

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: P146856

Luminaire Tested: **LDRL-T4-F02-E-7050**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P146856  
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (P33696)  
Test Lab: INNOVATION CENTER-P3  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: LUMARK  
Catalog Number: LDRL-T4-F02-E-7050  
Description: RL LED ROADWAY LARGE CUTOFF COBRAHEAD LUMINAIRE  
(2) LIGHTBARS WITH AccuLED OPTICS - TYPE 4 SHORT  
Light Source: (14) 5000K CCT, 70 CRI LEDs  
Ballast/Driver: -

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 4978.5 lumens  
Efficiency: N/A  
Efficacy: 90.5 lumens/watt  
Luminous Opening: Rectangular (W 0.33' x L: 1' x H: 0')  
IES Classification: Type IV - Short - Semi-Cutoff  
BUG Rating: B1 - U0 - G2

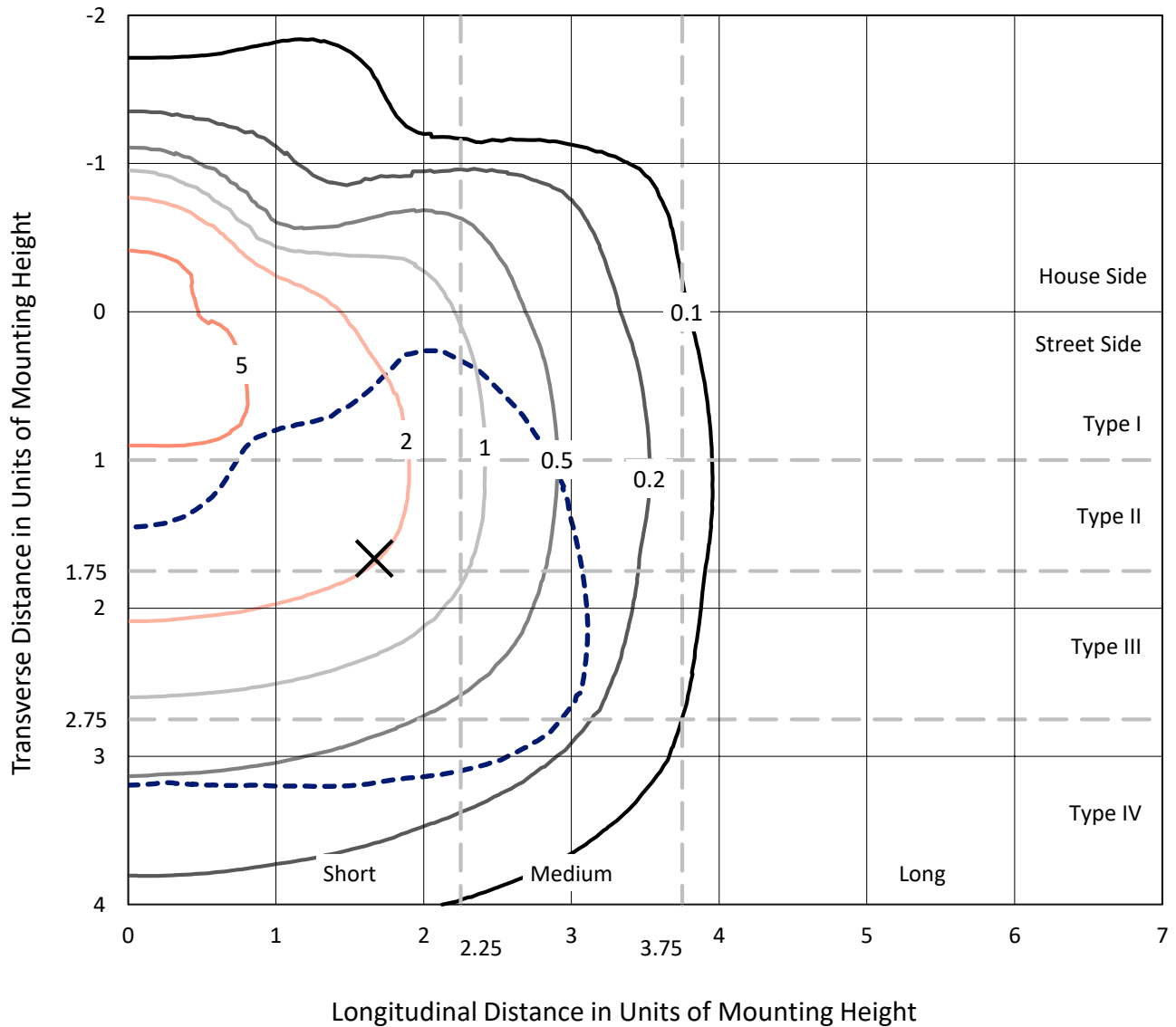
Input Watts (W): 55  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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### Iso-Footcandle Lines of Horizontal Illumination

