

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: P146851

Luminaire Tested: **LDRL-T4-E02-E-7050**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P146851
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-E02-E-7050
Description: RL LED ROADWAY LARGE CUTOFF COBRAHEAD LUMINAIRE
(2) LIGHTBARS WITH AccuLED OPTICS - TYPE 4 SHORT
Light Source: (42) 5000K CCT, 70 CRI LEDs
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 6030.6 lumens
Efficiency: N/A
Efficacy: 115.8 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

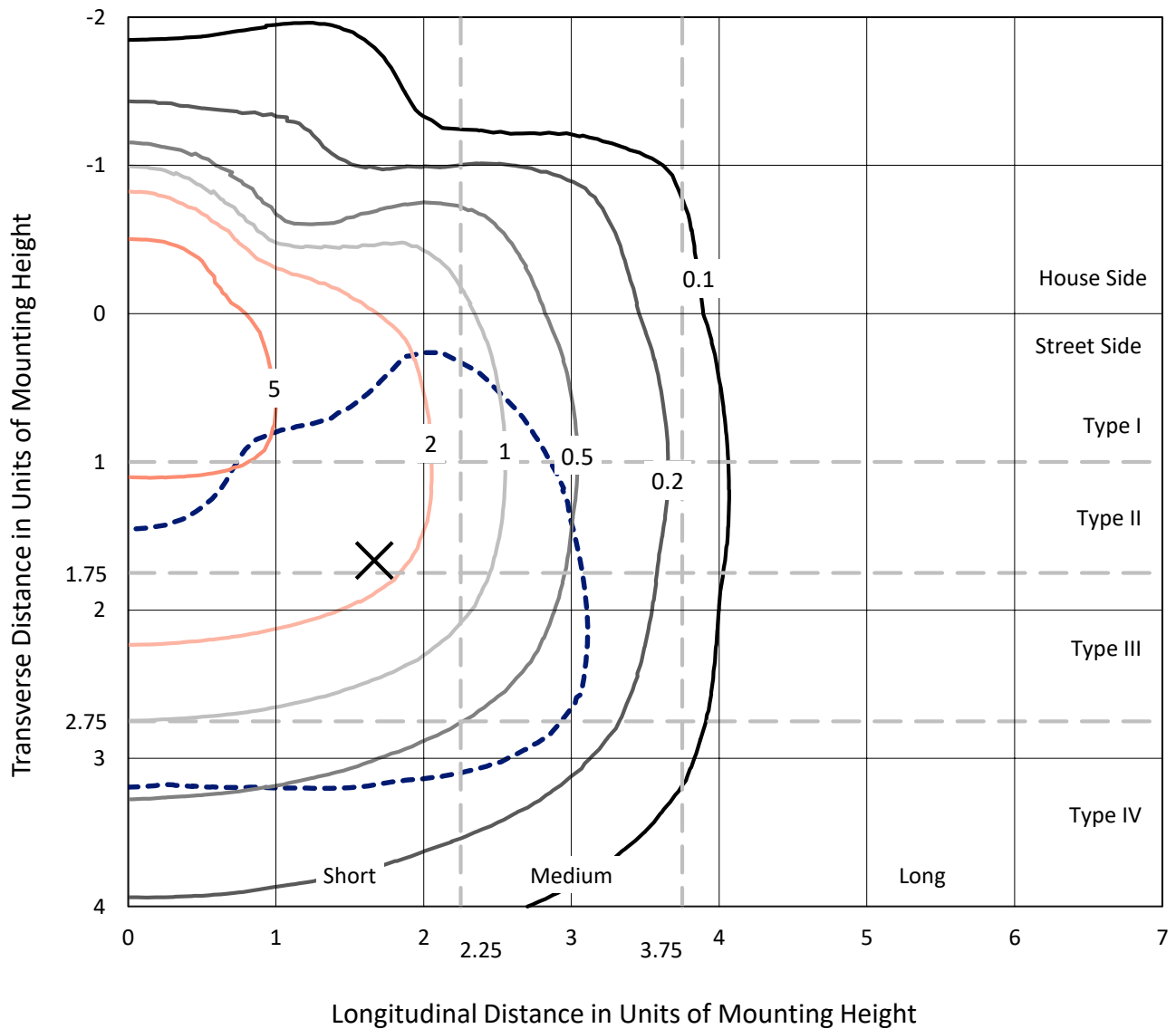
Input Watts (W): 52.1
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

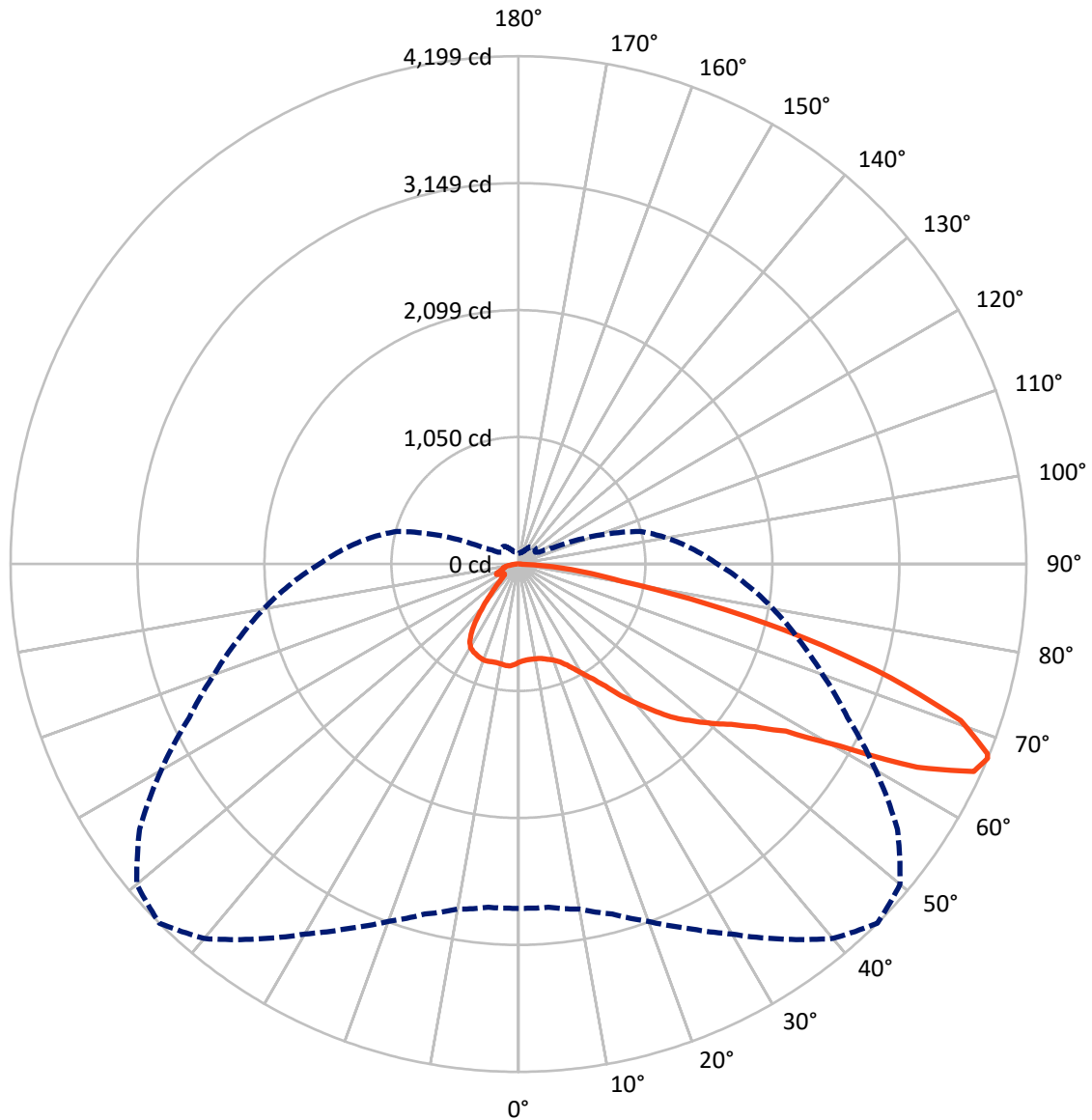
✕ Max cd
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 8.3 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
House Side	Lumens	1222.0	0.0	1222.0
	% Fixture	20.3	0.0	20.3
Street Side	Lumens	4808.7	0.0	4808.7
	% Fixture	79.7	0.0	79.7
Total	Lumens	6030.6	0.0	6030.6
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	78.2	1.3
10°-20°	235.0	3.9
20°-30°	399.3	6.6
30°-40°	600.2	10.0
40°-50°	780.4	12.9
50°-60°	1071.4	17.8
60°-70°	1690.2	28.0
70°-80°	1021.2	16.9
80°-90°	154.7	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°	6030.6	100.0
0°-180°	6030.6	100.0



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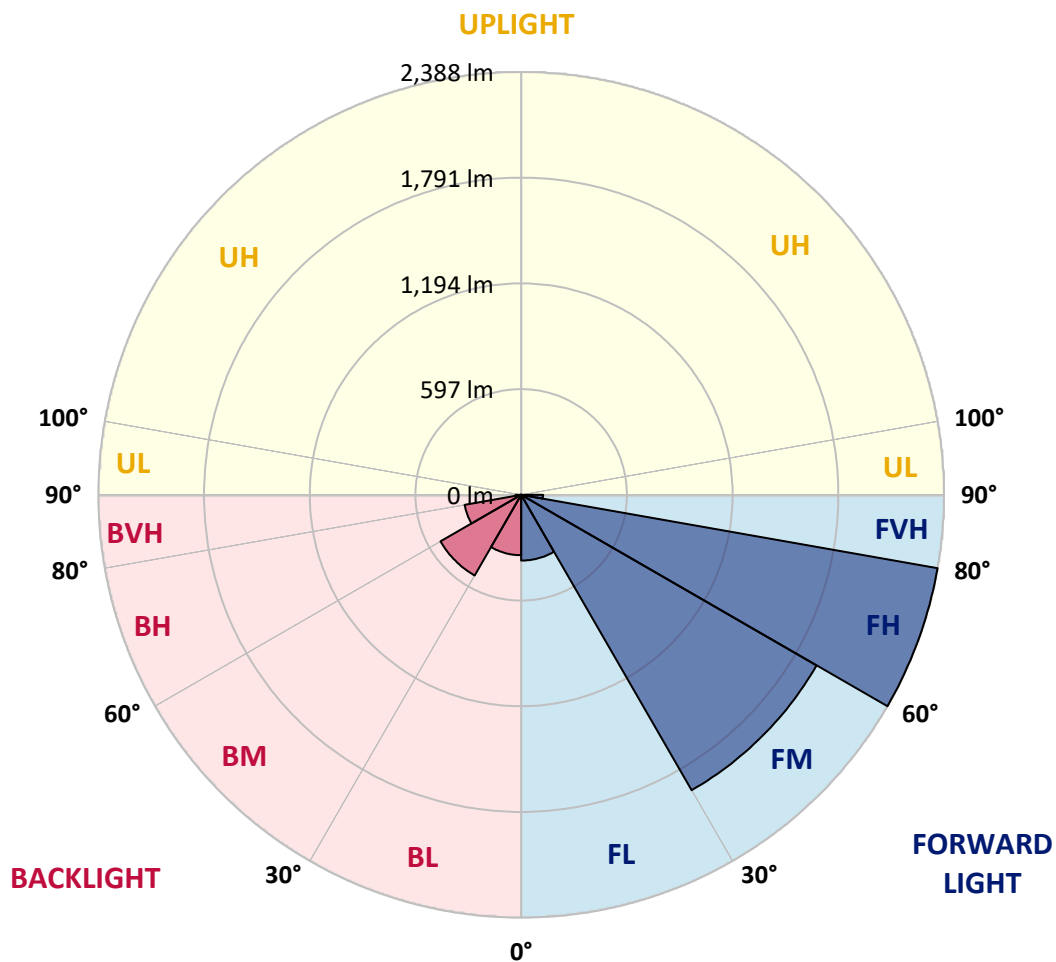
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	371.4	6.2			
FM	(30°-60°)	1926.1	31.9			
FH	(60°-80°)	2387.6	39.6			G2/5000
FVH	(80°-90°)	123.5	2.0			G2/225
BL	(0°-30°)	341.2	5.7	B1/500		
BM	(30°-60°)	525.8	8.7	B1/1000		
