

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: P146883

Luminaire Tested: **LDRL-T4-F05-E-8030**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P146883  
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-F05-E-8030  
Description: RL LED ROADWAY LARGE CUTOFF COBRAHEAD LUMINAIRE  
(5) LIGHTBARS WITH AccuLED OPTICS - TYPE 4 SHORT  
Light Source: (35) 3000K CCT, 80 CRI LEDs  
Ballast/Driver: -

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 10237.2 lumens  
Efficiency: N/A  
Efficacy: 76.8 lumens/watt  
Luminous Opening: Rectangular (W 0.83' x L: 1' x H: 0')  
IES Classification: Type IV - Short - Semi-Cutoff  
BUG Rating: B2 - U0 - G2

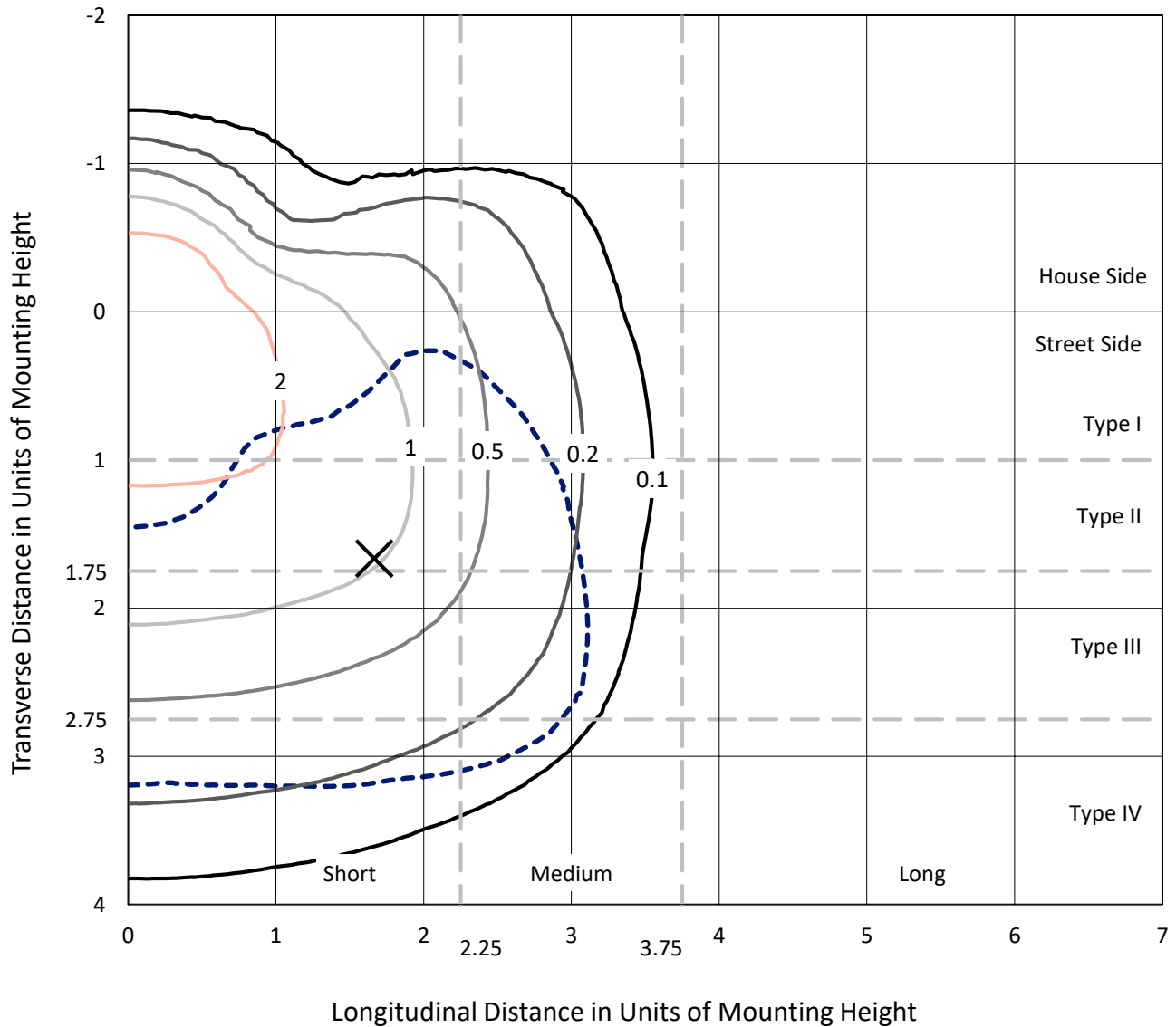
Input Watts (W): 133.3  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



