

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: P146849

Luminaire Tested: **LDRL-T4-E02-E-7030**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P146849
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-7030
Description: RL LED ROADWAY LARGE CUTOFF COBRAHEAD LUMINAIRE
(2) LIGHTBARS WITH AccuLED OPTICS - TYPE 4 SHORT
Light Source: (42) 3000K CCT, 70 CRI LEDs
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 5368 lumens
Efficiency: N/A
Efficacy: 103.0 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

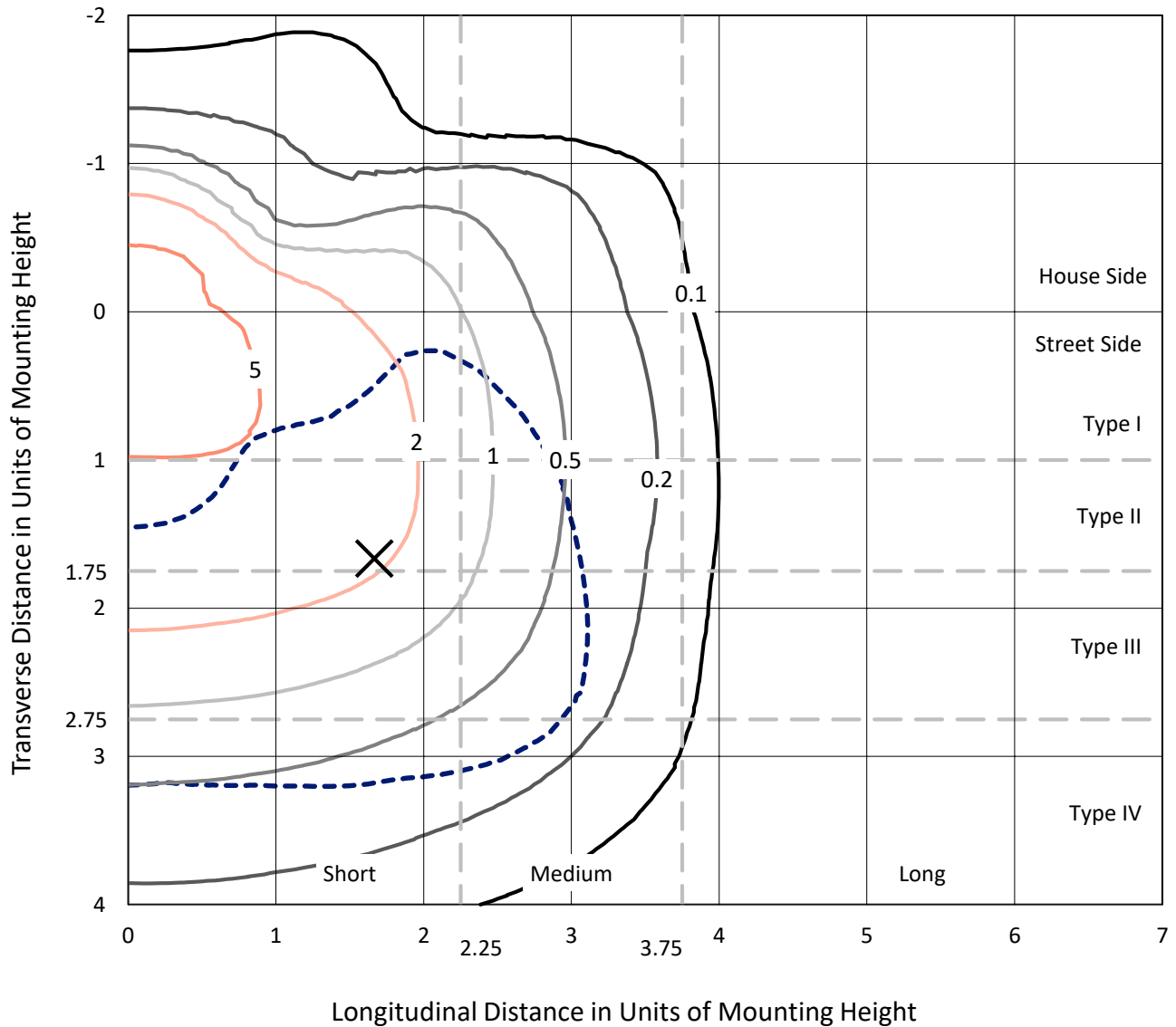
Input Watts (W): 52.1
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

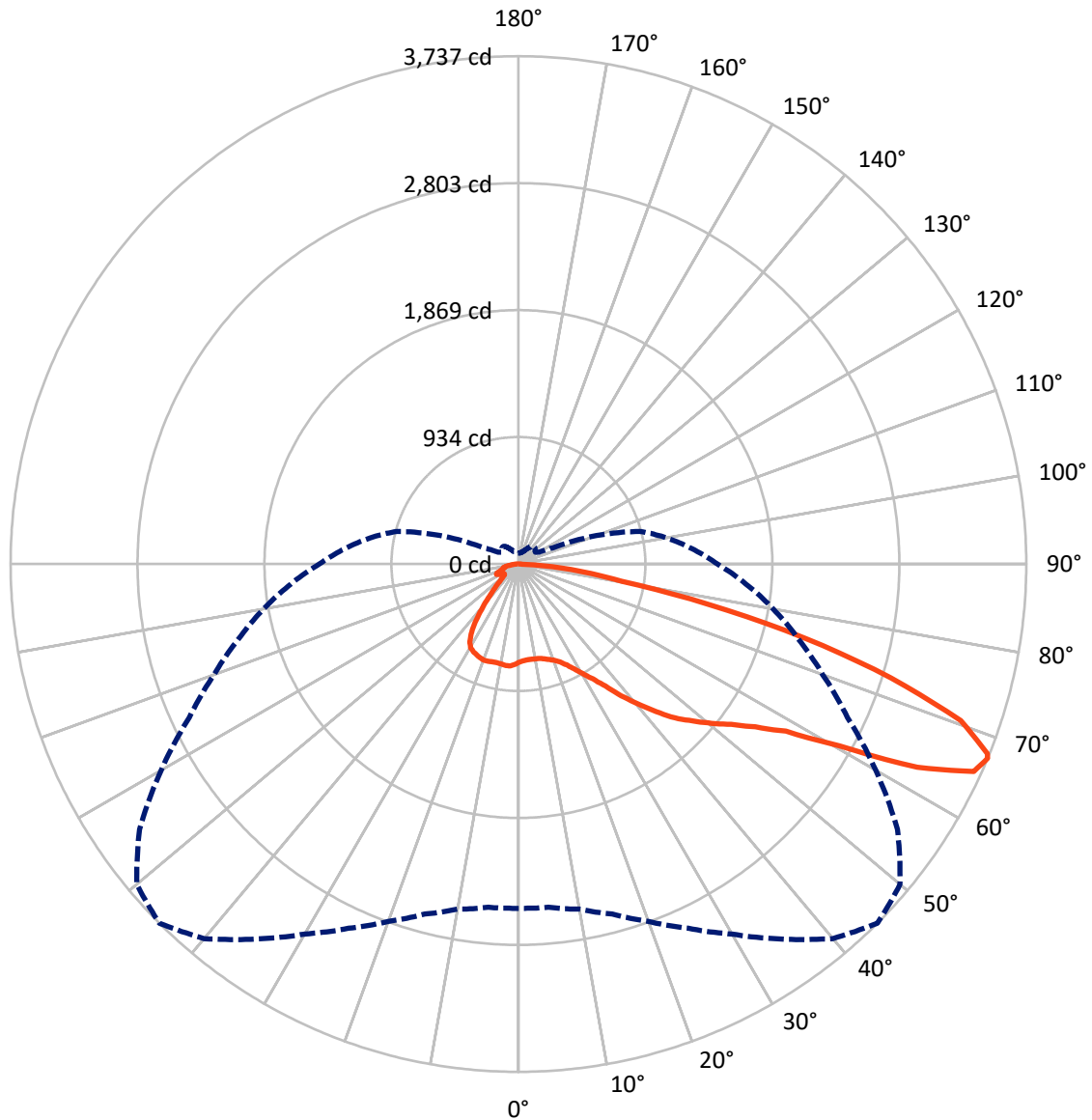
✕ Max cd
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 7.4 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	1087.7	0.0	1087.7
	% Fixture	20.3	0.0	20.3
Street Side	Lumens	4280.3	0.0	4280.3
	% Fixture	79.7	0.0	79.7
Total	Lumens	5368.0	0.0	5368.0
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	69.7	1.3
10°-20°	209.1	3.9
20°-30°	355.5	6.6
30°-40°	534.2	10.0
40°-50°	694.6	12.9
50°-60°	953.7	17.8
60°-70°	1504.5	28.0
70°-80°	909.0	16.9
80°-90°	137.7	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°	5368.0	100.0
0°-180°	5368.0	100.0



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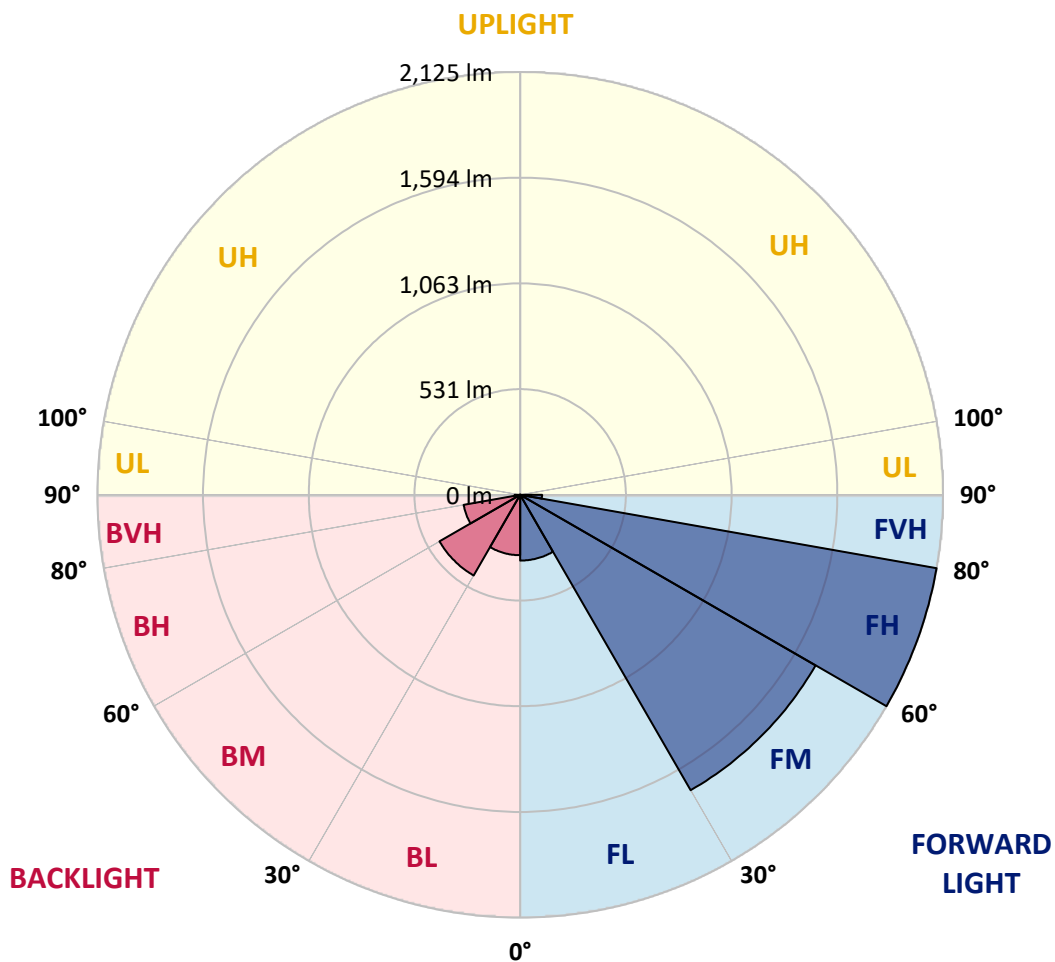
CATALOG NUMBER: LDRL-T4-E02-E-7030

LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	330.6	6.2			
FM	(30°-60°)	1714.5	31.9			
FH	(60°-80°)	2125.3	39.6			G2/5000
FVH	(80°-90°)	110.0	2.0			G2/225
BL	(0°-30°)	303.7	5.7	B1/500		
BM	(30°-60°)	468.1	8.7	B1/1000		
