

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: P146893

Luminaire Tested: **LDRL-T4-F06-E-8030**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P146893  
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-F06-E-8030  
Description: RL LED ROADWAY LARGE CUTOFF COBRAHEAD LUMINAIRE  
(6) LIGHTBARS WITH AccuLED OPTICS - TYPE 4 SHORT  
Light Source: (42) 3000K CCT, 80 CRI LEDs  
Ballast/Driver: -

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 12284.6 lumens  
Efficiency: N/A  
Efficacy: 78.5 lumens/watt  
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')  
IES Classification: Type IV - Short - Semi-Cutoff  
BUG Rating: B2 - U0 - G3

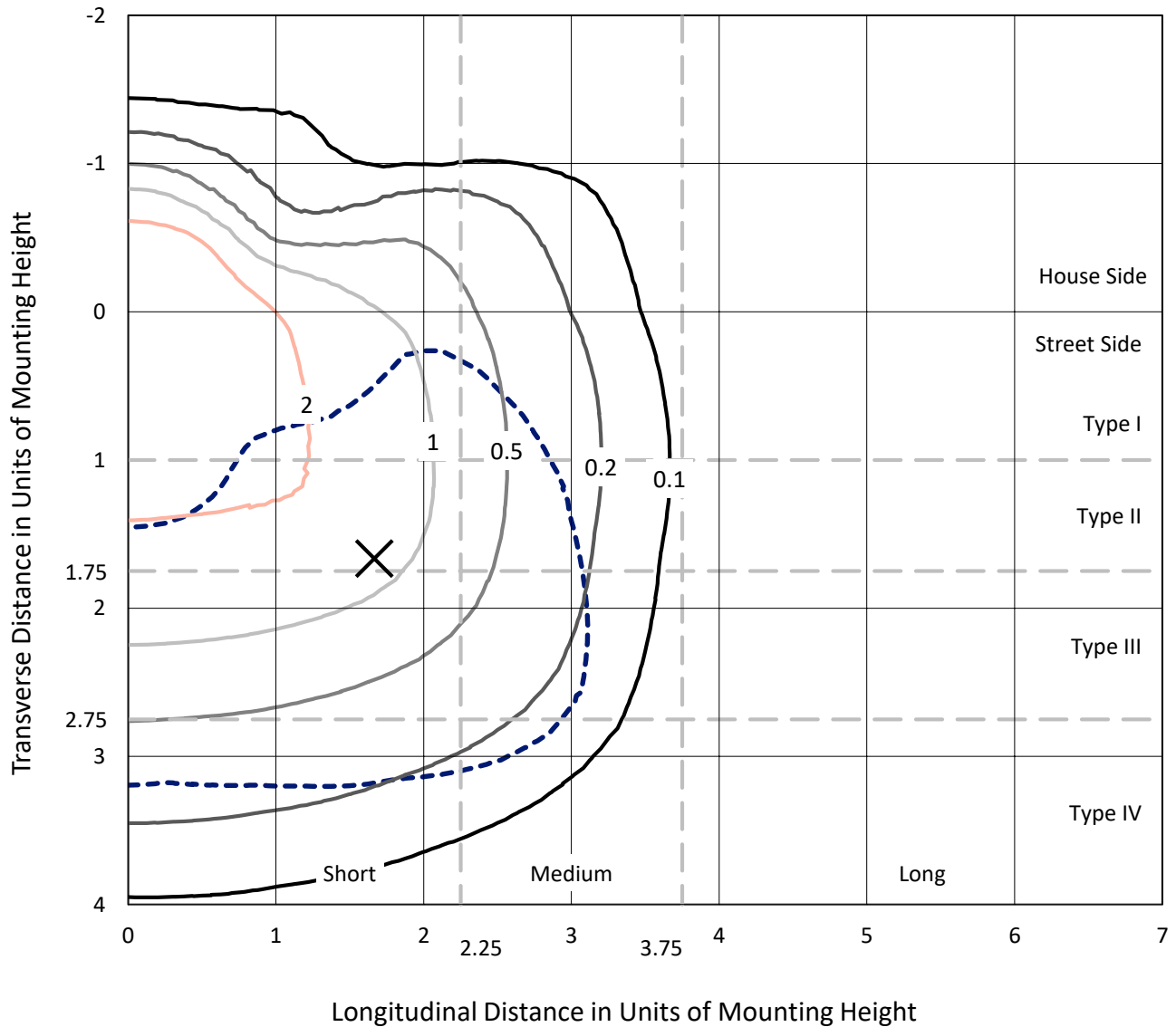
Input Watts (W): 156.5  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