BH	(60°-80°)	323.8	5.4	B1/500		G1/500
BVH	(80°-90°)	31.2	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°	811.9	811.9	811.9	811.9	811.9	811.9	811.9	811.9	811.9	811.9	811.9
2.5°	793.8	795.4	794.2	794.2	794.6	795.0	795.8	797.5	797.9	800.4	800.8
5°	777.8	778.2	778.2	778.6	781.1	783.1	785.2	788.0	790.5	795.0	797.9
7.5°	772.0	773.7	773.3	774.1	776.6	778.6	781.1	785.2	791.3	795.0	799.1
10°	781.5	782.7	781.5	781.9	782.3	784.4	785.2	788.0	793.0	796.3	800.0
12.5°	803.2	803.2	802.0	801.2	800.0	800.4	798.7	798.3	800.8	801.2	801.6
15°	832.0	835.2	831.1	827.9	826.2	824.6	819.2	817.2	816.8	813.1	809.4
17.5°	861.1	861.9	859.5	855.8	853.3	849.6	845.1	841.0	836.1	830.3	822.9
20°	893.5	893.9	890.7	885.3	882.5	877.9	872.2	865.2	859.1	850.0	841.8
22.5°	938.7	938.3	931.7	927.2	923.1	917.7	909.5	900.1	890.2	879.6	868.1
25°	990.4	990.4	985.9	978.5	976.4	968.6	959.6	948.5	938.3	923.1	909.1
27.5°	1049.5	1049.9	1041.7	1037.6	1033.1	1024.9	1018.7	1010.1	996.1	981.0	966.6
30°	1119.7	1117.6	1111.1	1102.4	1100.8	1094.2	1085.6	1079.5	1062.2	1051.6	1035.5
32.5°	1186.2	1189.5	1187.8	1178.0	1179.6	1173.0	1165.7	1161.1	1143.1	1132.8	1118.0
35°	1285.5	1288.4	1290.8	1287.1	1289.2	1285.5	1279.3	1267.4	1252.7	1239.1	1218.6
37.5°	1362.7	1365.5	1367.2	1376.2	1389.3	1402.1	1407.8	1401.7	1402.5	1382.0	1354.5
40°	1425.9	1432.9	1442.7	1459.9	1486.2	1510.4	1523.6	1533.8	1539.2	1519.9	1484.2
42.5°	1489.1	1496.5	1510.0	1537.5	1573.6	1608.5	1636.0	1667.6	1673.4	1668.4	1638.1
45°	1555.2	1563.8	1580.6	1611.8	1654.1	1699.6	1744.0	1788.7	1811.3	1815.0	1778.0
47.5°	1634.8	1647.1	1662.7	1698.0	1739.0	1790.3	1845.8	1903.2	1938.5	1938.5	1895.8