BH	(60°-80°)	288.2	5.4	B1/500		G1/500
BVH	(80°-90°)	27.7	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°	722.6	722.6	722.6	722.6	722.6	722.6	722.6	722.6	722.6	722.6	722.6
2.5°	706.6	708.0	706.9	706.9	707.3	707.7	708.4	709.9	710.2	712.4	712.8
5°	692.3	692.7	692.7	693.1	695.2	697.1	698.9	701.5	703.6	707.7	710.2
7.5°	687.2	688.7	688.3	689.0	691.2	693.1	695.2	698.9	704.4	707.7	711.3
10°	695.6	696.7	695.6	696.0	696.3	698.2	698.9	701.5	705.8	708.8	712.0
12.5°	715.0	715.0	713.9	713.1	712.0	712.4	711.0	710.6	712.8	713.1	713.5
15°	740.5	743.5	739.8	736.9	735.4	734.0	729.2	727.4	727.0	723.7	720.5
17.5°	766.5	767.2	765.0	761.7	759.5	756.3	752.2	748.6	744.2	739.1	732.5
20°	795.3	795.7	792.8	788.0	785.5	781.5	776.3	770.1	764.7	756.6	749.3
22.5°	835.5	835.2	829.3	825.3	821.6	816.9	809.6	801.2	792.4	782.9	772.7
25°	881.6	881.6	877.5	871.0	869.1	862.2	854.2	844.3	835.2	821.6	809.2
27.5°	934.2	934.5	927.2	923.6	919.6	912.3	906.8	899.1	886.7	873.2	860.4
30°	996.6	994.8	989.0	981.3	979.8	974.0	966.3	960.8	945.5	936.0	921.8
32.5°	1055.8	1058.8	1057.3	1048.5	1050.0	1044.1	1037.6	1033.5	1017.5	1008.3	995.2
35°	1144.2	1146.8	1149.0	1145.7	1147.5	1144.2	1138.8	1128.2	1115.0	1103.0	1084.7
37.5°	1212.9	1215.5	1216.9	1225.0	1236.7	1248.0	1253.1	1247.6	1248.4	1230.1	1205.6
40°	1269.2	1275.4	1284.2	1299.5	1322.9	1344.5	1356.1	1365.3	1370.0	1352.9	1321.1
42.5°	1325.5	1332.0	1344.1	1368.6	1400.7	1431.8	1456.2	1484.4	1489.5	1485.1	1458.1
45°	1384.3	1391.9	1406.9	1434.7	1472.3	1512.9	1552.3	1592.2	1612.2	1615.5	1582.7
47.5°	1455.1	1466.1	1480.0	1511.4	1547.9	1593.6	1642.9	1694.1	1725.5	1725.5	1687.5