REPORT NUMBER: P146893  
 CATALOG NUMBER: LDRL-T4-F06-E-8030

### Iso-Footcandle Lines of Horizontal Illumination

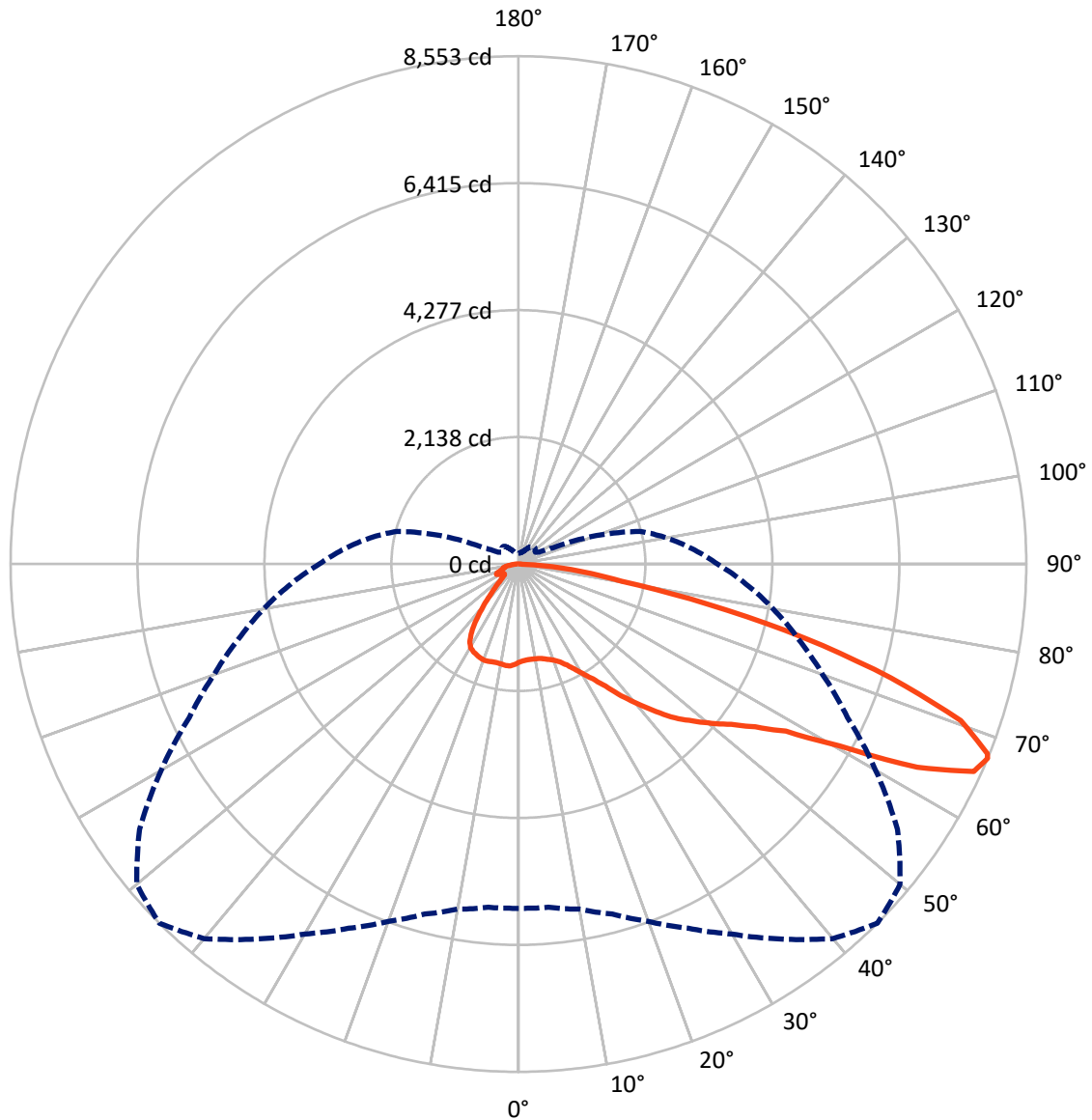
✕ Max cd  
 - - - 1/2 Max cd



Based on 20 foot mounting height. Maximum calculated value = 4.2 fc  
 Type IV - Short - Semi-Cutoff

REPORT NUMBER: P146893  
CATALOG NUMBER: LDRL-T4-F06-E-8030

### Luminous Intensity Polar Plot



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

REPORT NUMBER: P146893

CATALOG NUMBER: LDRL-T4-F06-E-8030

**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	2489.1	0.0	2489.1
	% Fixture	20.3	0.0	20.3
<b>Street Side</b>	Lumens	9795.4	0.0	9795.4
	% Fixture	79.7	0.0	79.7
<b>Total</b>	Lumens	12284.6	0.0	12284.6
	% Fixture	100.0	0.0	100.0

**Coefficient of Utilization**

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	159.4	1.3
10°-20°	478.6	3.9
20°-30°	813.5	6.6
30°-40°	1222.5	10.0
40°-50°	1589.7	12.9
50°-60°	2182.5	17.8
60°-70°	3443.0	28.0
70°-80°	2080.3	16.9
80°-90°	315.1	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°	12284.6	100.0
0°-180°	12284.6	100.0