REPORT NUMBER: P146883  
 CATALOG NUMBER: LDRL-T4-F05-E-8030

### Iso-Footcandle Lines of Horizontal Illumination

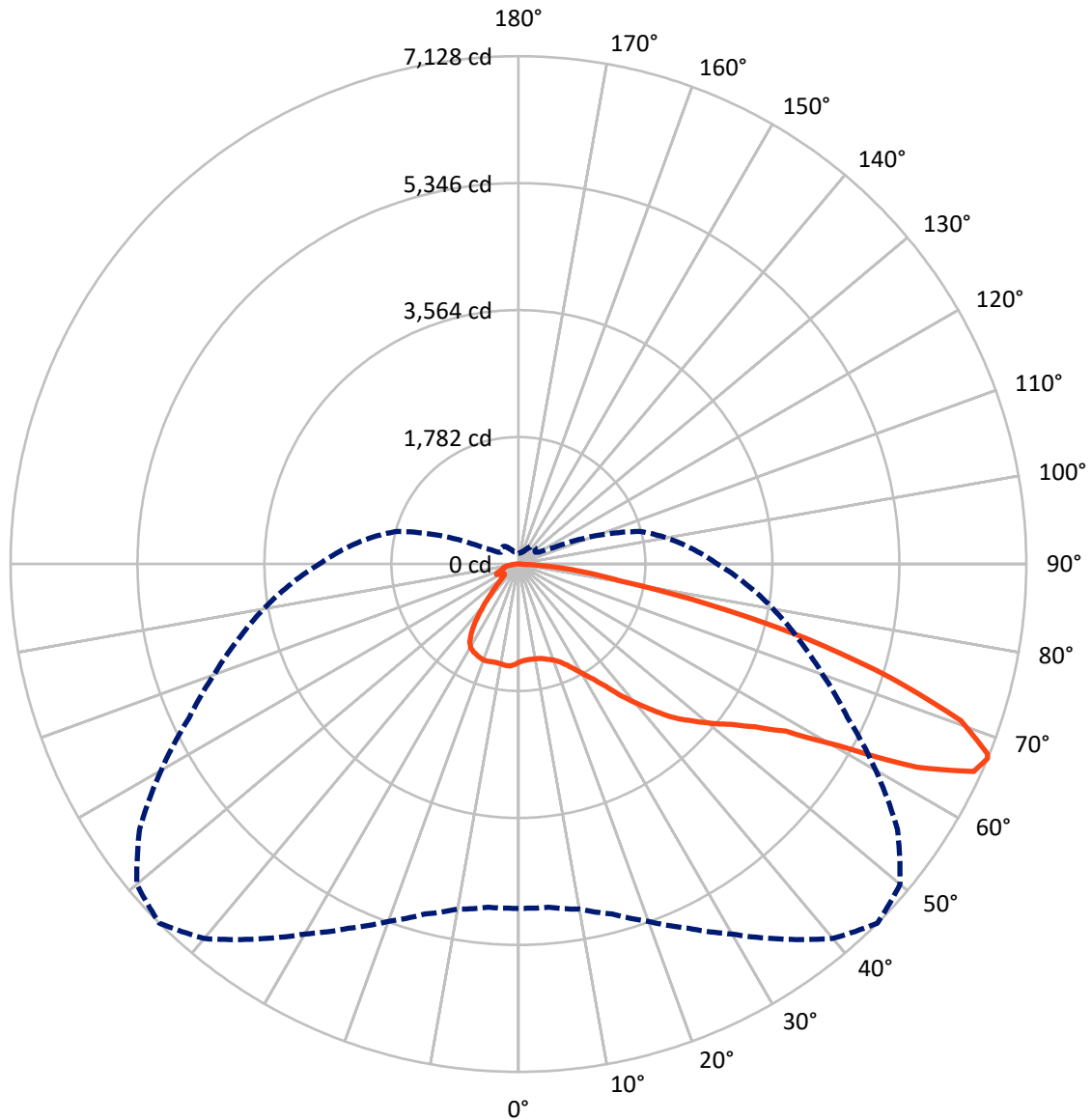
✕ Max cd  
 - - - 1/2 Max cd



Based on 20 foot mounting height. Maximum calculated value = 3.5 fc  
 Type IV - Short - Semi-Cutoff

REPORT NUMBER: P146883  
CATALOG NUMBER: LDRL-T4-F05-E-8030

### Luminous Intensity Polar Plot



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

REPORT NUMBER: P146883

CATALOG NUMBER: LDRL-T4-F05-E-8030

**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	2074.3	0.0	2074.3
	% Fixture	20.3	0.0	20.3
<b>Street Side</b>	Lumens	8162.9	0.0	8162.9
	% Fixture	79.7	0.0	79.7
<b>Total</b>	Lumens	10237.2	0.0	10237.2
	% Fixture	100.0	0.0	100.0

**Coefficient of Utilization**

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	132.8	1.3
10°-20°	398.8	3.9
20°-30°	677.9	6.6
30°-40°	1018.8	10.0
40°-50°	1324.7	12.9
50°-60°	1818.8	17.8
60°-70°	2869.1	28.0
70°-80°	1733.6	16.9
80°-90°	262.6	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°	10237.2	100.0
0°-180°	10237.2	100.0