50°	1734.1	1748.1	1761.2	1796.5	1837.5	1890.5	1954.5	2018.6	2066.6	2069.4	2017.7
52.5°	1873.3	1875.3	1883.1	1915.5	1951.2	2010.3	2071.1	2145.4	2200.8	2203.3	2143.7
55°	2042.4	2042.4	2051.4	2078.5	2111.7	2160.6	2223.4	2305.9	2364.1	2376.9	2300.5
57.5°	2264.8	2273.0	2277.5	2309.1	2331.7	2383.4	2436.0	2525.9	2600.2	2608.4	2530.8
60°	2626.8	2611.2	2636.3	2664.2	2717.1	2754.9	2844.4	2934.7	3029.5	3052.0	2968.7
62.5°	2983.5	3000.3	3031.1	3081.6	3172.3	3256.9	3384.9	3522.0	3669.4	3699.7	3636.1
65°	3005.7	3015.9	3058.6	3145.6	3269.6	3420.2	3596.7	3803.2	4022.7	4136.4	4029.7
67°	2846.4	2849.3	2897.7	2996.6	3145.2	3323.8	3532.7	3784.7	4042.4	4198.8	4119.2
67.5°	2795.9	2801.3	2848.9	2949.8	3100.1	3282.7	3495.7	3754.7	4018.6	4182.0	4110.2
70°	2499.6	2499.6	2550.9	2652.7	2793.5	2971.6	3194.5	3455.9	3742.8	3880.3	3819.2
72.5°	2127.7	2114.2	2172.1	2249.2	2364.1	2519.7	2699.1	2905.5	3121.4	3221.6	3197.3
75°	1546.5	1572.0	1602.0	1659.0	1758.7	1881.5	1986.5	2170.8	2340.3	2451.2	2422.0
77.5°	843.9	853.7	936.6	970.7	1058.1	1149.2	1264.6	1393.9	1527.3	1597.0	1568.7
80°	501.6	520.9	570.1	610.7	657.9	727.3	811.0	839.4	865.6	864.0	812.7
82.5°	316.9	340.3	393.6	428.5	453.1	493.4	538.9	574.6	582.4	543.8	484.3
85°	51.3	85.0	222.0	261.0	276.6	298.4	332.0	347.2	324.2	283.2	293.5
87.5°	20.1	24.2	67.7	85.8	90.7	47.6	82.5	96.9	49.3	25.0	56.6
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°	811.9	811.9	811.9	811.9	811.9	811.9	811.9	811.9	811.9	811.9	811.9
2.5°	803.2	805.3	807.3	809.8	810.6	812.7	816.4	816.0	818.8	820.1	822.1
5°	801.6	806.1	809.4	813.9	815.5	820.1	825.0	826.6	830.3	833.2	835.7