REPORT NUMBER: P146893

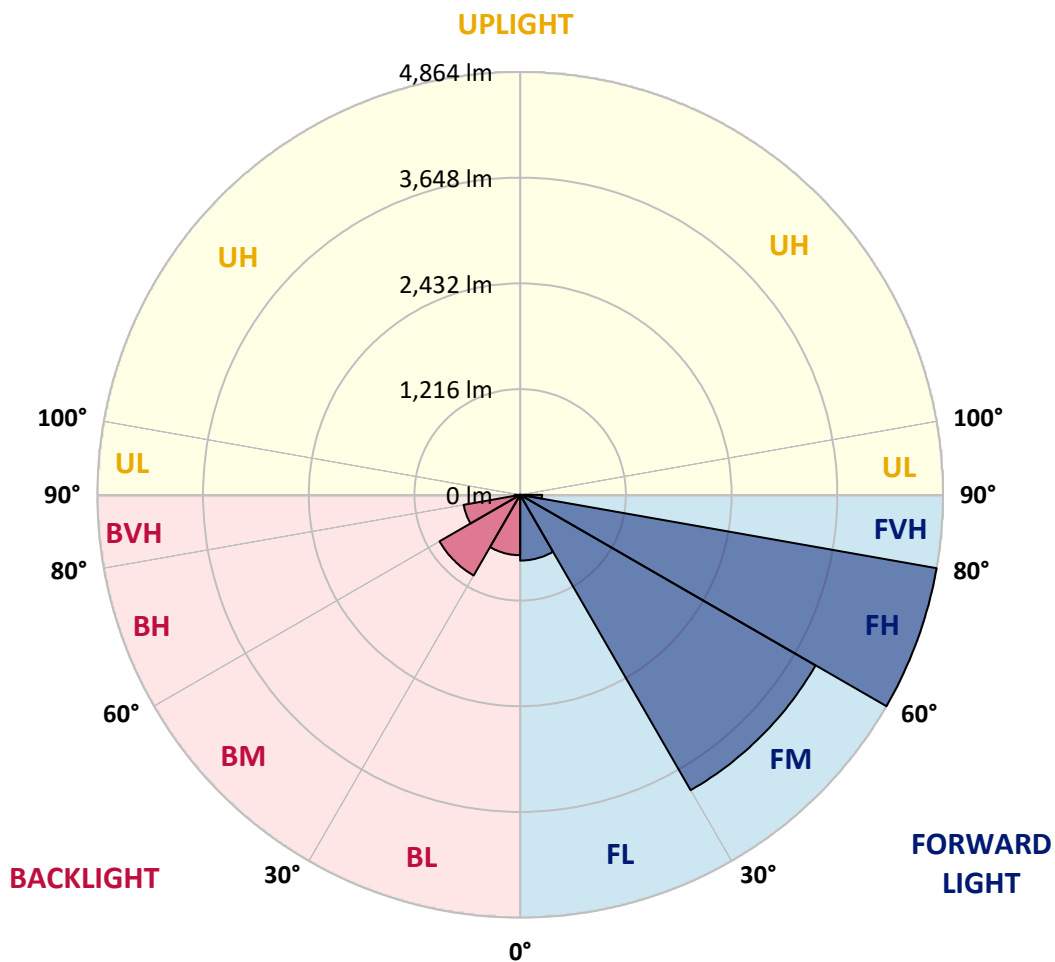
CATALOG NUMBER: LDRL-T4-F06-E-8030

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

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	756.5	6.2			
FM	(30°-60°)	3923.6	31.9			
FH	(60°-80°)	4863.7	39.6			G2/5000
FVH	(80°-90°)	251.7	2.0			G3/500
BL	(0°-30°)	695.0	5.7	B2/1000		
BM	(30°-60°)	1071.1	8.7	B2/2500		
BH	(60°-80°)	659.6	5.4	B2/1000		G2/1000
BVH	(80°-90°)	63.5	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-G3**

