

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: P163521

Luminaire Tested: **LDRL-SL3-F02-E-7030-HSS**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P163521  
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-F02-E-7030-HSS  
Description: RL LED ROADWAY LARGE CUTOFF COBRAHEAD LUMINAIRE  
(2) LIGHTBARS WITH AccuLED OPTICS - TYPE 3 W/ SPILL LIGHT CONTROL AND HOUSE SIDE SHIELD  
Light Source: (14) 3000K CCT, 70 CRI LEDs  
Ballast/Driver: -

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 2536.1 lumens  
Efficiency: N/A  
Efficacy: 46.1 lumens/watt  
Luminous Opening: Rectangular w/ Sides (W: 0.33' x L: 1' x H: 0.1')  
IES Classification: Type III - Short - Non-Cutoff  
BUG Rating: B0 - U0 - G1

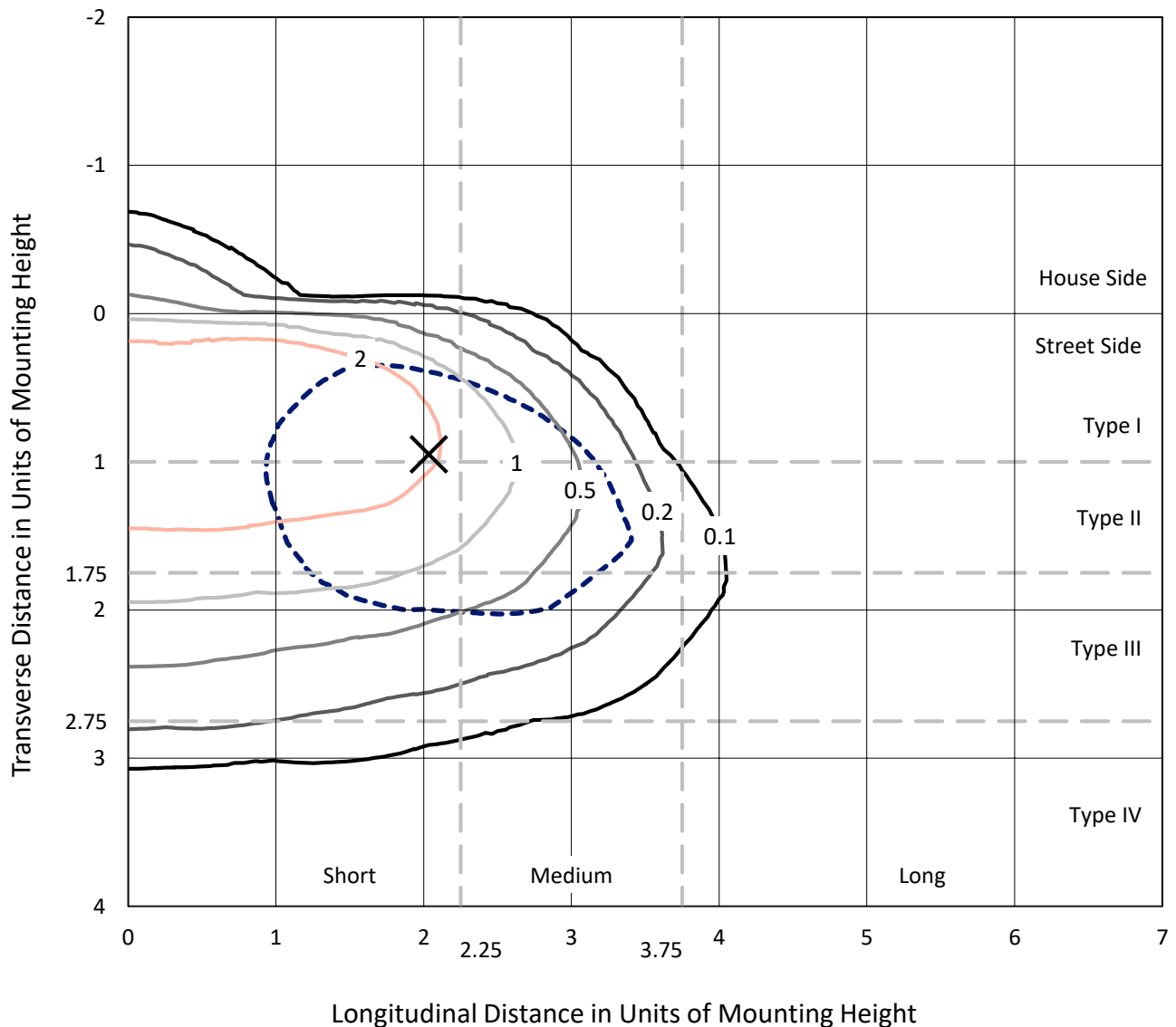
Input Watts (W): 55  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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### Iso-Footcandle Lines of Horizontal Illumination