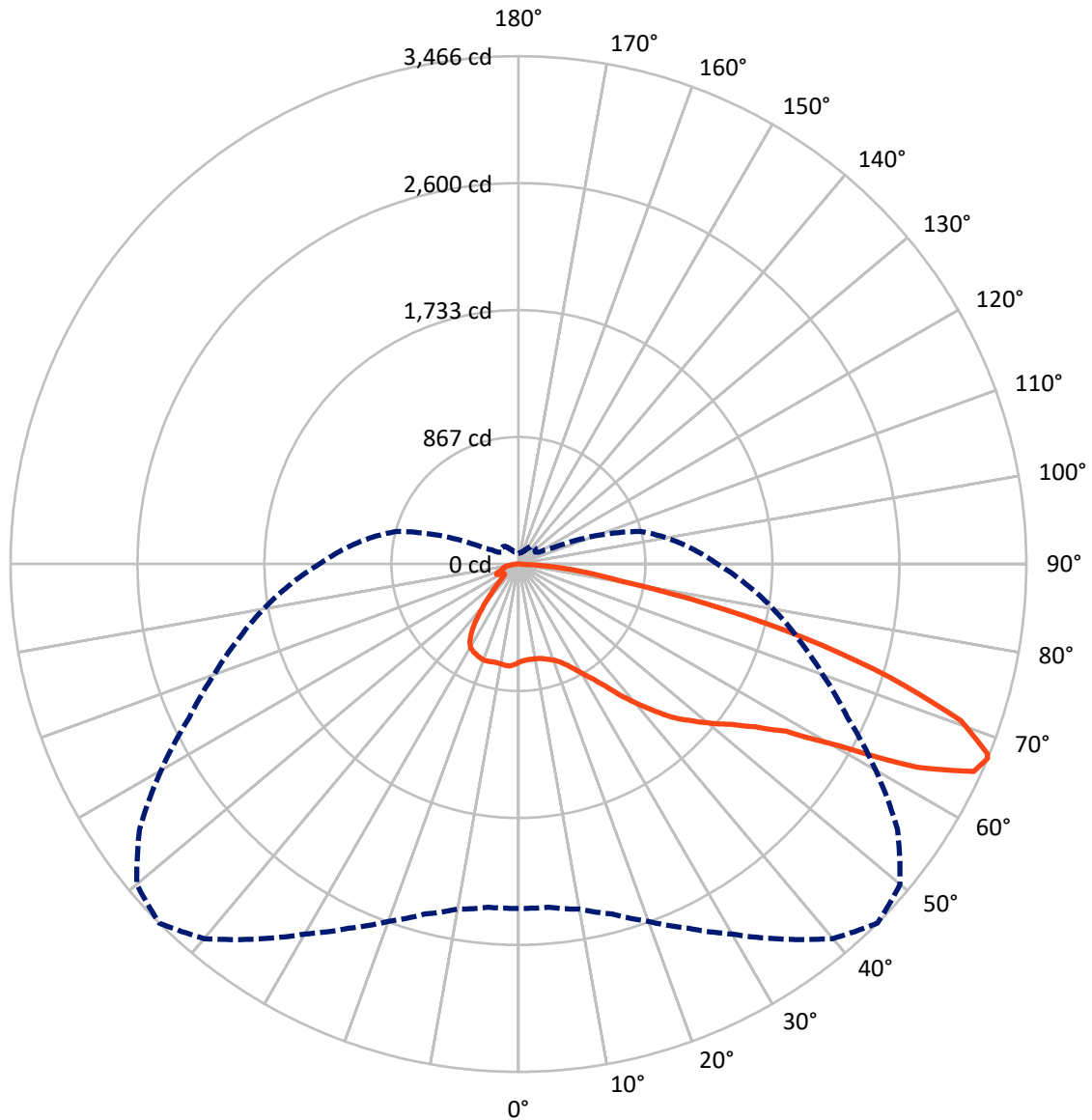
✕ Max cd  
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 6.8 fc  
 Type IV - Short - Semi-Cutoff