Type IV Short





REPORT NUMBER: P146893

CATALOG NUMBER: LDRL-T4-F06-E-8030

**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1653.8	1653.8	1653.8	1653.8	1653.8	1653.8	1653.8	1653.8	1653.8	1653.8	1653.8
2.5°	1617.0	1620.3	1617.8	1617.8	1618.7	1619.5	1621.2	1624.5	1625.3	1630.4	1631.2
5°	1584.4	1585.2	1585.2	1586.0	1591.1	1595.2	1599.4	1605.3	1610.3	1619.5	1625.3
7.5°	1572.7	1576.0	1575.2	1576.9	1581.9	1586.0	1591.1	1599.4	1612.0	1619.5	1627.9
10°	1591.9	1594.4	1591.9	1592.7	1593.6	1597.8	1599.4	1605.3	1615.3	1622.0	1629.5
12.5°	1636.2	1636.2	1633.7	1632.0	1629.5	1630.4	1627.0	1626.2	1631.2	1632.0	1632.9
15°	1694.7	1701.4	1693.1	1686.4	1683.0	1679.7	1668.8	1664.6	1663.8	1656.3	1648.8
17.5°	1754.1	1755.8	1750.8	1743.2	1738.2	1730.7	1721.5	1713.1	1703.1	1691.4	1676.3
20°	1820.2	1821.0	1814.3	1803.4	1797.6	1788.4	1776.7	1762.5	1749.9	1731.5	1714.8
22.5°	1912.1	1911.3	1897.9	1888.7	1880.3	1869.5	1852.8	1833.5	1813.5	1791.7	1768.3
25°	2017.5	2017.5	2008.3	1993.2	1989.0	1973.2	1954.8	1932.2	1911.3	1880.3	1851.9
27.5°	2137.9	2138.7	2122.0	2113.6	2104.4	2087.7	2075.2	2057.6	2029.2	1998.2	1969.0
30°	2280.8	2276.7	2263.3	2245.7	2242.4	2229.0	2211.4	2198.9	2163.8	2142.0	2109.4
32.5°	2416.3	2423.0	2419.6	2399.6	2402.9	2389.5	2374.5	2365.3	2328.5	2307.6	2277.5
35°	2618.6	2624.5	2629.5	2622.0	2626.1	2618.6	2606.1	2581.8	2551.7	2524.1	2482.3
37.5°	2775.8	2781.6	2785.0	2803.4	2830.1	2856.1	2867.8	2855.2	2856.9	2815.1	2759.1
40°	2904.6	2918.8	2938.8	2973.9	3027.5	3076.8	3103.5	3124.4	3135.3	3096.0	3023.3
42.5°	3033.3	3048.4	3075.9	3132.0	3205.5	3276.6	3332.6	3397.0	3408.7	3398.7	3336.8