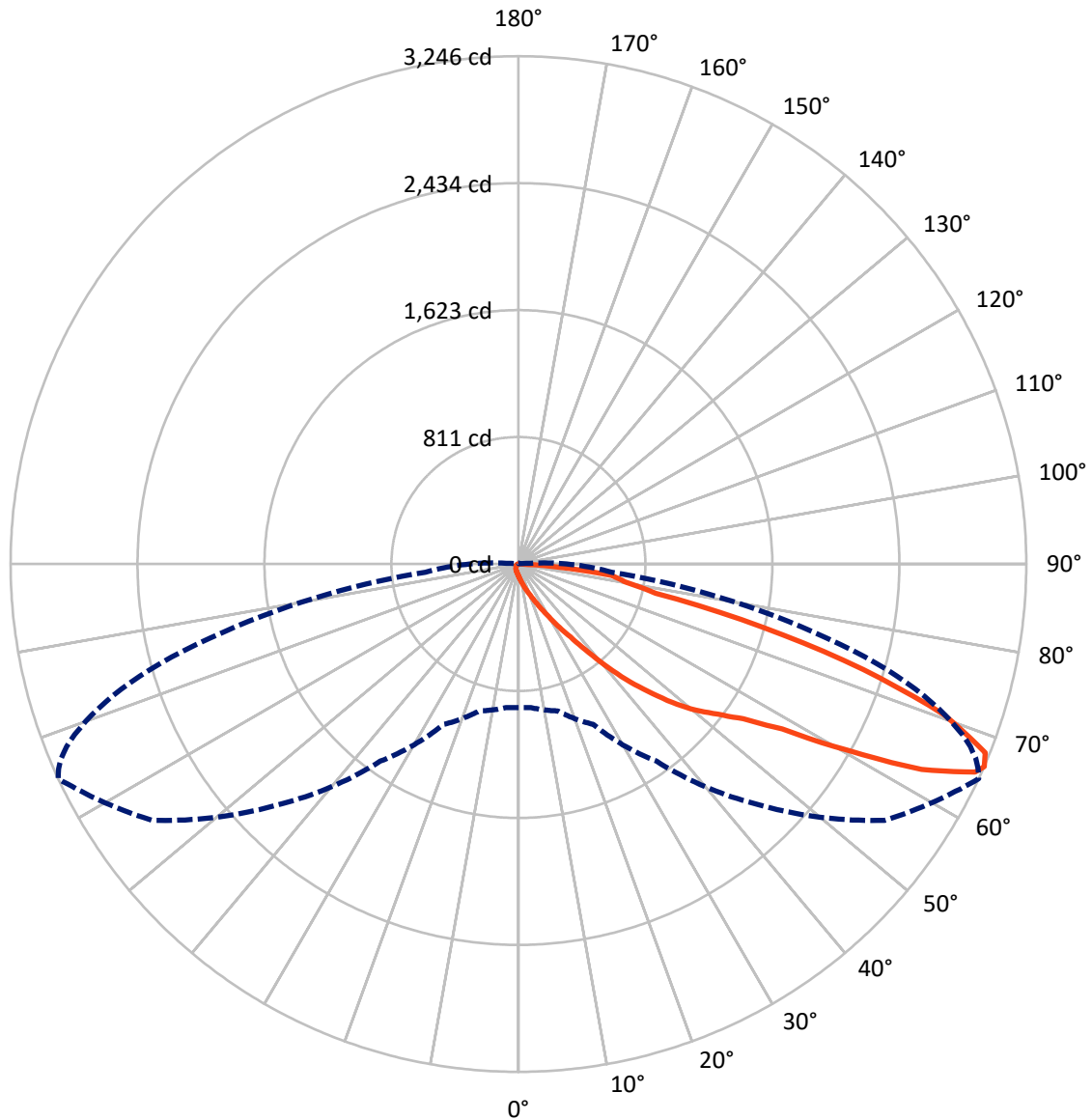
× Max cd  
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 4.2 fc  
 Type III - Short - Non-Cutoff