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### Luminous Intensity Polar Plot



— Vertical Plane Through 45-Deg Lateral    - - - Horizontal Cone Through 67-Deg Vertical

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**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	1008.8	0.0	1008.8
	% Fixture	20.3	0.0	20.3
<b>Street Side</b>	Lumens	3969.7	0.0	3969.7
	% Fixture	79.7	0.0	79.7
<b>Total</b>	Lumens	4978.5	0.0	4978.5
	% Fixture	100.0	0.0	100.0

**Coefficient of Utilization**

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	64.6	1.3
10°-20°	194.0	3.9
20°-30°	329.7	6.6
30°-40°	495.4	10.0
40°-50°	644.2	12.9
50°-60°	884.5	17.8
60°-70°	1395.3	28.0
70°-80°	843.1	16.9
80°-90°	127.7	2.6
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°	4978.5	100.0
0°-180°	4978.5	100.0



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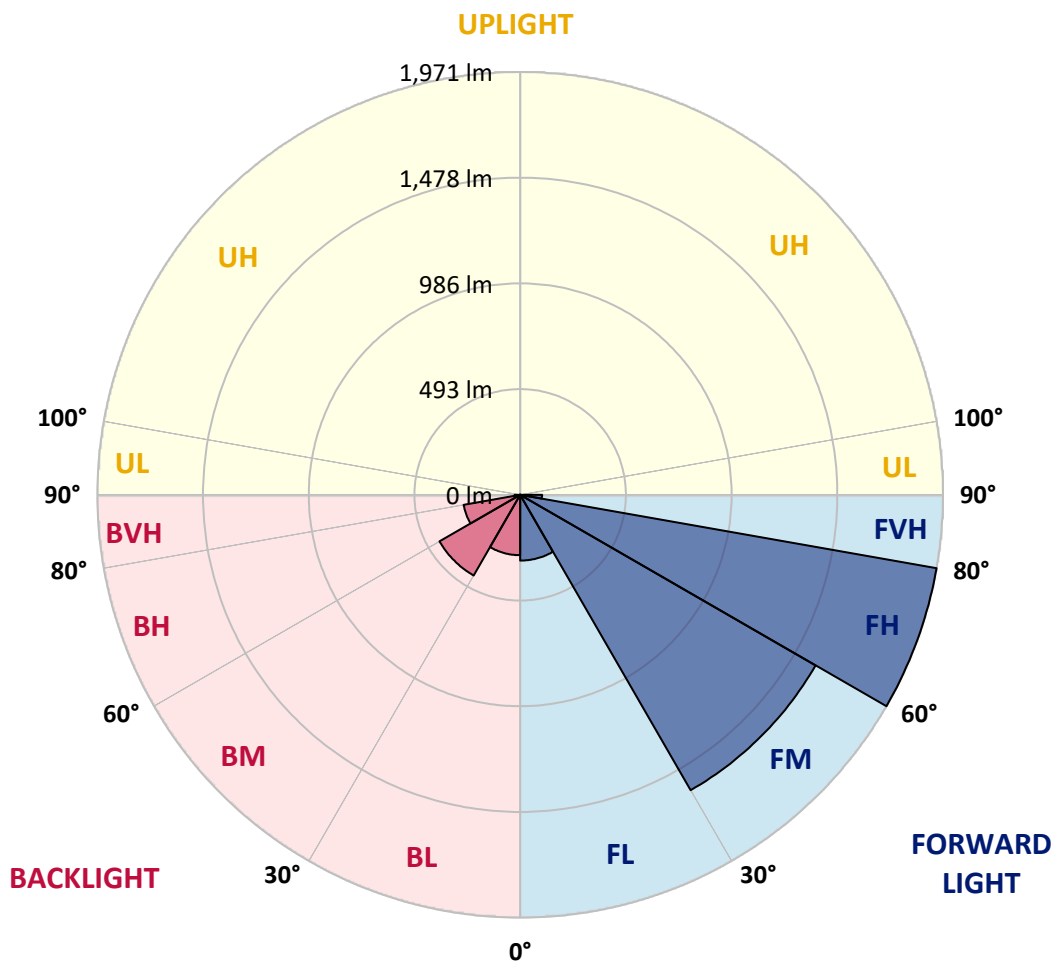
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	306.6	6.2			
FM	(30°-60°)	1590.1	31.9			
FH	(60°-80°)	1971.1	39.6			G2/5000
FVH	(80°-90°)	102.0	2.0			G2/225
BL	(0°-30°)	281.6	5.7	B1/500		
BM	(30°-60°)	434.1	8.7	B1/1000		
BH	(60°-80°)	267.3	5.4	B1/500		G1/500
BVH	(80°-90°)	25.7	0.5			G1/100
UL	(90°-100°)	0.0	0.0		U0/0	
UH	(100°-180°)	0.0	0.0		U0/0	