REPORT NUMBER: P146883

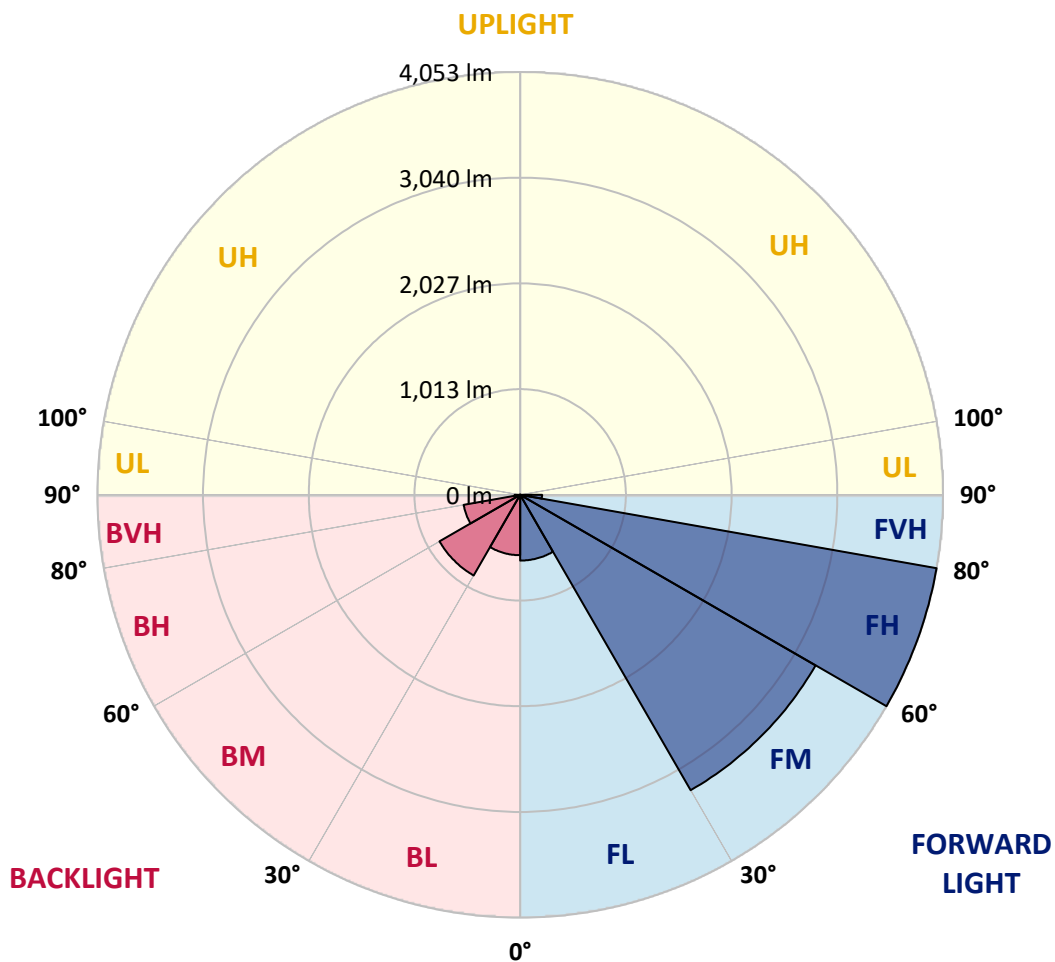
CATALOG NUMBER: LDRL-T4-F05-E-8030

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

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	630.4	6.2			
FM	(30°-60°)	3269.7	31.9			
FH	(60°-80°)	4053.1	39.6			G2/5000
FVH	(80°-90°)	209.7	2.0			G2/225
BL	(0°-30°)	579.1	5.7	B2/1000		
BM	(30°-60°)	892.6	8.7	B1/1000		
BH	(60°-80°)	549.6	5.4	B2/1000		G2/1000
BVH	(80°-90°)	52.9	0.5			G1/100
UL	(90°-100°)	0.0	0.0		U0/0	
UH	(100°-180°)	0.0	0.0		U0/0	