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### Luminous Intensity Polar Plot



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

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**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	55.0	0.0	55.0
	% Fixture	2.2	0.0	2.2
<b>Street Side</b>	Lumens	2481.2	0.0	2481.2
	% Fixture	97.8	0.0	97.8
<b>Total</b>	Lumens	2536.1	0.0	2536.1
	% Fixture	100.0	0.0	100.0

**Coefficient of Utilization**

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	8.6	0.3
10°-20°	36.3	1.4
20°-30°	78.4	3.1
30°-40°	167.4	6.6
40°-50°	370.1	14.6
50°-60°	627.2	24.7
60°-70°	837.0	33.0
70°-80°	368.7	14.5
80°-90°	42.5	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°	2536.1	100.0
0°-180°	2536.1	100.0



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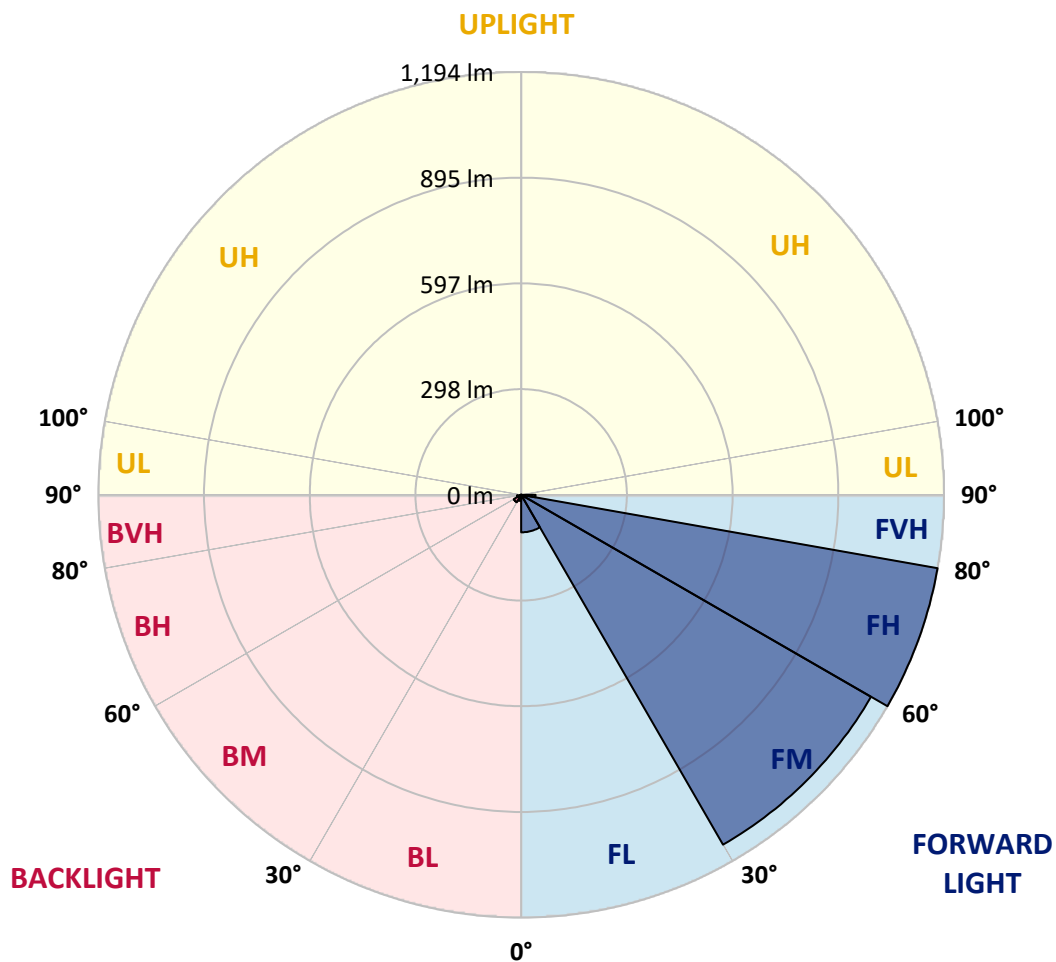
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	105.9	4.2			
FM	(30°-60°)	1140.6	45.0			
FH	(60°-80°)	1193.9	47.1			G1/1800
FVH	(80°-90°)	40.8	1.6			G1/100
BL	(0°-30°)	17.3	0.7	B0/110		
BM	(30°-60°)	24.1	1.0	B0/220		
BH	(60°-80°)	11.8	0.5	B0/110		G0/110
BVH	(80°-90°)	1.7	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-G1**