50°	1543.6	1556.0	1567.7	1599.1	1635.6	1682.8	1739.7	1796.7	1839.5	1842.0	1796.0
52.5°	1667.4	1669.2	1676.2	1705.0	1736.8	1789.4	1843.5	1909.6	1959.0	1961.1	1908.2
55°	1817.9	1817.9	1826.0	1850.1	1879.7	1923.2	1979.0	2052.5	2104.4	2115.7	2047.7
57.5°	2015.9	2023.3	2027.3	2055.4	2075.5	2121.5	2168.3	2248.3	2314.4	2321.7	2252.7
60°	2338.2	2324.3	2346.6	2371.4	2418.6	2452.2	2531.8	2612.2	2696.6	2716.7	2642.5
62.5°	2655.7	2670.6	2698.0	2743.0	2823.7	2899.0	3013.0	3135.0	3266.1	3293.2	3236.5
65°	2675.4	2684.5	2722.5	2800.0	2910.3	3044.4	3201.5	3385.2	3580.7	3681.9	3586.9
67°	2533.6	2536.2	2579.3	2667.3	2799.6	2958.5	3144.5	3368.8	3598.2	3737.4	3666.6
67.5°	2488.7	2493.4	2535.8	2625.7	2759.4	2922.0	3111.6	3342.1	3577.0	3722.5	3658.5
70°	2224.9	2224.9	2270.6	2361.2	2486.5	2645.1	2843.4	3076.2	3331.5	3453.9	3399.5
72.5°	1893.9	1881.9	1933.4	2002.1	2104.4	2242.8	2402.5	2586.2	2778.4	2867.6	2846.0
75°	1376.6	1399.3	1425.9	1476.7	1565.5	1674.7	1768.2	1932.3	2083.2	2181.8	2155.9
77.5°	751.1	759.9	833.7	864.0	941.8	1023.0	1125.6	1240.7	1359.4	1421.5	1396.3
80°	446.4	463.6	507.5	543.6	585.6	647.4	721.9	747.1	770.5	769.0	723.4
82.5°	282.0	302.9	350.4	381.4	403.3	439.1	479.7	511.5	518.4	484.1	431.1
85°	45.7	75.6	197.6	232.4	246.2	265.6	295.6	309.1	288.6	252.1	261.2
87.5°	17.9	21.6	60.3	76.4	80.7	42.4	73.4	86.2	43.8	22.3	50.4
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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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°	105°
0°	722.6	722.6	722.6	722.6	722.6	722.6	722.6	722.6	722.6	722.6	722.6
2.5°	715.0	716.8	718.6	720.8	721.5	723.4	726.7	726.3	728.9	729.9	731.8