7.5°	804.9	809.8	813.9	819.2	822.9	826.6	830.3	834.8	838.1	840.2	841.8
10°	806.1	811.4	816.4	820.9	825.0	827.9	832.0	835.7	838.9	840.2	840.6
12.5°	806.5	810.2	815.1	820.1	823.8	827.5	830.3	834.4	836.9	837.3	836.5
15°	809.8	810.2	813.5	819.2	822.9	826.6	828.7	830.7	832.4	831.1	829.9
17.5°	819.7	816.8	816.8	819.7	821.7	823.3	823.8	823.3	821.7	819.2	817.2
20°	835.7	829.9	825.4	823.8	820.5	816.4	811.0	806.1	800.0	797.1	796.7
22.5°	860.7	852.1	843.9	835.7	825.0	813.1	800.8	790.1	781.5	777.0	777.4
25°	903.4	890.7	881.2	866.9	849.6	832.8	816.8	802.4	792.2	783.9	785.6
27.5°	960.8	946.5	938.3	921.9	902.2	880.8	861.9	842.2	827.5	817.2	819.2
30°	1028.2	1024.1	1010.5	994.1	975.6	951.4	923.1	893.5	866.9	850.0	846.7
32.5°	1109.4	1104.9	1090.1	1076.2	1052.4	1025.7	988.8	942.0	900.1	868.1	854.1
35°	1209.6	1198.5	1180.4	1166.9	1140.2	1105.7	1058.1	994.9	931.3	883.3	848.4
37.5°	1334.3	1306.8	1276.9	1241.6	1202.2	1160.3	1105.3	1031.4	952.6	884.5	822.5
40°	1453.4	1409.0	1359.4	1303.6	1255.5	1205.1	1148.0	1063.5	967.0	875.9	783.5
42.5°	1585.9	1517.0	1449.7	1372.9	1309.7	1249.8	1184.5	1086.0	969.9	852.5	733.0
45°	1713.6	1624.9	1534.6	1439.8	1359.4	1292.9	1218.6	1105.3	969.1	827.9	683.0
47.5°	1827.3	1721.4	1609.8	1503.0	1409.5	1336.4	1255.1	1131.6	980.1	820.9	649.7
50°	1933.6	1811.3	1680.4	1561.7	1459.9	1385.2	1301.5	1173.0	1014.2	836.9	644.8
52.5°	2043.2	1910.2	1760.4	1632.7	1526.4	1439.8	1355.3	1226.0	1061.8	869.7	655.9
55°	2186.0	2033.3	1873.7	1732.1	1610.2	1517.0	1419.3	1290.0	1113.1	907.9	676.8
57.5°	2398.6	2220.1	2038.7	1886.4	1745.6	1629.5	1522.3	1374.2	1198.1	965.4	722.8
60°	2780.3	2582.5	2372.4	2173.3	2011.2	1875.3	1739.0	1555.2	1354.9	1095.9	828.3