**BUG Rating: B1-U0-G2**

Type IV Short





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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	670.2	670.2	670.2	670.2	670.2	670.2	670.2	670.2	670.2	670.2	670.2
2.5°	655.3	656.7	655.6	655.6	656.0	656.3	657.0	658.3	658.7	660.7	661.1
5°	642.1	642.4	642.4	642.8	644.8	646.5	648.2	650.6	652.6	656.3	658.7
7.5°	637.3	638.7	638.4	639.0	641.1	642.8	644.8	648.2	653.3	656.3	659.7
10°	645.1	646.1	645.1	645.5	645.8	647.5	648.2	650.6	654.6	657.3	660.4
12.5°	663.1	663.1	662.1	661.4	660.4	660.7	659.4	659.0	661.1	661.4	661.7
15°	686.8	689.5	686.1	683.4	682.1	680.7	676.3	674.6	674.3	671.2	668.2
17.5°	710.9	711.5	709.5	706.5	704.4	701.4	697.7	694.3	690.2	685.5	679.4
20°	737.6	738.0	735.3	730.9	728.5	724.8	720.0	714.3	709.2	701.7	694.9
22.5°	774.9	774.6	769.1	765.4	762.0	757.6	750.8	743.1	734.9	726.1	716.6
25°	817.6	817.6	813.9	807.8	806.1	799.6	792.2	783.0	774.6	762.0	750.5
27.5°	866.4	866.7	860.0	856.6	852.8	846.1	841.0	833.9	822.3	809.8	797.9
30°	924.3	922.6	917.2	910.1	908.7	903.3	896.2	891.1	876.9	868.1	854.9
32.5°	979.2	981.9	980.6	972.4	973.8	968.4	962.3	958.6	943.6	935.2	923.0
35°	1061.2	1063.6	1065.6	1062.6	1064.3	1061.2	1056.1	1046.3	1034.1	1022.9	1006.0
37.5°	1124.9	1127.3	1128.6	1136.1	1146.9	1157.4	1162.2	1157.1	1157.8	1140.8	1118.1
40°	1177.1	1182.9	1191.0	1205.2	1226.9	1246.9	1257.7	1266.2	1270.6	1254.7	1225.2
42.5°	1229.3	1235.4	1246.6	1269.3	1299.1	1327.9	1350.6	1376.7	1381.4	1377.3	1352.3
45°	1283.8	1290.9	1304.8	1330.6	1365.5	1403.1	1439.7	1476.6	1495.3	1498.3	1467.8
47.5°	1349.6	1359.7	1372.6	1401.7	1435.6	1478.0	1523.7	1571.2	1600.3	1600.3	1565.1
50°	1431.6	1443.1	1453.9	1483.1	1516.9	1560.7	1613.5	1666.4	1706.0	1708.4	1665.7
52.5°	1546.4	1548.1	1554.6	1581.3	1610.8	1659.6	1709.7	1771.1	1816.8	1818.8	1769.7
55°	1686.0	1686.0	1693.5	1715.8	1743.3	1783.6	1835.4	1903.5	1951.7	1962.2	1899.1
57.5°	1869.7	1876.4	1880.2	1906.3	1924.9	1967.6	2011.0	2085.2	2146.5	2153.3	2089.2
60°	2168.5	2155.6	2176.3	2199.3	2243.1	2274.2	2348.1	2422.6	2500.9	2519.5	2450.8
62.5°	2463.0	2476.8	2502.3	2543.9	2618.8	2688.6	2794.3	2907.5	3029.1	3054.2	3001.7
65°	2481.3	2489.7	2525.0	2596.8	2699.1	2823.5	2969.2	3139.6	3320.9	3414.7	3326.6
67°	2349.8	2352.2	2392.1	2473.8	2596.5	2743.8	2916.3	3124.4	3337.1	3466.2	3400.5
67.5°	2308.1	2312.5	2351.8	2435.2	2559.2	2710.0	2885.8	3099.6	3317.5	3452.3	3393.0
70°	2063.5	2063.5	2105.8	2189.9	2306.1	2453.1	2637.1	2853.0	3089.8	3203.3	3152.8
72.5°	1756.5	1745.3	1793.1	1856.8	1951.7	2080.1	2228.1	2398.6	2576.8	2659.5	2639.5
75°	1276.7	1297.7	1322.5	1369.6	1451.9	1553.2	1639.9	1792.1	1932.0	2023.5	1999.4
77.5°	696.6	704.8	773.2	801.3	873.5	948.7	1043.9	1150.7	1260.8	1318.4	1295.0
80°	414.1	430.0	470.6	504.2	543.1	600.4	669.5	692.9	714.6	713.2	670.9
82.5°	261.6	280.9	324.9	353.7	374.1	407.3	444.9	474.4	480.8	449.0	399.8
85°	42.4	70.1	183.3	215.5	228.4	246.3	274.1	286.7	267.7	233.8	242.3
87.5°	16.6	20.0	55.9	70.8	74.9	39.3	68.1	80.0	40.7	20.7	46.8
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):**