Type III Short





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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	35°	45°	55°	65°	66°	67°	68°
0°	76.5	76.5	76.5	76.5	76.5	76.5	76.5	76.5	76.5	76.5	76.5
2.5°	96.5	96.1	94.1	94.1	91.2	89.2	86.8	84.4	84.4	83.9	83.4
5°	127.8	124.8	124.3	119.0	114.6	108.2	102.4	94.6	93.6	92.7	92.1
7.5°	162.3	161.9	157.5	151.2	142.4	130.7	119.0	106.3	104.4	103.4	101.4
10°	207.2	204.8	198.9	188.2	175.0	159.4	140.4	120.4	118.0	116.1	115.1
12.5°	250.1	245.7	242.3	228.7	212.1	189.2	166.3	137.5	135.5	133.1	129.2
15°	290.1	286.2	280.4	268.7	250.1	221.4	194.5	159.4	154.6	151.2	148.2
17.5°	321.3	318.9	312.1	298.9	278.9	253.6	221.4	181.9	178.0	173.6	168.2
20°	351.1	347.7	336.9	318.9	297.4	277.9	253.0	211.1	205.7	200.4	194.5
22.5°	379.3	375.9	358.4	328.6	305.7	297.4	288.7	244.3	236.0	231.6	225.7
25°	418.8	411.5	384.2	336.9	306.2	312.5	327.7	287.2	279.4	273.0	263.8
27.5°	472.0	462.2	419.3	349.1	308.1	329.1	372.5	339.4	331.1	323.8	313.5
30°	532.0	525.6	474.4	378.4	322.3	353.5	422.7	405.7	395.9	387.1	374.9
32.5°	592.4	583.6	532.9	433.9	360.3	400.8	485.6	482.7	470.0	461.7	448.6
35°	645.5	641.2	603.6	525.1	447.1	483.7	569.5	572.9	561.7	552.9	538.3
37.5°	681.6	681.6	674.3	623.1	585.1	612.4	692.9	693.3	682.1	662.1	654.8
40°	700.2	705.5	731.9	741.6	739.7	774.8	854.7	846.0	836.7	826.4	802.1
42.5°	738.2	743.1	799.1	866.4	910.3	956.6	1011.7	1008.8	997.6	979.0	956.6
45°	802.6	808.9	875.7	982.5	1072.7	1138.5	1173.6	1159.9	1148.7	1131.2	1119.5
47.5°	884.5	896.6	972.2	1104.4	1213.1	1321.8	1358.4	1322.3	1312.6	1298.9	1279.9
50°	971.7	983.4	1063.9	1215.0	1337.9	1467.6	1528.6	1467.6	1453.5	1449.1	1427.6
52.5°	1047.3	1057.1	1134.6	1300.4	1433.5	1585.6	1674.3	1593.9	1583.7	1569.0	1553.4
55°	1092.2	1100.0	1172.6	1341.3	1498.3	1691.9	1815.3	1744.6	1729.4	1723.6	1701.2
57.5°	1107.3	1115.1	1180.4	1346.7	1533.4	1788.9	1986.4	1988.8	1970.8	1949.8	1943.0
60°	1107.3	1116.1	1171.2	1333.5	1567.6	1892.3	2214.6	2417.9	2378.9	2375.0	2350.1
62.5°	1061.4	1069.7	1125.3	1293.1	1613.4	2031.7	2532.5	2891.3	2880.1	2854.8	2813.8
65°	962.0	966.9	1021.5	1189.7	1595.8	2160.0	2808.0	3206.3	3188.3	3138.5	3085.9
66°	917.1	921.0	972.2	1130.7	1538.3	2177.5	2856.7	3245.8	3216.1	3174.1	3114.7
67.5°	852.3	859.1	895.2	1021.0	1400.3	2116.6	2826.0	3218.0	3192.2	3141.5	3082.0
70°	569.0	564.1	691.4	783.6	1066.8	1724.6	2535.4	2889.4	2889.9	2866.0	2842.1
72.5°	270.1	273.0	310.1	482.2	698.2	1152.1	2018.1	2306.3	2339.4	2296.5	2266.7
75°	194.0	198.5	220.9	295.0	416.4	691.4	1308.2	1612.9	1613.9	1537.8	1470.0
77.5°	56.5	59.0	82.9	181.9	312.1	466.6	751.4	896.6	875.7	821.1	769.9
80°	23.4	23.4	24.4	58.0	125.3	316.9	525.6	690.4	688.0	667.0	636.8
82.5°	8.8	9.3	11.7	23.9	29.7	78.0	350.6	599.2	597.8	568.0	546.6
85°	1.0	1.0	2.9	10.2	11.2	14.6	70.2	264.3	262.8	264.3	231.6
87.5°	0.0	0.0	0.5	1.0	1.4	2.0	2.9	10.2	11.2	10.7	9.7
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