45°	3167.9	3185.5	3219.8	3283.3	3369.4	3462.2	3552.5	3643.6	3689.6	3697.2	3621.9
47.5°	3330.1	3355.2	3387.0	3458.9	3542.5	3647.0	3759.9	3876.9	3948.8	3948.8	3861.9
50°	3532.4	3560.9	3587.6	3659.5	3743.1	3851.0	3981.4	4111.9	4209.7	4215.5	4110.2
52.5°	3815.9	3820.1	3835.9	3902.0	3974.7	4095.1	4218.9	4370.2	4483.1	4488.1	4366.9
55°	4160.3	4160.3	4178.7	4233.9	4301.6	4401.1	4529.1	4697.1	4815.8	4841.8	4686.2
57.5°	4613.5	4630.2	4639.4	4703.8	4749.8	4855.1	4962.2	5145.3	5296.6	5313.3	5155.3
60°	5350.9	5319.2	5370.2	5427.0	5534.9	5611.8	5794.1	5978.0	6171.1	6217.1	6047.4
62.5°	6077.5	6111.8	6174.5	6277.3	6462.1	6634.3	6895.2	7174.4	7474.6	7536.4	7406.9
65°	6122.6	6143.5	6230.5	6407.7	6660.2	6967.1	7326.6	7747.1	8194.4	8426.0	8208.7
67°	5798.2	5804.1	5902.7	6104.2	6406.9	6770.6	7196.2	7709.5	8234.6	8553.1	8390.9
67.5°	5695.4	5706.3	5803.2	6008.9	6314.9	6687.0	7120.9	7648.5	8186.1	8518.8	8372.5
70°	5091.7	5091.7	5196.3	5403.6	5690.4	6053.2	6507.2	7039.8	7624.2	7904.3	7779.7
72.5°	4334.3	4306.7	4424.5	4581.7	4815.8	5132.7	5498.1	5918.6	6358.4	6562.4	6513.1
75°	3150.4	3202.2	3263.2	3379.4	3582.6	3832.6	4046.6	4422.0	4767.3	4993.1	4933.7
77.5°	1719.0	1739.1	1907.9	1977.3	2155.4	2341.0	2576.0	2839.3	3111.1	3253.2	3195.5
80°	1021.7	1061.0	1161.3	1244.1	1340.2	1481.5	1652.1	1709.8	1763.3	1760.0	1655.4
82.5°	645.5	693.1	801.8	872.9	923.0	1005.0	1097.8	1170.5	1186.4	1107.8	986.6
85°	104.5	173.1	452.3	531.7	563.5	607.8	676.4	707.3	660.5	576.9	597.8
87.5°	41.0	49.3	138.0	174.7	184.8	97.0	168.1	197.3	100.3	51.0	115.4
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: P146893

