8056.9	7777.9	7461.7	7104.0	6704.9	6277.9	5797.4	5299.6	4829.9	4330.7
67.5°	8223.7	7952.8	7657.8	7306.9	6919.8	6506.1	6057.7	5558.5	5079.5	4603.0	4117.2
70°	7579.1	7309.5	7046.6	6676.9	6264.6	5848.2	5423.8	4865.9	4412.1	3974.4	3542.0
72.5°	6052.3	5869.5	5609.3	5292.9	4891.2	4402.8	4049.1	3550.0	3156.3	2731.9	2396.9
75°	3782.2	3524.7	3203.0	2799.9	2493.0	2096.7	1889.8	1510.7	1286.6	1090.4	900.8
77.5°	1933.8	1740.3	1514.8	1287.9	1070.4	854.2	660.6	467.1	314.9	218.8	162.8
80°	1597.5	1426.7	1239.9	1033.0	840.8	652.6	469.8	320.3	204.2	133.5	104.1
82.5°	1319.9	1175.8	1009.0	816.8	649.9	512.5	356.3	232.2	144.1	93.4	73.4
85°	561.9	509.8	393.7	312.3	234.9	173.5	121.4	81.4	57.4	46.7	42.7
87.5°	24.0	26.7	25.3	20.0	14.7	14.7	13.4	10.6	10.6	10.6	10.6
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: P163552

CATALOG NUMBER: LDRL-SL3-F05-E-HSS

**CANDELA DISTRIBUTION (continued):**

	80°	81°	82°	83°	84°	85°	95°	105°	115°	125°	135°
0°	209.5	209.5	209.5	209.5	209.5	209.5	209.5	209.5	209.5	209.5	209.5
2.5°	218.8	217.5	216.2	216.2	214.9	213.6	205.6	198.9	190.9	185.5	180.1
5°	228.2	226.9	224.2	222.9	220.2	218.8	201.5	186.8	174.8	165.5	158.8
7.5°	237.6	236.2	232.2	228.2	226.9	224.2	196.1	177.5	161.5	150.8	144.1
10°	249.6	245.6	241.5	236.2	232.2	228.2	190.9	166.8	149.5	140.1	133.5
12.5°	266.9	260.2	253.6	246.9	241.5	234.9	188.1	157.5	140.1	129.4	122.8
15°	287.0	277.6	269.6	261.6	252.2	245.6	182.9	149.5	132.1	121.4	113.4
17.5°	305.6	295.0	282.9	270.9	261.6	252.2	177.5	141.5	124.1	113.4	105.4
20°	332.3	316.3	301.6	287.0	273.6	261.6	169.5	133.5	117.5	105.4	97.4
22.5°	361.7	343.0	324.3	304.3	287.0	270.9	162.8	126.8	110.8	98.7	89.4
25°	399.1	376.4	351.0	325.7	305.6	284.2	156.1	120.1	104.1	92.0	82.7
27.5°	451.1	419.0	391.1	359.0	328.3	304.3	150.8	114.7	97.4	85.4	76.0
30°	521.8	475.1	431.1	396.3	360.3	325.7	145.5	108.1	92.0	78.8	68.0
32.5°	600.6	545.8	495.1	443.1	397.7	357.7	140.1	102.8	85.4	72.1	62.7
35°	698.0	628.6	560.5	500.4	445.8	392.4	134.8	97.4	80.1	65.4	56.1
37.5°	838.2	751.4	662.0	584.6	513.8	443.1	130.8	92.0	73.4	58.7	49.4
40°	1030.3	918.2	808.8	703.3	611.2	523.1	125.5	86.8	68.0	53.4	44.0
42.5°	1238.5	1102.4	958.3	839.5	712.7	601.9	120.1	81.4	62.7	48.0	38.7
45°	1497.4	1327.9	1153.1	991.6	836.8	694.0	114.7	76.0	56.1	42.7	33.4
47.5°	1780.3	1564.1	1366.6	1163.7	979.6	808.8	108.1	72.1	50.7	37.4	29.4
50°	2071.2	1843.1	1593.5	1362.6	1143.8	923.5	101.5	65.4	45.4	33.4	24.0
52.5°	2384.9	2115.3	1860.4	1573.5	1318.6	1074.3	94.8	60.0	41.4	29.4	20.0
55°	2783.9	2482.4	2183.3	1861.7	1554.8	1249.2	88.1	53.4	36.0	25.3	16.0
57.5°	3285.8	2928.1	2561.1	2198.0	1825.7	1478.7	82.7	46.7	30.7	21.4	13.4
60°	3759.5	3341.8	2897.3	2479.6	2059.3	1654.8	74.7	41.4	26.7	17.3	13.4
62.5°	4005.1	3528.6	3049.5	2589.1	2140.7	1717.6	66.7	34.7	22.7	14.7	12.0
65°	3945.0	3459.3	2994.8	2530.4	2091.3	1677.5	58.7	30.7	20.0	13.4	12.0
66°	3858.3	3377.8	2910.7	2469.0	2049.9	1634.9	54.7	29.4	18.7	13.4	10.6
67.5°	3668.8	3204.4	2758.6	2347.5	1936.5	1553.5	49.4	26.7	17.3	12.0	10.6
70°	3133.6	2711.8	2355.6	1989.8	1654.8	1309.2	40.0	22.7	14.7	10.6	10.6
72.5°	2074.0	1787.0	1549.4	1333.2	1114.4	864.8	33.4	18.7	12.0	10.6	9.3
75°	782.1	707.3	607.3	545.8	476.4	417.7	26.7	12.0	9.3	9.3	9.3
77.5°	138.8	128.1	113.4	104.1	96.1	88.1	21.4	8.0	8.0	9.3	9.3
80°	93.4	86.8	78.8	72.1	66.7	60.0	14.7	6.7	8.0	8.0	9.3
82.5°	66.7	62.7	58.7	53.4	49.4	44.0	9.3	6.7	8.0	8.0	8.0
85°	40.0	37.4	34.7	32.0	28.0	26.7	6.7	6.7	6.7	8.0	8.0
87.5°	10.6	9.3	10.6	10.6	8.0	9.3	5.4	5.4	5.4	6.7	6.7
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: P163552