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**CANDELA DISTRIBUTION (continued):**

	69°	70°	71°	72°	73°	74°	75°	76°	77°	78°	79°
0°	76.5	76.5	76.5	76.5	76.5	76.5	76.5	76.5	76.5	76.5	76.5
2.5°	83.4	82.4	82.4	81.9	81.9	81.9	81.4	80.9	80.9	80.4	80.0
5°	91.2	90.2	89.7	88.7	88.2	87.8	86.8	86.3	85.3	84.8	84.4
7.5°	100.4	98.5	98.0	96.5	95.1	94.1	93.1	91.7	90.7	88.7	88.2
10°	112.1	109.7	107.8	105.8	104.4	101.9	100.4	98.5	96.5	95.1	93.6
12.5°	127.2	123.8	120.9	119.0	115.5	112.6	109.7	108.2	104.4	102.4	99.9
15°	143.8	139.9	136.5	132.6	130.2	125.3	121.4	117.0	115.1	111.7	107.8
17.5°	165.3	158.9	153.6	149.7	144.8	139.9	135.5	131.2	125.3	121.4	116.5
20°	188.2	182.8	175.5	168.7	162.9	157.0	150.6	144.8	139.5	133.1	127.2
22.5°	217.5	209.7	200.9	194.0	186.3	179.9	171.1	163.3	154.6	146.3	139.5
25°	254.5	244.3	236.0	226.2	217.0	207.2	196.5	186.7	175.5	167.7	156.0
27.5°	300.4	290.6	279.4	266.7	257.4	242.8	228.7	216.5	203.3	191.1	178.0
30°	358.9	344.7	333.0	320.8	302.3	288.1	271.6	255.0	237.0	224.8	204.8
32.5°	429.1	413.9	396.4	378.8	361.8	341.8	321.3	300.8	280.8	258.4	237.9
35°	514.9	496.9	476.9	457.8	431.5	410.1	384.2	355.9	333.5	307.7	281.8
37.5°	628.5	598.7	581.2	561.2	525.6	496.3	467.6	439.3	399.8	372.5	335.9
40°	770.9	753.3	724.5	692.3	660.2	621.7	582.7	545.1	499.3	461.3	418.8
42.5°	938.1	912.3	883.0	836.7	804.0	758.7	714.3	664.6	608.5	559.7	510.0
45°	1095.1	1064.4	1042.0	995.6	961.5	907.9	854.2	801.6	736.7	673.8	616.3
47.5°	1264.8	1239.4	1202.4	1164.8	1130.2	1069.7	1011.7	947.9	879.6	805.0	730.4
50°	1414.0	1394.0	1368.6	1323.3	1284.8	1234.0	1165.8	1096.1	1009.8	935.7	850.8
52.5°	1540.7	1525.1	1489.6	1457.4	1422.8	1375.0	1314.0	1247.2	1154.1	1072.7	976.1
55°	1690.4	1679.2	1648.0	1628.0	1597.3	1551.5	1494.4	1432.5	1334.0	1245.3	1136.1
57.5°	1935.7	1926.9	1899.6	1891.3	1861.1	1821.1	1750.9	1684.6	1569.5	1459.3	1334.5
60°	2341.8	2324.3	2284.3	2263.8	2199.9	2146.3	2055.1	1964.0	1825.0	1684.6	1534.4
62.5°	2776.7	2727.5	2651.4	2586.1	2495.4	2402.3	2280.4	2140.9	1978.1	1811.4	1638.8
65°	3011.3	2927.4	2831.4	2727.5	2610.0	2473.0	2319.4	2152.2	1977.1	1801.1	1618.8
66°	3038.1	2943.5	2841.6	2726.0	2595.4	2449.6	2293.6	2118.0	1936.2	1764.6	1582.2
67.5°	3004.5	2905.5	2797.7	2669.5	2528.1	2376.9	2213.1	2030.7	1855.7	1681.6	1504.2
70°	2769.0	2670.5	2574.4	2439.3	2288.7	2136.6	1981.5	1777.7	1611.9	1452.0	1294.0
72.5°	2211.2	2144.4	2049.3	1933.7	1787.0	1608.5	1479.3	1297.0	1153.1	998.1	875.7
75°	1381.8	1287.7	1170.2	1022.9	910.8	766.0	690.4	551.9	470.0	398.3	329.1
77.5°	706.5	635.8	553.4	470.5	391.1	312.1	241.3	170.6	115.1	80.0	59.5
80°	583.6	521.2	453.0	377.4	307.2	238.4	171.6	117.0	74.6	48.8	38.0
82.5°	482.2	429.6	368.6	298.4	237.4	187.2	130.2	84.8	52.7	34.1	26.8
85°	205.3	186.3	143.8	114.1	85.8	63.4	44.4	29.7	21.0	17.1	15.6
87.5°	8.8	9.7	9.3	7.3	5.4	5.4	4.9	3.9	3.9	3.9	3.9
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0