CATALOG NUMBER: LDRL-T4-F06-E-8030

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°	105°
0°	1653.8	1653.8	1653.8	1653.8	1653.8	1653.8	1653.8	1653.8	1653.8	1653.8	1653.8
2.5°	1636.2	1640.4	1644.6	1649.6	1651.3	1655.4	1663.0	1662.1	1668.0	1670.5	1674.7
5°	1632.9	1642.1	1648.8	1658.0	1661.3	1670.5	1680.5	1683.9	1691.4	1697.2	1702.3
7.5°	1639.6	1649.6	1658.0	1668.8	1676.3	1683.9	1691.4	1700.6	1707.3	1711.5	1714.8
10°	1642.1	1652.9	1663.0	1672.2	1680.5	1686.4	1694.7	1702.3	1709.0	1711.5	1712.3
12.5°	1642.9	1650.4	1660.5	1670.5	1678.0	1685.5	1691.4	1699.8	1704.8	1705.6	1703.9
15°	1649.6	1650.4	1657.1	1668.8	1676.3	1683.9	1688.1	1692.2	1695.6	1693.1	1690.6
17.5°	1669.7	1663.8	1663.8	1669.7	1673.8	1677.2	1678.0	1677.2	1673.8	1668.8	1664.6
20°	1702.3	1690.6	1681.4	1678.0	1671.3	1663.0	1652.1	1642.1	1629.5	1623.7	1622.8
22.5°	1753.3	1735.7	1719.0	1702.3	1680.5	1656.3	1631.2	1609.5	1591.9	1582.7	1583.5
25°	1840.2	1814.3	1795.1	1765.8	1730.7	1696.4	1663.8	1634.5	1613.6	1596.9	1600.3
27.5°	1957.3	1928.0	1911.3	1877.8	1837.7	1794.2	1755.8	1715.6	1685.5	1664.6	1668.8
30°	2094.4	2086.0	2058.4	2025.0	1987.4	1938.0	1880.3	1820.2	1765.8	1731.5	1724.8
32.5°	2259.9	2250.7	2220.6	2192.2	2143.7	2089.4	2014.1	1918.8	1833.5	1768.3	1739.9
35°	2463.9	2441.4	2404.6	2377.0	2322.6	2252.4	2155.4	2026.7	1897.1	1799.2	1728.2
37.5°	2718.1	2662.1	2601.1	2529.2	2448.9	2363.6	2251.6	2101.1	1940.5	1801.8	1675.5
40°	2960.6	2870.3	2769.1	2655.4	2557.6	2454.7	2338.5	2166.3	1969.8	1784.2	1596.1
42.5°	3230.6	3090.2	2953.0	2796.7	2667.9	2545.9	2412.9	2212.3	1975.7	1736.5	1493.2
45°	3490.6	3310.1	3126.1	2933.0	2769.1	2633.7	2482.3	2251.6	1974.0	1686.4	1391.2
47.5°	3722.2	3506.5	3279.1	3061.7	2871.1	2722.3	2556.7	2305.1	1996.6	1672.2	1323.5
50°	3938.8	3689.6	3422.9	3181.3	2973.9	2821.8	2651.2	2389.5	2066.0	1704.8	1313.5
52.5°	4162.0	3891.1	3586.0	3325.9	3109.4	2933.0	2760.7	2497.4	2162.9	1771.7	1336.1
55°	4453.0	4142.0	3816.7	3528.3	3280.0	3090.2	2891.2	2627.8	2267.5	1849.4	1378.7
57.5°	4886.1	4522.4	4152.8	3842.6	3555.9	3319.2	3101.0	2799.2	2440.5	1966.5	1472.3
60°	5663.6	5260.6	4832.6	4427.1	4096.8	3820.1	3542.5	3167.9	2759.9	2232.3	1687.2
62.5°	6933.6	6376.0	5784.0	5250.6	4796.6	4422.0	4030.8	3580.9	3105.2	2555.1	2012.5
65°	7697.0	6927.8	6174.5	5555.8	5019.0	4539.1	4065.9	3582.6	3121.9	2641.2	2158.8
67°	7791.5	6947.8	6114.3	5455.4	4880.2	4357.7	3844.3	3350.2	2938.0	2535.0	2118.6
67.5°	7763.0	6907.7	6057.4	5391.9	4810.8	4305.0	3800.0	3294.2	2892.8	2489.9	2088.5
70°	7202.9	6365.9	5524.8	4877.7	4320.9	3803.3	3325.9	2819.3	2509.1	2220.6	1873.7
72.5°	5978.0	5325.0	4620.2	4080.9	3600.2	3152.0	2732.3	2308.4	2059.3	1855.3	1611.1
75°	4432.9	3834.3	3238.1	2913.7	2540.9	2182.2	1857.8	1544.2	1448.1	1399.6	1255.8
77.5°	2737.3	2199.7	1750.8	1457.3	1158.8	908.0	722.4	587.8	612.8	713.2	759.2
80°	1362.8	1006.6	779.2	619.5	500.8	404.7	296.8	217.4	260.0	308.5	349.5
82.5°	820.2	648.0	512.5	433.9	352.8	272.6	193.1	147.2	163.0	219.1	240.8
85°	509.2	408.0	326.1	272.6	225.7	167.2	109.5	108.7	115.4	145.5	166.4
87.5°	149.7	101.2	80.3	83.6	92.8	76.9	57.7	49.3	61.0	83.6	93.6
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: P146893