**BUG Rating: B2-U0-G2**

Type IV Short





REPORT NUMBER: P146883

CATALOG NUMBER: LDRL-T4-F05-E-8030

**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1378.1	1378.1	1378.1	1378.1	1378.1	1378.1	1378.1	1378.1	1378.1	1378.1	1378.1
2.5°	1347.5	1350.3	1348.2	1348.2	1348.9	1349.6	1351.0	1353.8	1354.5	1358.6	1359.3
5°	1320.3	1321.0	1321.0	1321.7	1325.9	1329.4	1332.9	1337.7	1341.9	1349.6	1354.5
7.5°	1310.6	1313.3	1312.6	1314.0	1318.2	1321.7	1325.9	1332.9	1343.3	1349.6	1356.5
10°	1326.6	1328.7	1326.6	1327.3	1328.0	1331.5	1332.9	1337.7	1346.1	1351.7	1357.9
12.5°	1363.5	1363.5	1361.4	1360.0	1357.9	1358.6	1355.8	1355.2	1359.3	1360.0	1360.7
15°	1412.3	1417.9	1410.9	1405.3	1402.5	1399.7	1390.7	1387.2	1386.5	1380.2	1374.0
17.5°	1461.8	1463.1	1459.0	1452.7	1448.5	1442.2	1434.6	1427.6	1419.3	1409.5	1397.0
20°	1516.8	1517.5	1511.9	1502.9	1498.0	1490.3	1480.6	1468.7	1458.3	1442.9	1429.0
22.5°	1593.4	1592.7	1581.6	1573.9	1567.0	1557.9	1544.0	1527.9	1511.2	1493.1	1473.6
25°	1681.2	1681.2	1673.6	1661.0	1657.5	1644.3	1629.0	1610.2	1592.7	1567.0	1543.3
27.5°	1781.6	1782.2	1768.3	1761.3	1753.7	1739.7	1729.3	1714.7	1691.0	1665.2	1640.8
30°	1900.7	1897.2	1886.1	1871.4	1868.6	1857.5	1842.9	1832.4	1803.2	1785.0	1757.9
32.5°	2013.6	2019.1	2016.4	1999.6	2002.4	1991.3	1978.7	1971.1	1940.4	1923.0	1897.9
35°	2182.2	2187.1	2191.2	2185.0	2188.4	2182.2	2171.7	2151.5	2126.4	2103.4	2068.6
37.5°	2313.2	2318.0	2320.8	2336.2	2358.4	2380.0	2389.8	2379.4	2380.7	2345.9	2299.2
40°	2420.5	2432.3	2449.0	2478.3	2522.9	2564.0	2586.3	2603.7	2612.8	2580.0	2519.4
42.5°	2527.8	2540.3	2563.3	2610.0	2671.3	2730.5	2777.2	2830.8	2840.6	2832.2	2780.7