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**CANDELA DISTRIBUTION (continued):**

	80°	81°	82°	83°	84°	85°	95°	105°	115°	125°	135°
0°	76.5	76.5	76.5	76.5	76.5	76.5	76.5	76.5	76.5	76.5	76.5
2.5°	80.0	79.5	79.0	79.0	78.5	78.0	75.1	72.7	69.7	67.8	65.8
5°	83.4	82.9	81.9	81.4	80.4	80.0	73.6	68.3	63.9	60.5	58.0
7.5°	86.8	86.3	84.8	83.4	82.9	81.9	71.7	64.8	59.0	55.1	52.7
10°	91.2	89.7	88.2	86.3	84.8	83.4	69.7	61.0	54.6	51.2	48.8
12.5°	97.5	95.1	92.7	90.2	88.2	85.8	68.7	57.5	51.2	47.3	44.8
15°	104.8	101.4	98.5	95.6	92.1	89.7	66.8	54.6	48.3	44.4	41.4
17.5°	111.7	107.8	103.4	99.0	95.6	92.1	64.8	51.7	45.3	41.4	38.5
20°	121.4	115.5	110.2	104.8	99.9	95.6	61.9	48.8	42.9	38.5	35.6
22.5°	132.1	125.3	118.5	111.2	104.8	99.0	59.5	46.3	40.5	36.1	32.7
25°	145.8	137.5	128.2	119.0	111.7	103.8	57.0	43.9	38.0	33.6	30.2
27.5°	164.8	153.1	142.9	131.2	119.9	111.2	55.1	41.9	35.6	31.2	27.8
30°	190.6	173.6	157.5	144.8	131.6	119.0	53.1	39.5	33.6	28.8	24.9
32.5°	219.4	199.4	180.9	161.9	145.3	130.7	51.2	37.5	31.2	26.3	22.9
35°	255.0	229.6	204.8	182.8	162.9	143.3	49.3	35.6	29.3	23.9	20.5
37.5°	306.2	274.5	241.9	213.6	187.7	161.9	47.8	33.6	26.8	21.4	18.0
40°	376.4	335.5	295.5	257.0	223.3	191.1	45.8	31.7	24.9	19.5	16.1
42.5°	452.5	402.8	350.1	306.7	260.4	219.9	43.9	29.7	22.9	17.6	14.1
45°	547.1	485.1	421.3	362.3	305.7	253.6	41.9	27.8	20.5	15.6	12.2
47.5°	650.4	571.4	499.3	425.2	357.9	295.5	39.5	26.3	18.5	13.7	10.7
50°	756.7	673.3	582.2	497.8	417.9	337.4	37.1	23.9	16.6	12.2	8.8
52.5°	871.3	772.8	679.7	574.8	481.7	392.5	34.6	21.9	15.1	10.7	7.3
55°	1017.1	906.9	797.7	680.2	568.0	456.4	32.2	19.5	13.1	9.3	5.9
57.5°	1200.4	1069.7	935.7	803.0	667.0	540.2	30.2	17.1	11.2	7.8	4.9
60°	1373.5	1220.9	1058.5	905.9	752.3	604.6	27.3	15.1	9.7	6.3	4.9
62.5°	1463.2	1289.1	1114.1	945.9	782.1	627.5	24.4	12.7	8.3	5.4	4.4
65°	1441.3	1263.8	1094.1	924.5	764.0	612.9	21.4	11.2	7.3	4.9	4.4
66°	1409.6	1234.0	1063.4	902.0	748.9	597.3	20.0	10.7	6.8	4.9	3.9
67.5°	1340.4	1170.7	1007.8	857.7	707.5	567.5	18.0	9.7	6.3	4.4	3.9
70°	1144.8	990.7	860.6	727.0	604.6	478.3	14.6	8.3	5.4	3.9	3.9
72.5°	757.7	652.9	566.1	487.1	407.1	316.0	12.2	6.8	4.4	3.9	3.4
75°	285.7	258.4	221.9	199.4	174.1	152.6	9.7	4.4	3.4	3.4	3.4
77.5°	50.7	46.8	41.4	38.0	35.1	32.2	7.8	2.9	2.9	3.4	3.4
80°	34.1	31.7	28.8	26.3	24.4	21.9	5.4	2.4	2.9	2.9	3.4
82.5°	24.4	22.9	21.4	19.5	18.0	16.1	3.4	2.4	2.9	2.9	2.9
85°	14.6	13.7	12.7	11.7	10.2	9.7	2.4	2.4	2.4	2.9	2.9
87.5°	3.9	3.4	3.9	3.9	2.9	3.4	2.0	2.0	2.0	2.4	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