	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°	105°
0°	670.2	670.2	670.2	670.2	670.2	670.2	670.2	670.2	670.2	670.2	670.2
2.5°	663.1	664.8	666.5	668.5	669.2	670.9	673.9	673.6	676.0	677.0	678.7
5°	661.7	665.5	668.2	671.9	673.3	677.0	681.0	682.4	685.5	687.8	689.9
7.5°	664.4	668.5	671.9	676.3	679.4	682.4	685.5	689.2	691.9	693.6	694.9
10°	665.5	669.9	673.9	677.7	681.0	683.4	686.8	689.9	692.6	693.6	693.9
12.5°	665.8	668.9	672.9	677.0	680.0	683.1	685.5	688.8	690.9	691.2	690.5
15°	668.5	668.9	671.6	676.3	679.4	682.4	684.1	685.8	687.1	686.1	685.1
17.5°	676.6	674.3	674.3	676.6	678.3	679.7	680.0	679.7	678.3	676.3	674.6
20°	689.9	685.1	681.4	680.0	677.3	673.9	669.5	665.5	660.4	658.0	657.7
22.5°	710.5	703.4	696.6	689.9	681.0	671.2	661.1	652.2	645.1	641.4	641.7
25°	745.8	735.3	727.5	715.6	701.4	687.5	674.3	662.4	653.9	647.2	648.5
27.5°	793.2	781.3	774.6	761.0	744.7	727.1	711.5	695.3	683.1	674.6	676.3
30°	848.8	845.4	834.2	820.6	805.4	785.4	762.0	737.6	715.6	701.7	699.0
32.5°	915.9	912.1	899.9	888.4	868.8	846.7	816.2	777.6	743.1	716.6	705.1
35°	998.5	989.4	974.5	963.3	941.3	912.8	873.5	821.3	768.8	729.2	700.4
37.5°	1101.5	1078.8	1054.1	1025.0	992.4	957.9	912.5	851.5	786.4	730.2	679.0
40°	1199.8	1163.2	1122.2	1076.1	1036.5	994.8	947.7	877.9	798.3	723.1	646.8
42.5°	1309.2	1252.3	1196.7	1133.4	1081.2	1031.7	977.9	896.5	800.7	703.8	605.2
45°	1414.6	1341.4	1266.9	1188.6	1122.2	1067.3	1006.0	912.5	800.0	683.4	563.8
47.5°	1508.5	1421.1	1328.9	1240.8	1163.5	1103.2	1036.1	934.2	809.1	677.7	536.4
50°	1596.2	1495.3	1387.2	1289.2	1205.2	1143.6	1074.4	968.4	837.2	690.9	532.3
52.5°	1686.7	1576.9	1453.2	1347.9	1260.1	1188.6	1118.8	1012.1	876.6	718.0	541.5
55°	1804.6	1678.6	1546.8	1429.9	1329.2	1252.3	1171.7	1064.9	918.9	749.5	558.7
57.5°	1980.1	1832.7	1683.0	1557.3	1441.0	1345.2	1256.7	1134.4	989.0	796.9	596.7
60°	2295.2	2131.9	1958.4	1794.1	1660.3	1548.1	1435.6	1283.8	1118.5	904.7	683.8
62.5°	2809.9	2583.9	2344.0	2127.9	1943.9	1792.1	1633.5	1451.2	1258.4	1035.5	815.6
65°	3119.3	2807.5	2502.3	2251.5	2034.0	1839.5	1647.7	1451.9	1265.2	1070.4	874.9
67°	3157.6	2815.7	2477.9	2210.9	1977.8	1766.0	1557.9	1357.7	1190.6	1027.3	858.6
67.5°	3146.0	2799.4	2454.8	2185.1	1949.6	1744.6	1540.0	1335.0	1172.4	1009.0	846.4
70°	2919.0	2579.9	2239.0	1976.7	1751.1	1541.3	1347.9	1142.5	1016.8	899.9	759.3
72.5°	2422.6	2158.0	1872.4	1653.8	1459.0	1277.4	1107.3	935.5	834.5	751.9	652.9
75°	1796.5	1553.9	1312.3	1180.8	1029.7	884.3	752.9	625.8	586.9	567.2	508.9
77.5°	1109.3	891.5	709.5	590.6	469.6	368.0	292.7	238.2	248.4	289.0	307.7
80°	552.3	408.0	315.8	251.1	203.0	164.0	120.3	88.1	105.4	125.0	141.6
82.5°	332.4	262.6	207.7	175.9	143.0	110.5	78.3	59.6	66.1	88.8	97.6
85°	206.3	165.3	132.1	110.5	91.5	67.8	44.4	44.0	46.8	59.0	67.4
87.5°	60.7	41.0	32.5	33.9	37.6	31.2	23.4	20.0	24.7	33.9	37.9
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):**