62.5°	3403.8	3130.0	2839.4	2577.6	2354.7	2170.8	1978.7	1757.9	1524.4	1254.3	987.9
65°	3778.5	3400.9	3031.1	2727.4	2463.9	2228.3	1996.0	1758.7	1532.6	1296.6	1059.8
67°	3824.9	3410.8	3001.6	2678.1	2395.8	2139.2	1887.2	1644.6	1442.3	1244.5	1040.1
67.5°	3811.0	3391.1	2973.7	2646.9	2361.7	2113.4	1865.5	1617.1	1420.1	1222.3	1025.3
70°	3536.0	3125.1	2712.2	2394.5	2121.2	1867.1	1632.7	1384.0	1231.7	1090.1	919.8
72.5°	2934.7	2614.1	2268.1	2003.4	1767.4	1547.4	1341.3	1133.2	1010.9	910.8	790.9
75°	2176.2	1882.3	1589.6	1430.4	1247.3	1071.3	912.0	758.1	710.9	687.1	616.5
77.5°	1343.8	1079.9	859.5	715.4	568.9	445.7	354.6	288.5	300.9	350.1	372.7
80°	669.0	494.2	382.5	304.1	245.9	198.7	145.7	106.7	127.6	151.5	171.6
82.5°	402.6	318.1	251.6	213.0	173.2	133.8	94.8	72.2	80.0	107.5	118.2
85°	250.0	200.3	160.1	133.8	110.8	82.1	53.8	53.4	56.6	71.4	81.7
87.5°	73.5	49.7	39.4	41.0	45.6	37.8	28.3	24.2	30.0	41.0	46.0
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°	811.9	811.9	811.9	811.9	811.9	811.9	811.9	811.9	811.9	811.9	811.9
2.5°	822.5	825.4	826.6	827.0	827.5	829.9	829.9	832.4	833.2	833.2	834.0
5°	838.1	841.0	842.2	842.6	843.5	844.7	844.3	845.9	846.7	846.3	846.3
7.5°	843.9	844.7	844.7	845.9	847.2	845.9	845.1	845.9	845.5	845.9	845.9
10°	841.8	841.0	841.0	840.2	841.4	838.9	838.9	839.8	839.4	840.2	841.4
12.5°	836.9	836.5	835.2	834.8	836.5	834.8	835.2	836.5	837.3	838.9	841.0
15°	829.9	828.7	828.7	830.3	834.4	835.7	837.3	839.4	839.8	840.6	841.4
17.5°	818.0	820.1	825.0	830.7	838.5	841.4	842.2	841.0	836.9	833.6	830.3
20°	801.6	810.6	823.3	835.7	845.1	844.7	839.4	831.6	821.7	814.7	810.2