5°	713.5	717.5	720.5	724.5	725.9	729.9	734.3	735.8	739.1	741.6	743.8
7.5°	716.4	720.8	724.5	729.2	732.5	735.8	739.1	743.1	746.0	747.9	749.3
10°	717.5	722.3	726.7	730.7	734.3	736.9	740.5	743.8	746.8	747.9	748.2
12.5°	717.9	721.2	725.6	729.9	733.2	736.5	739.1	742.7	744.9	745.3	744.6
15°	720.8	721.2	724.1	729.2	732.5	735.8	737.6	739.4	740.9	739.8	738.7
17.5°	729.6	727.0	727.0	729.6	731.4	732.9	733.2	732.9	731.4	729.2	727.4
20°	743.8	738.7	734.7	733.2	730.3	726.7	721.9	717.5	712.0	709.5	709.1
22.5°	766.1	758.4	751.1	743.8	734.3	723.7	712.8	703.3	695.6	691.6	692.0
25°	804.1	792.8	784.4	771.6	756.3	741.3	727.0	714.2	705.1	697.8	699.3
27.5°	855.3	842.5	835.2	820.6	803.0	784.0	767.2	749.7	736.5	727.4	729.2
30°	915.2	911.5	899.5	884.9	868.4	846.9	821.6	795.3	771.6	756.6	753.7
32.5°	987.5	983.5	970.3	957.9	936.7	913.0	880.1	838.5	801.2	772.7	760.3
35°	1076.7	1066.8	1050.7	1038.7	1014.9	984.2	941.8	885.6	829.0	786.2	755.2
37.5°	1187.7	1163.2	1136.6	1105.2	1070.1	1032.8	983.9	918.1	848.0	787.3	732.1
40°	1293.7	1254.2	1210.0	1160.3	1117.6	1072.6	1021.9	946.6	860.7	779.6	697.4
42.5°	1411.7	1350.3	1290.4	1222.1	1165.8	1112.5	1054.4	966.7	863.3	758.8	652.5
45°	1525.3	1446.4	1366.0	1281.6	1210.0	1150.8	1084.7	983.9	862.6	736.9	607.9
47.5°	1626.5	1532.2	1432.9	1337.9	1254.6	1189.5	1117.2	1007.2	872.4	730.7	578.3
50°	1721.1	1612.2	1495.7	1390.1	1299.5	1233.0	1158.5	1044.1	902.8	744.9	573.9
52.5°	1818.7	1700.3	1566.9	1453.3	1358.7	1281.6	1206.4	1091.3	945.1	774.2	583.8
55°	1945.8	1809.9	1667.8	1541.7	1433.2	1350.3	1263.3	1148.3	990.8	808.1	602.4