45°	2639.9	2654.6	2683.1	2736.1	2807.8	2885.2	2960.4	3036.4	3074.7	3081.0	3018.3
47.5°	2775.1	2796.0	2822.5	2882.4	2952.1	3039.2	3133.2	3230.8	3290.7	3290.7	3218.2
50°	2943.7	2967.4	2989.7	3049.6	3119.3	3209.2	3317.9	3426.5	3508.1	3512.9	3425.2
52.5°	3179.9	3183.4	3196.6	3251.7	3312.3	3412.6	3515.7	3641.8	3735.9	3740.1	3639.0
55°	3467.0	3467.0	3482.3	3528.3	3584.7	3667.6	3774.2	3914.3	4013.2	4034.8	3905.2
57.5°	3844.6	3858.5	3866.2	3919.8	3958.2	4045.9	4135.1	4287.7	4413.8	4427.8	4296.1
60°	4459.1	4432.6	4475.1	4522.5	4612.4	4676.5	4828.4	4981.7	5142.6	5180.9	5039.5
62.5°	5064.6	5093.1	5145.4	5231.1	5385.1	5528.6	5746.0	5978.7	6228.8	6280.4	6172.4
65°	5102.2	5119.6	5192.1	5339.8	5550.2	5805.9	6105.5	6456.0	6828.7	7021.7	6840.5
67°	4831.9	4836.7	4919.0	5086.9	5339.1	5642.2	5996.8	6424.6	6862.1	7127.6	6992.4
67.5°	4746.2	4755.2	4836.0	5007.4	5262.4	5572.5	5934.1	6373.7	6821.7	7099.0	6977.1
70°	4243.1	4243.1	4330.2	4503.0	4742.0	5044.4	5422.7	5866.5	6353.5	6586.9	6483.1
72.5°	3611.9	3588.9	3687.1	3818.1	4013.2	4277.3	4581.7	4932.2	5298.7	5468.7	5427.6
75°	2625.3	2668.5	2719.4	2816.2	2985.5	3193.8	3372.2	3685.0	3972.8	4160.9	4111.4
77.5°	1432.5	1449.2	1590.0	1647.8	1796.2	1950.9	2146.6	2366.1	2592.6	2711.0	2662.9
80°	851.4	884.2	967.8	1036.7	1116.9	1234.6	1376.7	1424.8	1469.4	1466.6	1379.5
82.5°	537.9	577.6	668.2	727.4	769.2	837.5	914.8	975.4	988.7	923.2	822.1
85°	87.1	144.2	376.9	443.1	469.6	506.5	563.7	589.4	550.4	480.7	498.2
87.5°	34.1	41.1	115.0	145.6	154.0	80.8	140.0	164.4	83.6	42.5	96.1
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: P146883