	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°	160°
0°	670.2	670.2	670.2	670.2	670.2	670.2	670.2	670.2	670.2	670.2	670.2
2.5°	679.0	681.4	682.4	682.7	683.1	685.1	685.1	687.1	687.8	687.8	688.5
5°	691.9	694.3	695.3	695.6	696.3	697.3	697.0	698.3	699.0	698.7	698.7
7.5°	696.6	697.3	697.3	698.3	699.3	698.3	697.7	698.3	698.0	698.3	698.3
10°	694.9	694.3	694.3	693.6	694.6	692.6	692.6	693.2	692.9	693.6	694.6
12.5°	690.9	690.5	689.5	689.2	690.5	689.2	689.5	690.5	691.2	692.6	694.3
15°	685.1	684.1	684.1	685.5	688.8	689.9	691.2	692.9	693.2	693.9	694.6
17.5°	675.3	677.0	681.0	685.8	692.2	694.6	695.3	694.3	690.9	688.2	685.5
20°	661.7	669.2	679.7	689.9	697.7	697.3	692.9	686.5	678.3	672.6	668.9
22.5°	650.2	664.8	681.0	693.2	698.3	691.9	681.7	671.9	662.4	653.9	646.5
25°	658.3	672.2	686.1	693.6	693.2	682.1	668.5	657.7	644.8	632.9	620.4
27.5°	684.8	693.2	697.3	694.9	687.8	672.9	658.0	642.8	626.2	611.9	597.4
30°	702.7	702.7	698.7	689.2	676.6	660.0	641.7	622.1	602.4	585.8	569.2
32.5°	697.0	683.8	671.9	659.0	644.8	626.8	605.8	584.5	562.1	542.8	528.6
35°	671.9	643.4	618.7	600.4	585.5	564.2	539.8	515.4	497.1	483.8	475.7
37.5°	627.2	581.8	545.9	523.5	500.5	478.4	450.3	439.1	422.9	414.7	411.7
40°	573.0	506.6	461.5	432.7	408.3	380.8	361.9	354.8	348.7	347.0	345.6
42.5°	510.6	427.6	374.1	344.3	314.8	294.8	286.3	281.9	280.9	280.9	282.6
45°	445.9	347.3	285.6	261.6	237.2	226.7	224.6	222.6	223.0	221.9	222.6
47.5°	395.8	278.9	215.5	193.5	180.9	177.5	175.2	174.5	174.5	172.8	170.8
50°	369.7	233.1	169.1	151.8	144.7	142.3	142.3	141.0	138.2	136.5	132.1
52.5°	362.9	209.4	146.4	131.5	125.4	123.3	121.3	119.3	115.2	111.5	106.4
55°	368.3	201.9	139.3	125.4	118.6	116.2	114.5	111.1	105.4	100.0	94.2
57.5°	391.0	206.7	142.0	127.1	121.0	119.3	117.6	112.5	105.4	97.6	91.1
60°	453.0	229.0	153.5	136.2	131.1	131.5	129.1	122.7	112.5	101.3	91.8
62.5°	533.0	260.2	168.4	149.1	148.4	151.8	151.8	140.6	124.0	107.1	94.2
65°	578.7	270.0	170.4	150.8	156.5	166.4	165.7	150.8	128.1	107.1	93.2
67°	567.2	259.5	162.0	141.0	147.7	158.9	157.6	143.3	122.0	102.7	90.5
67.5°	558.1	256.2	159.9	138.6	145.4	154.5	154.5	140.3	119.3	101.3	89.5
70°	491.3	226.3	149.8	129.4	129.4	131.8	130.1	119.9	105.7	93.2	85.4
72.5°	409.6	197.9	141.6	123.0	116.6	115.2	112.8	105.7	96.6	87.8	81.0
75°	317.5	175.2	135.2	116.2	107.7	104.7	102.3	96.9	89.8	82.3	76.6
77.5°	222.3	150.1	126.7	110.5	101.3	98.9	95.2	89.1	83.4	76.9	71.5
80°	137.9	124.0	110.5	99.6	90.1	86.7	82.0	76.6	71.8	68.1	64.0
82.5°	98.3	91.1	82.3	76.6	66.7	56.6	60.7	61.0	57.9	55.6	54.6
85°	65.7	59.3	54.9	49.8	44.0	39.6	40.7	43.7	44.0	43.0	43.0
87.5°	35.9	30.5	29.5	30.5	26.4	25.1	25.4	28.1	28.5	28.5	28.8
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-T4-F02-E-7050