57.5°	2135.0	1976.1	1814.6	1679.1	1553.8	1450.4	1355.0	1223.2	1066.4	859.3	643.4
60°	2474.8	2298.7	2111.7	1934.5	1790.2	1669.2	1547.9	1384.3	1206.0	975.5	737.3
62.5°	3029.8	2786.1	2527.4	2294.3	2096.0	1932.3	1761.3	1564.8	1356.9	1116.5	879.4
65°	3363.3	3027.2	2698.0	2427.7	2193.1	1983.4	1776.6	1565.5	1364.2	1154.1	943.3
67°	3404.6	3036.0	2671.7	2383.8	2132.5	1904.2	1679.8	1463.9	1283.8	1107.7	925.8
67.5°	3392.2	3018.4	2646.9	2356.1	2102.2	1881.1	1660.5	1439.4	1264.1	1088.0	912.6
70°	3147.4	2781.7	2414.2	2131.4	1888.1	1661.9	1453.3	1231.9	1096.4	970.3	818.7
72.5°	2612.2	2326.9	2018.9	1783.2	1573.2	1377.3	1193.9	1008.7	899.8	810.7	704.0
75°	1937.0	1675.4	1415.0	1273.2	1110.3	953.5	811.8	674.8	632.8	611.6	548.7
77.5°	1196.1	961.2	765.0	636.8	506.4	396.8	315.7	256.8	267.8	311.6	331.7
80°	595.5	439.9	340.5	270.7	218.8	176.8	129.7	95.0	113.6	134.8	152.7
82.5°	358.4	283.1	224.0	189.6	154.2	119.1	84.4	64.3	71.2	95.7	105.2
85°	222.5	178.3	142.5	119.1	98.6	73.1	47.9	47.5	50.4	63.6	72.7
87.5°	65.4	44.2	35.1	36.5	40.6	33.6	25.2	21.6	26.7	36.5	40.9
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°	722.6	722.6	722.6	722.6	722.6	722.6	722.6	722.6	722.6	722.6	722.6
2.5°	732.1	734.7	735.8	736.2	736.5	738.7	738.7	740.9	741.6	741.6	742.4
5°	746.0	748.6	749.7	750.0	750.8	751.9	751.5	753.0	753.7	753.3	753.3
7.5°	751.1	751.9	751.9	753.0	754.1	753.0	752.2	753.0	752.6	753.0	753.0
10°	749.3	748.6	748.6	747.9	748.9	746.8	746.8	747.5	747.1	747.9	748.9
12.5°	744.9	744.6	743.5	743.1	744.6	743.1	743.5	744.6	745.3	746.8	748.6
15°	738.7	737.6	737.6	739.1	742.7	743.8	745.3	747.1	747.5	748.2	748.9