22.5°	787.6	805.3	825.0	839.8	845.9	838.1	825.8	813.9	802.4	792.2	783.1
25°	797.5	814.3	831.1	840.2	839.8	826.2	809.8	796.7	781.1	766.7	751.5
27.5°	829.5	839.8	844.7	841.8	833.2	815.1	797.1	778.6	758.5	741.3	723.6
30°	851.3	851.3	846.3	834.8	819.7	799.5	777.4	753.6	729.8	709.7	689.5
32.5°	844.3	828.3	813.9	798.3	781.1	759.3	733.9	708.0	680.9	657.5	640.3
35°	813.9	779.4	749.5	727.3	709.2	683.4	653.8	624.3	602.1	586.1	576.3
37.5°	759.7	704.7	661.2	634.1	606.2	579.5	545.5	531.9	512.2	502.4	498.7
40°	694.1	613.6	559.0	524.1	494.6	461.3	438.4	429.7	422.3	420.3	418.7
42.5°	618.5	518.0	453.1	417.0	381.3	357.1	346.8	341.5	340.3	340.3	342.3
45°	540.1	420.7	346.0	316.9	287.3	274.6	272.1	269.7	270.1	268.8	269.7
47.5°	479.4	337.8	261.0	234.4	219.2	215.1	212.2	211.4	211.4	209.3	206.9
50°	447.8	282.4	204.8	183.9	175.3	172.4	172.4	170.7	167.5	165.4	160.1
52.5°	439.6	253.7	177.3	159.3	151.9	149.4	146.9	144.5	139.6	135.0	128.9
55°	446.2	244.6	168.7	151.9	143.7	140.8	138.7	134.6	127.6	121.1	114.1
57.5°	473.7	250.4	172.0	153.9	146.5	144.5	142.4	136.3	127.6	118.2	110.4
60°	548.8	277.5	185.9	165.0	158.8	159.3	156.4	148.6	136.3	122.7	111.2
62.5°	645.6	315.2	204.0	180.6	179.8	183.9	183.9	170.3	150.2	129.7	114.1
65°	701.0	327.1	206.5	182.6	189.6	201.5	200.7	182.6	155.1	129.7	112.9
67°	687.1	314.4	196.2	170.7	179.0	192.5	190.9	173.6	147.8	124.4	109.6
67.5°	676.0	310.3	193.7	167.9	176.1	187.2	187.2	169.9	144.5	122.7	108.4
70°	595.1	274.2	181.4	156.8	156.8	159.7	157.6	145.3	128.1	112.9	103.4
72.5°	496.2	239.7	171.6	149.0	141.2	139.6	136.7	128.1	117.0	106.3	98.1
