

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: P146888

Luminaire Tested: **LDRL-T4-E06-E-8030**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P146888  
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-E06-E-8030  
Description: RL LED ROADWAY LARGE CUTOFF COBRAHEAD LUMINAIRE  
(6) LIGHTBARS WITH AccuLED OPTICS - TYPE 4 SHORT  
Light Source: (126) 3000K CCT, 80 CRI LEDs  
Ballast/Driver: -

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 14881 lumens  
Efficiency: N/A  
Efficacy: 98.9 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

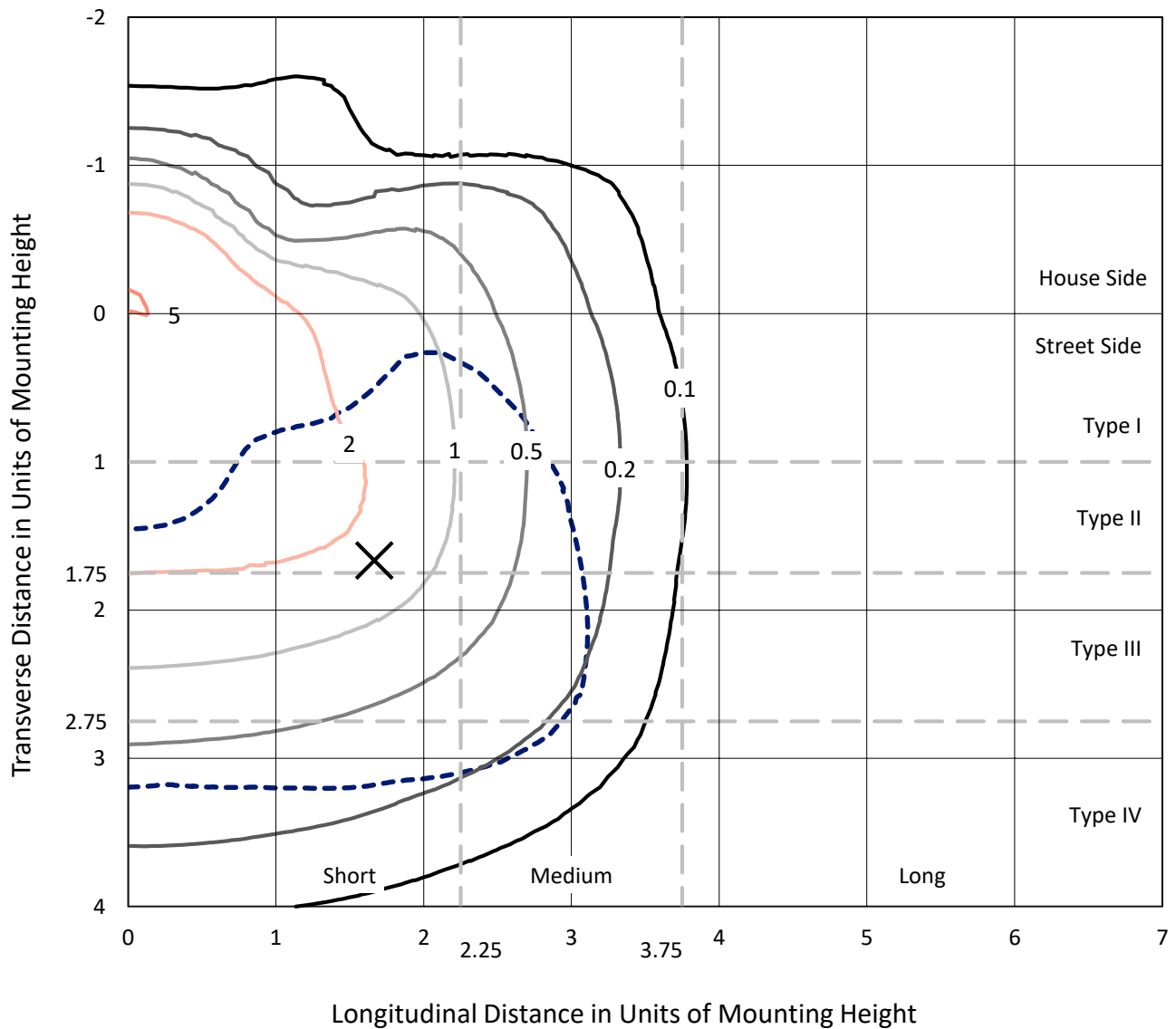
Input Watts (W): 150.5  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