**CANDELA DISTRIBUTION (continued):**

	165°	170°	175°	180°
0°	670.2	670.2	670.2	670.2
2.5°	688.8	689.9	689.5	690.2
5°	699.3	700.0	699.7	700.0
7.5°	697.7	699.0	699.7	698.7
10°	694.9	697.0	698.3	698.3
12.5°	695.6	699.0	701.0	701.0
15°	694.9	697.7	698.3	698.3
17.5°	684.4	684.4	684.8	683.4
20°	666.1	664.1	663.4	661.1
22.5°	640.1	635.3	632.3	630.6
25°	610.2	602.8	598.0	595.3
27.5°	585.5	579.1	574.3	571.6
30°	558.1	550.6	547.9	545.9
32.5°	518.4	511.3	509.3	507.6
35°	466.9	464.5	459.1	455.4
37.5°	407.3	404.2	402.2	400.8
40°	344.9	345.3	343.6	340.5
42.5°	282.6	286.0	282.6	281.9
45°	221.9	225.7	225.7	226.7
47.5°	171.1	170.4	171.8	172.1
50°	129.4	127.4	126.7	125.7
52.5°	102.7	100.3	98.9	97.2
55°	90.5	87.8	86.4	86.1
57.5°	86.4	83.0	81.0	80.6
60°	85.4	80.6	77.9	77.3
62.5°	85.4	79.6	76.6	75.6
65°	84.4	78.6	75.9	74.9
67°	83.0	77.9	75.2	74.5
67.5°	82.3	77.6	75.2	74.2
70°	80.6	76.6	73.9	72.8
72.5°	76.9	73.5	70.8	70.1
75°	72.8	69.8	68.1	67.4
77.5°	68.1	65.4	63.4	61.7
80°	61.0	57.9	54.9	54.2
82.5°	51.8	48.5	46.1	45.7
85°	41.7	39.0	36.3	36.3
87.5°	29.1	27.4	25.8	24.1
90°	0.0	0.0	0.0	0.0

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