75°	384.6	212.2	163.8	140.8	130.5	126.8	124.0	117.4	108.8	99.7	92.8
77.5°	269.3	181.8	153.5	133.8	122.7	119.8	115.3	107.9	101.0	93.2	86.6
80°	167.0	150.2	133.8	120.7	109.2	105.1	99.3	92.8	87.0	82.5	77.6
82.5°	119.0	110.4	99.7	92.8	80.9	68.5	73.5	73.9	70.2	67.3	66.1
85°	79.6	71.8	66.5	60.3	53.4	48.0	49.3	52.9	53.4	52.1	52.1
87.5°	43.5	36.9	35.7	36.9	32.0	30.4	30.8	34.1	34.5	34.5	34.9
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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 CATALOG NUMBER: LDRL-T4-E02-E-7050

CANDELA DISTRIBUTION (continued):

	165°	170°	175°	180°
0°	811.9	811.9	811.9	811.9
2.5°	834.4	835.7	835.2	836.1
5°	847.2	848.0	847.6	848.0
7.5°	845.1	846.7	847.6	846.3
10°	841.8	844.3	845.9	845.9
12.5°	842.6	846.7	849.2	849.2
15°	841.8	845.1	845.9	845.9
17.5°	829.1	829.1	829.5	827.9
20°	806.9	804.5	803.6	800.8
22.5°	775.3	769.6	765.9	763.8
25°	739.2	730.2	724.4	721.1
27.5°	709.2	701.4	695.7	692.4
30°	676.0	667.0	663.7	661.2
32.5°	628.0	619.4	616.9	614.8
35°	565.6	562.7	556.1	551.6
37.5°	493.4	489.7	487.2	485.6
40°	417.8	418.2	416.2	412.5
42.5°	342.3	346.4	342.3	341.5
45°	268.8	273.4	273.4	274.6
47.5°	207.3	206.5	208.1	208.5
50°	156.8	154.3	153.5	152.3
52.5°	124.4	121.5	119.8	117.8
55°	109.6	106.3	104.7	104.3
57.5°	104.7	100.6	98.1	97.7
60°	103.4	97.7	94.4	93.6
62.5°	103.4	96.5	92.8	91.5
65°	102.2	95.2	91.9	90.7
67°	100.6	94.4	91.1	90.3
67.5°	99.7	94.0	91.1	89.9
70°	97.7	92.8	89.5	88.2
72.5°	93.2	89.1	85.8	85.0
75°	88.2	84.6	82.5	81.7
77.5°	82.5	79.2	76.8	74.7
80°	73.9	70.2	66.5	65.7
82.5°	62.8	58.7	55.8	55.4
85°	50.5	47.2	43.9	43.9
87.5°	35.3	33.2	31.2	29.1
90°	0.0	0.0	0.0	0.0

(END OF REPORT)