CATALOG NUMBER: LDRL-T4-F06-E-8030

**CANDELA DISTRIBUTION (continued):**

	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°	160°
0°	1653.8	1653.8	1653.8	1653.8	1653.8	1653.8	1653.8	1653.8	1653.8	1653.8	1653.8
2.5°	1675.5	1681.4	1683.9	1684.7	1685.5	1690.6	1690.6	1695.6	1697.2	1697.2	1698.9
5°	1707.3	1713.1	1715.6	1716.5	1718.1	1720.7	1719.8	1723.2	1724.8	1724.0	1724.0
7.5°	1719.0	1720.7	1720.7	1723.2	1725.7	1723.2	1721.5	1723.2	1722.3	1723.2	1723.2
10°	1714.8	1713.1	1713.1	1711.5	1714.0	1709.0	1709.0	1710.6	1709.8	1711.5	1714.0
12.5°	1704.8	1703.9	1701.4	1700.6	1703.9	1700.6	1701.4	1703.9	1705.6	1709.0	1713.1
15°	1690.6	1688.1	1688.1	1691.4	1699.8	1702.3	1705.6	1709.8	1710.6	1712.3	1714.0
17.5°	1666.3	1670.5	1680.5	1692.2	1708.1	1714.0	1715.6	1713.1	1704.8	1698.1	1691.4
20°	1632.9	1651.3	1677.2	1702.3	1721.5	1720.7	1709.8	1693.9	1673.8	1659.6	1650.4
22.5°	1604.4	1640.4	1680.5	1710.6	1723.2	1707.3	1682.2	1658.0	1634.5	1613.6	1595.2
25°	1624.5	1658.8	1693.1	1711.5	1710.6	1683.0	1649.6	1622.8	1591.1	1561.8	1530.9
27.5°	1689.7	1710.6	1720.7	1714.8	1697.2	1660.5	1623.7	1586.0	1545.1	1510.0	1474.0
30°	1734.0	1734.0	1724.0	1700.6	1669.7	1628.7	1583.5	1535.0	1486.6	1445.6	1404.6
32.5°	1719.8	1687.2	1658.0	1626.2	1591.1	1546.8	1494.9	1442.2	1387.1	1339.4	1304.3
35°	1658.0	1587.7	1526.7	1481.5	1444.8	1392.1	1331.9	1271.7	1226.5	1193.9	1173.9
37.5°	1547.6	1435.6	1346.9	1291.7	1234.9	1180.5	1111.2	1083.6	1043.4	1023.4	1015.8
40°	1413.8	1249.9	1138.7	1067.7	1007.5	939.8	892.9	875.4	860.3	856.1	852.8
42.5°	1260.0	1055.1	923.0	849.5	776.7	727.4	706.5	695.6	693.1	693.1	697.3
45°	1100.3	857.0	704.8	645.5	585.3	559.3	554.3	549.3	550.1	547.6	549.3
47.5°	976.5	688.1	531.7	477.4	446.5	438.1	432.3	430.6	430.6	426.4	421.4
50°	912.2	575.2	417.2	374.6	357.0	351.2	351.2	347.8	341.1	336.9	326.1
52.5°	895.4	516.7	361.2	324.4	309.4	304.3	299.3	294.3	284.3	275.1	262.5
55°	908.8	498.3	343.6	309.4	292.6	286.8	282.6	274.2	260.0	246.6	232.4
57.5°	964.8	510.0	350.3	313.5	298.5	294.3	290.1	277.6	260.0	240.8	224.9
60°	1117.8	565.2	378.7	336.1	323.6	324.4	318.5	302.7	277.6	250.0	226.6
62.5°	1315.2	642.1	415.5	367.9	366.2	374.6	374.6	347.0	306.0	264.2	232.4
65°	1428.0	666.4	420.5	372.1	386.3	410.5	408.8	372.1	316.0	264.2	229.9
67°	1399.6	640.4	399.6	347.8	364.5	392.1	388.8	353.7	301.0	253.3	223.2
67.5°	1377.0	632.1	394.6	342.0	358.7	381.3	381.3	346.1	294.3	250.0	220.7
70°	1212.3	558.5	369.5	319.4	319.4	325.2	321.1	296.0	260.9	229.9	210.7
72.5°	1010.8	488.3	349.5	303.5	287.6	284.3	278.4	260.9	238.3	216.5	199.8
75°	783.4	432.3	333.6	286.8	265.9	258.3	252.5	239.1	221.6	203.2	189.0
77.5°	548.5	370.4	312.7	272.6	250.0	244.1	234.9	219.9	205.7	189.8	176.4
80°	340.3	306.0	272.6	245.8	222.4	214.0	202.3	189.0	177.2	168.1	158.0
82.5°	242.5	224.9	203.2	189.0	164.7	139.6	149.7	150.5	143.0	137.1	134.6
85°	162.2	146.3	135.4	122.9	108.7	97.8	100.3	107.9	108.7	106.2	106.2
87.5°	88.6	75.2	72.7	75.2	65.2	61.9	62.7	69.4	70.2	70.2	71.1
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: P146893