CATALOG NUMBER: LDRL-SL3-F05-E-HSS

**CANDELA DISTRIBUTION (continued):**

	145°	155°	165°	175°	180°
0°	209.5	209.5	209.5	209.5	209.5
2.5°	177.5	177.5	174.8	178.8	178.8
5°	153.5	153.5	152.1	153.5	153.5
7.5°	140.1	138.8	138.8	138.8	140.1
10°	128.1	126.8	126.8	126.8	126.8
12.5°	117.5	116.1	114.7	116.1	116.1
15°	108.1	105.4	105.4	105.4	105.4
17.5°	100.1	97.4	96.1	96.1	96.1
20°	92.0	88.1	88.1	88.1	88.1
22.5°	84.0	80.1	80.1	80.1	80.1
25°	76.0	72.1	72.1	72.1	72.1
27.5°	69.4	65.4	65.4	65.4	65.4
30°	61.4	58.7	58.7	60.0	58.7
32.5°	56.1	52.0	52.0	53.4	53.4
35°	49.4	46.7	46.7	46.7	46.7
37.5°	42.7	40.0	40.0	40.0	40.0
40°	37.4	34.7	33.4	34.7	34.7
42.5°	32.0	29.4	28.0	28.0	28.0
45°	28.0	24.0	22.7	24.0	24.0
47.5°	22.7	20.0	20.0	21.4	21.4
50°	17.3	17.3	18.7	21.4	21.4
52.5°	16.0	16.0	18.7	21.4	21.4
55°	14.7	16.0	18.7	20.0	21.4
57.5°	13.4	16.0	18.7	20.0	20.0
60°	13.4	14.7	17.3	20.0	20.0
62.5°	12.0	13.4	16.0	18.7	18.7
65°	12.0	13.4	16.0	18.7	18.7
66°	12.0	13.4	16.0	18.7	18.7
67.5°	12.0	13.4	16.0	18.7	18.7
70°	12.0	13.4	16.0	17.3	17.3
72.5°	10.6	12.0	14.7	17.3	17.3
75°	10.6	12.0	14.7	17.3	17.3
77.5°	10.6	12.0	14.7	17.3	17.3
80°	10.6	12.0	14.7	16.0	17.3
82.5°	9.3	12.0	13.4	16.0	16.0
85°	9.3	10.6	13.4	14.7	16.0
87.5°	8.0	9.3	10.6	13.4	13.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)