CATALOG NUMBER: LDRL-T4-F05-E-8030

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°	105°
0°	1378.1	1378.1	1378.1	1378.1	1378.1	1378.1	1378.1	1378.1	1378.1	1378.1	1378.1
2.5°	1363.5	1367.0	1370.5	1374.7	1376.1	1379.5	1385.8	1385.1	1390.0	1392.1	1395.6
5°	1360.7	1368.4	1374.0	1381.6	1384.4	1392.1	1400.4	1403.2	1409.5	1414.4	1418.6
7.5°	1366.3	1374.7	1381.6	1390.7	1397.0	1403.2	1409.5	1417.2	1422.7	1426.2	1429.0
10°	1368.4	1377.4	1385.8	1393.5	1400.4	1405.3	1412.3	1418.6	1424.1	1426.2	1426.9
12.5°	1369.1	1375.4	1383.7	1392.1	1398.3	1404.6	1409.5	1416.5	1420.6	1421.3	1419.9
15°	1374.7	1375.4	1380.9	1390.7	1397.0	1403.2	1406.7	1410.2	1413.0	1410.9	1408.8
17.5°	1391.4	1386.5	1386.5	1391.4	1394.9	1397.7	1398.3	1397.7	1394.9	1390.7	1387.2
20°	1418.6	1408.8	1401.1	1398.3	1392.8	1385.8	1376.7	1368.4	1357.9	1353.1	1352.4
22.5°	1461.1	1446.4	1432.5	1418.6	1400.4	1380.2	1359.3	1341.2	1326.6	1318.9	1319.6
25°	1533.5	1511.9	1495.9	1471.5	1442.2	1413.7	1386.5	1362.1	1344.7	1330.8	1333.6
27.5°	1631.1	1606.7	1592.7	1564.9	1531.4	1495.2	1463.1	1429.7	1404.6	1387.2	1390.7
30°	1745.3	1738.4	1715.4	1687.5	1656.1	1615.0	1567.0	1516.8	1471.5	1442.9	1437.4
32.5°	1883.3	1875.6	1850.5	1826.8	1786.4	1741.1	1678.4	1599.0	1527.9	1473.6	1449.9
35°	2053.3	2034.5	2003.8	1980.8	1935.5	1877.0	1796.2	1688.9	1580.9	1499.4	1440.2
37.5°	2265.1	2218.4	2167.5	2107.6	2040.7	1969.7	1876.3	1750.9	1617.1	1501.5	1396.3
40°	2467.1	2391.9	2307.6	2212.8	2131.3	2045.6	1948.8	1805.2	1641.5	1486.8	1330.1
42.5°	2692.2	2575.1	2460.9	2330.6	2223.3	2121.6	2010.8	1843.6	1646.4	1447.1	1244.4
45°	2908.9	2758.4	2605.1	2444.1	2307.6	2194.7	2068.6	1876.3	1645.0	1405.3	1159.4
47.5°	3101.9	2922.1	2732.6	2551.4	2392.6	2268.6	2130.6	1920.9	1663.8	1393.5	1102.9
50°	3282.3	3074.7	2852.4	2651.1	2478.3	2351.5	2209.3	1991.3	1721.6	1420.6	1094.6
52.5°	3468.3	3242.6	2988.3	2771.6	2591.2	2444.1	2300.6	2081.1	1802.5	1476.4	1113.4
55°	3710.8	3451.6	3180.6	2940.2	2733.3	2575.1	2409.3	2189.8	1889.5	1541.2	1148.9
57.5°	4071.7	3768.6	3460.7	3202.2	2963.2	2766.0	2584.2	2332.7	2033.8	1638.7	1227.0
60°	4719.7	4383.9	4027.1	3689.2	3414.0	3183.4	2952.1	2639.9	2299.9	1860.3	1406.0
62.5°	5778.0	5313.3	4820.0	4375.5	3997.2	3685.0	3359.0	2984.1	2587.7	2129.2	1677.0
65°	6414.1	5773.2	5145.4	4629.8	4182.5	3782.6	3388.2	2985.5	2601.6	2201.0	1799.0
67°	6492.9	5789.9	5095.2	4546.2	4066.8	3631.4	3203.6	2791.8	2448.3	2112.5	1765.5
67.5°	6469.2	5756.4	5047.8	4493.2	4009.0	3587.5	3166.7	2745.1	2410.7	2074.9	1740.4
70°	6002.4	5304.9	4604.0	4064.8	3600.7	3169.5	2771.6	2349.4	2090.9	1850.5	1561.4
72.5°	4981.7	4437.5	3850.2	3400.8	3000.1	2626.7	2276.9	1923.7	1716.1	1546.1	1342.6
75°	3694.1	3195.2	2698.5	2428.1	2117.4	1818.5	1548.1	1286.9	1206.7	1166.3	1046.5
77.5°	2281.1	1833.1	1459.0	1214.4	965.7	756.7	602.0	489.8	510.7	594.3	632.6
80°	1135.7	838.9	649.4	516.3	417.3	337.2	247.3	181.2	216.7	257.1	291.2
82.5°	683.5	540.0	427.1	361.6	294.0	227.1	160.9	122.6	135.9	182.5	200.7
85°	424.3	340.0	271.7	227.1	188.1	139.3	91.3	90.6	96.1	121.2	138.7
87.5°	124.7	84.3	66.9	69.7	77.3	64.1	48.1	41.1	50.9	69.7	78.0
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: P146883  
 CATALOG NUMBER: LDRL-T4-F05-E-8030