17.5°	728.1	729.9	734.3	739.4	746.4	748.9	749.7	748.6	744.9	742.0	739.1
20°	713.5	721.5	732.9	743.8	752.2	751.9	747.1	740.2	731.4	725.2	721.2
22.5°	701.1	716.8	734.3	747.5	753.0	746.0	735.1	724.5	714.2	705.1	697.1
25°	709.9	724.8	739.8	747.9	747.5	735.4	720.8	709.1	695.2	682.5	668.9
27.5°	738.4	747.5	751.9	749.3	741.6	725.6	709.5	693.1	675.1	659.8	644.1
30°	757.7	757.7	753.3	743.1	729.6	711.7	692.0	670.8	649.6	631.7	613.8
32.5°	751.5	737.3	724.5	710.6	695.2	675.9	653.2	630.2	606.1	585.3	569.9
35°	724.5	693.8	667.1	647.4	631.3	608.3	582.0	555.7	536.0	521.7	512.9
37.5°	676.2	627.3	588.6	564.5	539.6	515.9	485.5	473.5	455.9	447.2	443.9
40°	617.8	546.2	497.6	466.5	440.2	410.6	390.2	382.5	375.9	374.1	372.6
42.5°	550.6	461.1	403.3	371.2	339.4	317.8	308.7	304.0	302.9	302.9	304.7
45°	480.8	374.5	308.0	282.0	255.7	244.4	242.2	240.0	240.4	239.3	240.0
47.5°	426.7	300.7	232.4	208.6	195.1	191.4	188.9	188.2	188.2	186.3	184.1
50°	398.6	251.4	182.3	163.7	156.0	153.4	153.4	152.0	149.1	147.2	142.5
52.5°	391.3	225.8	157.8	141.8	135.2	133.0	130.8	128.6	124.2	120.2	114.7
55°	397.1	217.7	150.2	135.2	127.9	125.3	123.5	119.8	113.6	107.8	101.6
57.5°	421.6	222.9	153.1	137.0	130.4	128.6	126.8	121.3	113.6	105.2	98.3
60°	488.5	247.0	165.5	146.9	141.4	141.8	139.2	132.3	121.3	109.2	99.0
62.5°	574.7	280.6	181.6	160.7	160.0	163.7	163.7	151.6	133.7	115.4	101.6
65°	624.0	291.2	183.8	162.6	168.8	179.4	178.7	162.6	138.1	115.4	100.5
67°	611.6	279.9	174.6	152.0	159.3	171.3	169.9	154.5	131.5	110.7	97.5
67.5°	601.7	276.2	172.4	149.4	156.7	166.6	166.6	151.3	128.6	109.2	96.4
70°	529.7	244.0	161.5	139.6	139.6	142.1	140.3	129.3	114.0	100.5	92.1