CATALOG NUMBER: LDRL-T4-F06-E-8030

**CANDELA DISTRIBUTION (continued):**

	165°	170°	175°	180°
0°	1653.8	1653.8	1653.8	1653.8
2.5°	1699.8	1702.3	1701.4	1703.1
5°	1725.7	1727.3	1726.5	1727.3
7.5°	1721.5	1724.8	1726.5	1724.0
10°	1714.8	1719.8	1723.2	1723.2
12.5°	1716.5	1724.8	1729.9	1729.9
15°	1714.8	1721.5	1723.2	1723.2
17.5°	1688.9	1688.9	1689.7	1686.4
20°	1643.7	1638.7	1637.0	1631.2
22.5°	1579.4	1567.7	1560.1	1555.9
25°	1505.8	1487.4	1475.7	1469.0
27.5°	1444.8	1428.9	1417.2	1410.5
30°	1377.0	1358.6	1351.9	1346.9
32.5°	1279.2	1261.6	1256.6	1252.5
35°	1152.1	1146.3	1132.9	1123.7
37.5°	1005.0	997.4	992.4	989.1
40°	851.1	852.0	847.8	840.3
42.5°	697.3	705.7	697.3	695.6
45°	547.6	556.8	556.8	559.3
47.5°	422.2	420.5	423.9	424.7
50°	319.4	314.4	312.7	310.2
52.5°	253.3	247.5	244.1	240.0
55°	223.2	216.5	213.2	212.4
57.5°	213.2	204.8	199.8	199.0
60°	210.7	199.0	192.3	190.6
62.5°	210.7	196.5	189.0	186.4
65°	208.2	194.0	187.3	184.8
67°	204.8	192.3	185.6	183.9
67.5°	203.2	191.5	185.6	183.1
70°	199.0	189.0	182.3	179.8
72.5°	189.8	181.4	174.7	173.1
75°	179.8	172.2	168.1	166.4
77.5°	168.1	161.4	156.3	152.2
80°	150.5	143.0	135.4	133.8
82.5°	127.9	119.6	113.7	112.9
85°	102.8	96.1	89.5	89.5
87.5°	71.9	67.7	63.5	59.4
90°	0.0	0.0	0.0	0.0

(END OF REPORT)