**CANDELA DISTRIBUTION (continued):**

	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°	160°
0°	1378.1	1378.1	1378.1	1378.1	1378.1	1378.1	1378.1	1378.1	1378.1	1378.1	1378.1
2.5°	1396.3	1401.1	1403.2	1403.9	1404.6	1408.8	1408.8	1413.0	1414.4	1414.4	1415.8
5°	1422.7	1427.6	1429.7	1430.4	1431.8	1433.9	1433.2	1436.0	1437.4	1436.7	1436.7
7.5°	1432.5	1433.9	1433.9	1436.0	1438.1	1436.0	1434.6	1436.0	1435.3	1436.0	1436.0
10°	1429.0	1427.6	1427.6	1426.2	1428.3	1424.1	1424.1	1425.5	1424.8	1426.2	1428.3
12.5°	1420.6	1419.9	1417.9	1417.2	1419.9	1417.2	1417.9	1419.9	1421.3	1424.1	1427.6
15°	1408.8	1406.7	1406.7	1409.5	1416.5	1418.6	1421.3	1424.8	1425.5	1426.9	1428.3
17.5°	1388.6	1392.1	1400.4	1410.2	1423.4	1428.3	1429.7	1427.6	1420.6	1415.1	1409.5
20°	1360.7	1376.1	1397.7	1418.6	1434.6	1433.9	1424.8	1411.6	1394.9	1383.0	1375.4
22.5°	1337.0	1367.0	1400.4	1425.5	1436.0	1422.7	1401.8	1381.6	1362.1	1344.7	1329.4
25°	1353.8	1382.3	1410.9	1426.2	1425.5	1402.5	1374.7	1352.4	1325.9	1301.5	1275.7
27.5°	1408.1	1425.5	1433.9	1429.0	1414.4	1383.7	1353.1	1321.7	1287.6	1258.3	1228.3
30°	1445.0	1445.0	1436.7	1417.2	1391.4	1357.2	1319.6	1279.2	1238.8	1204.7	1170.5
32.5°	1433.2	1406.0	1381.6	1355.2	1325.9	1289.0	1245.8	1201.9	1155.9	1116.2	1086.9
35°	1381.6	1323.1	1272.2	1234.6	1204.0	1160.1	1109.9	1059.7	1022.1	994.9	978.2
37.5°	1289.7	1196.3	1122.4	1076.5	1029.1	983.8	926.0	903.0	869.5	852.8	846.5
40°	1178.2	1041.6	949.0	889.7	839.6	783.1	744.1	729.5	716.9	713.5	710.7
42.5°	1050.0	879.3	769.2	707.9	647.3	606.2	588.7	579.7	577.6	577.6	581.1
45°	916.9	714.2	587.3	537.9	487.7	466.1	461.9	457.8	458.5	456.4	457.8
47.5°	813.8	573.4	443.1	397.8	372.1	365.1	360.2	358.8	358.8	355.3	351.2
50°	760.1	479.4	347.7	312.1	297.5	292.6	292.6	289.8	284.3	280.8	271.7
52.5°	746.2	430.6	301.0	270.3	257.8	253.6	249.4	245.3	236.9	229.2	218.8
55°	757.4	415.3	286.4	257.8	243.9	239.0	235.5	228.5	216.7	205.5	193.7
57.5°	804.0	425.0	291.9	261.3	248.7	245.3	241.8	231.3	216.7	200.7	187.4
60°	931.5	471.0	315.6	280.1	269.6	270.3	265.5	252.2	231.3	208.3	188.8
62.5°	1096.0	535.1	346.3	306.6	305.2	312.1	312.1	289.1	255.0	220.2	193.7
65°	1190.0	555.3	350.5	310.0	321.9	342.1	340.7	310.0	263.4	220.2	191.6
67°	1166.3	533.7	333.0	289.8	303.8	326.8	324.0	294.7	250.8	211.1	186.0
67.5°	1147.5	526.7	328.9	285.0	298.9	317.7	317.7	288.4	245.3	208.3	183.9
70°	1010.3	465.4	308.0	266.2	266.2	271.0	267.5	246.6	217.4	191.6	175.6
72.5°	842.4	406.9	291.2	252.9	239.7	236.9	232.0	217.4	198.6	180.5	166.5
75°	652.8	360.2	278.0	239.0	221.6	215.3	210.4	199.3	184.6	169.3	157.5
77.5°	457.1	308.7	260.6	227.1	208.3	203.4	195.8	183.2	171.4	158.2	147.0
80°	283.6	255.0	227.1	204.8	185.3	178.4	168.6	157.5	147.7	140.0	131.7
82.5°	202.1	187.4	169.3	157.5	137.3	116.4	124.7	125.4	119.1	114.3	112.2
85°	135.2	121.9	112.9	102.4	90.6	81.5	83.6	89.9	90.6	88.5	88.5
87.5°	73.9	62.7	60.6	62.7	54.3	51.6	52.3	57.8	58.5	58.5	59.2
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: P146883