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CATALOG NUMBER: LDRL-SL3-F02-E-7030-HSS

**CANDELA DISTRIBUTION (continued):**

	145°	155°	165°	175°	180°
0°	76.5	76.5	76.5	76.5	76.5
2.5°	64.8	64.8	63.9	65.3	65.3
5°	56.1	56.1	55.6	56.1	56.1
7.5°	51.2	50.7	50.7	50.7	51.2
10°	46.8	46.3	46.3	46.3	46.3
12.5°	42.9	42.4	41.9	42.4	42.4
15°	39.5	38.5	38.5	38.5	38.5
17.5°	36.6	35.6	35.1	35.1	35.1
20°	33.6	32.2	32.2	32.2	32.2
22.5°	30.7	29.3	29.3	29.3	29.3
25°	27.8	26.3	26.3	26.3	26.3
27.5°	25.4	23.9	23.9	23.9	23.9
30°	22.4	21.4	21.4	21.9	21.4
32.5°	20.5	19.0	19.0	19.5	19.5
35°	18.0	17.1	17.1	17.1	17.1
37.5°	15.6	14.6	14.6	14.6	14.6
40°	13.7	12.7	12.2	12.7	12.7
42.5°	11.7	10.7	10.2	10.2	10.2
45°	10.2	8.8	8.3	8.8	8.8
47.5°	8.3	7.3	7.3	7.8	7.8
50°	6.3	6.3	6.8	7.8	7.8
52.5°	5.9	5.9	6.8	7.8	7.8
55°	5.4	5.9	6.8	7.3	7.8
57.5°	4.9	5.9	6.8	7.3	7.3
60°	4.9	5.4	6.3	7.3	7.3
62.5°	4.4	4.9	5.9	6.8	6.8
65°	4.4	4.9	5.9	6.8	6.8
66°	4.4	4.9	5.9	6.8	6.8
67.5°	4.4	4.9	5.9	6.8	6.8
70°	4.4	4.9	5.9	6.3	6.3
72.5°	3.9	4.4	5.4	6.3	6.3
75°	3.9	4.4	5.4	6.3	6.3
77.5°	3.9	4.4	5.4	6.3	6.3
80°	3.9	4.4	5.4	5.9	6.3
82.5°	3.4	4.4	4.9	5.9	5.9
85°	3.4	3.9	4.9	5.4	5.9
87.5°	2.9	3.4	3.9	4.9	4.9
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)