72.5°	441.7	213.4	152.7	132.6	125.7	124.2	121.7	114.0	104.1	94.6	87.3
75°	342.3	188.9	145.8	125.3	116.2	112.9	110.3	104.5	96.8	88.8	82.6
77.5°	239.7	161.8	136.6	119.1	109.2	106.7	102.7	96.1	89.9	82.9	77.1
80°	148.7	133.7	119.1	107.4	97.2	93.5	88.4	82.6	77.5	73.4	69.0
82.5°	105.9	98.3	88.8	82.6	72.0	61.0	65.4	65.8	62.5	59.9	58.8
85°	70.9	63.9	59.2	53.7	47.5	42.7	43.8	47.1	47.5	46.4	46.4
87.5°	38.7	32.9	31.8	32.9	28.5	27.0	27.4	30.3	30.7	30.7	31.1
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-7030

CANDELA DISTRIBUTION (continued):

	165°	170°	175°	180°
0°	722.6	722.6	722.6	722.6
2.5°	742.7	743.8	743.5	744.2
5°	754.1	754.8	754.4	754.8
7.5°	752.2	753.7	754.4	753.3
10°	749.3	751.5	753.0	753.0
12.5°	750.0	753.7	755.9	755.9
15°	749.3	752.2	753.0	753.0
17.5°	738.0	738.0	738.4	736.9
20°	718.3	716.1	715.3	712.8
22.5°	690.1	685.0	681.7	679.9
25°	658.0	649.9	644.8	641.9
27.5°	631.3	624.4	619.3	616.3
30°	601.7	593.7	590.8	588.6
32.5°	559.0	551.3	549.1	547.3
35°	503.4	500.9	495.0	491.0
37.5°	439.1	435.9	433.7	432.2
40°	371.9	372.3	370.5	367.2
42.5°	304.7	308.3	304.7	304.0
45°	239.3	243.3	243.3	244.4
47.5°	184.5	183.8	185.2	185.6
50°	139.6	137.4	136.6	135.5
52.5°	110.7	108.1	106.7	104.9
55°	97.5	94.6	93.2	92.8
57.5°	93.2	89.5	87.3	87.0
60°	92.1	87.0	84.0	83.3
62.5°	92.1	85.9	82.6	81.5
65°	91.0	84.8	81.8	80.7
67°	89.5	84.0	81.1	80.4
67.5°	88.8	83.7	81.1	80.0
70°	87.0	82.6	79.6	78.5
72.5°	82.9	79.3	76.4	75.6
75°	78.5	75.3	73.4	72.7
77.5°	73.4	70.5	68.3	66.5
80°	65.8	62.5	59.2	58.5
82.5°	55.9	52.2	49.7	49.3
85°	44.9	42.0	39.1	39.1
87.5°	31.4	29.6	27.8	25.9
90°	0.0	0.0	0.0	0.0

(END OF REPORT)