CATALOG NUMBER: LDRL-T4-F05-E-8030

**CANDELA DISTRIBUTION (continued):**

	165°	170°	175°	180°
0°	1378.1	1378.1	1378.1	1378.1
2.5°	1416.5	1418.6	1417.9	1419.3
5°	1438.1	1439.5	1438.8	1439.5
7.5°	1434.6	1437.4	1438.8	1436.7
10°	1429.0	1433.2	1436.0	1436.0
12.5°	1430.4	1437.4	1441.5	1441.5
15°	1429.0	1434.6	1436.0	1436.0
17.5°	1407.4	1407.4	1408.1	1405.3
20°	1369.8	1365.6	1364.2	1359.3
22.5°	1316.1	1306.4	1300.1	1296.6
25°	1254.8	1239.5	1229.7	1224.2
27.5°	1204.0	1190.7	1181.0	1175.4
30°	1147.5	1132.2	1126.6	1122.4
32.5°	1066.0	1051.4	1047.2	1043.7
35°	960.1	955.2	944.1	936.4
37.5°	837.5	831.2	827.0	824.2
40°	709.3	710.0	706.5	700.2
42.5°	581.1	588.0	581.1	579.7
45°	456.4	464.0	464.0	466.1
47.5°	351.9	350.5	353.2	353.9
50°	266.2	262.0	260.6	258.5
52.5°	211.1	206.2	203.4	200.0
55°	186.0	180.5	177.7	177.0
57.5°	177.7	170.7	166.5	165.8
60°	175.6	165.8	160.2	158.9
62.5°	175.6	163.7	157.5	155.4
65°	173.5	161.6	156.1	154.0
67°	170.7	160.2	154.7	153.3
67.5°	169.3	159.6	154.7	152.6
70°	165.8	157.5	151.9	149.8
72.5°	158.2	151.2	145.6	144.2
75°	149.8	143.5	140.0	138.7
77.5°	140.0	134.5	130.3	126.8
80°	125.4	119.1	112.9	111.5
82.5°	106.6	99.6	94.8	94.1
85°	85.7	80.1	74.6	74.6
87.5°	59.9	56.4	53.0	49.5
90°	0.0	0.0	0.0	0.0

(END OF REPORT)