REPORT NUMBER: P146888  
 CATALOG NUMBER: LDRL-T4-E06-E-8030

### Iso-Footcandle Lines of Horizontal Illumination

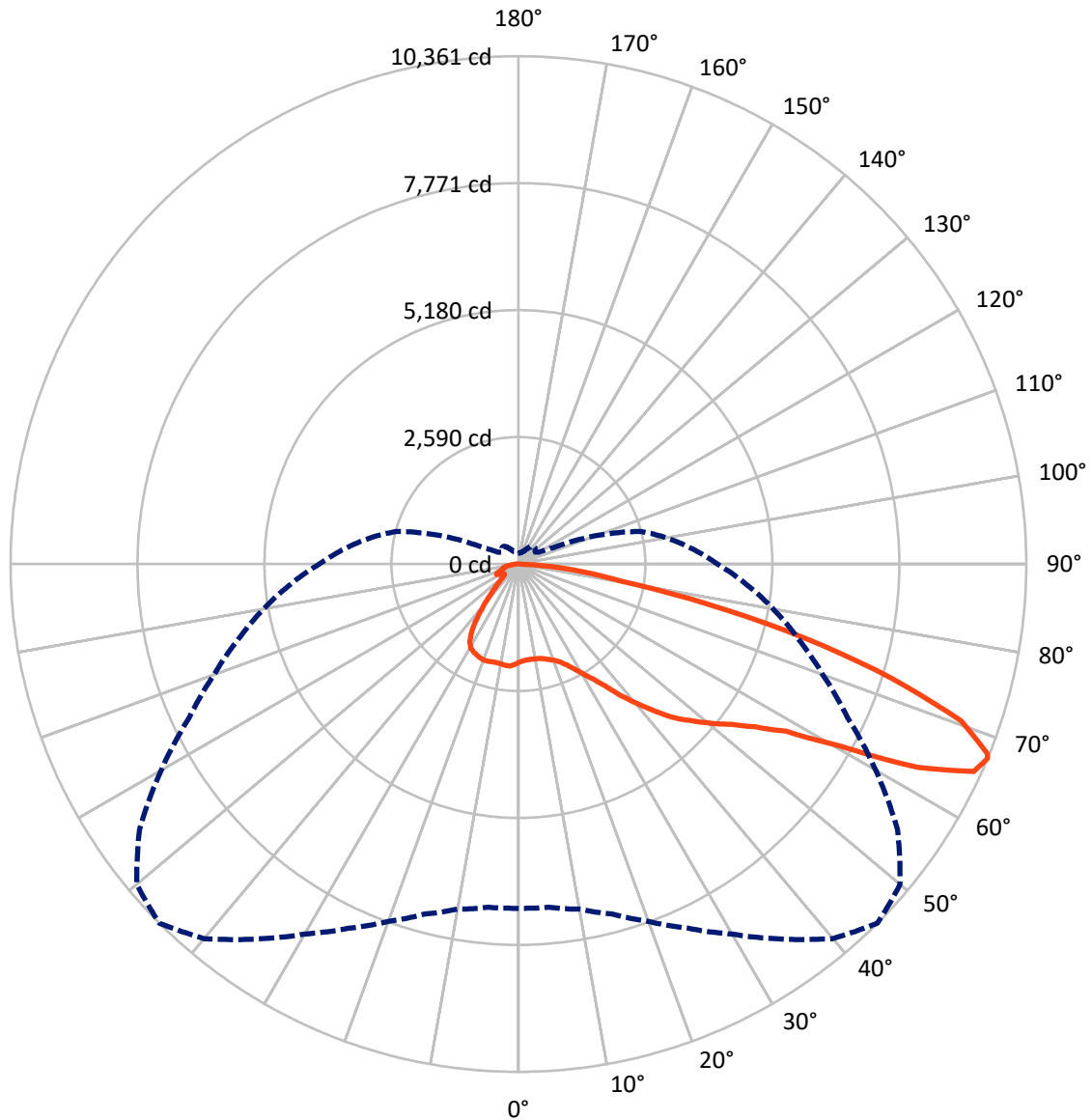
× Max cd  
 - - - 1/2 Max cd



Based on 20 foot mounting height. Maximum calculated value = 5.1 fc  
 Type IV - Short - Semi-Cutoff

REPORT NUMBER: P146888  
CATALOG NUMBER: LDRL-T4-E06-E-8030

### Luminous Intensity Polar Plot



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

REPORT NUMBER: P146888

CATALOG NUMBER: LDRL-T4-E06-E-8030

**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	3015.2	0.0	3015.2
	% Fixture	20.3	0.0	20.3
<b>Street Side</b>	Lumens	11865.7	0.0	11865.7
	% Fixture	79.7	0.0	79.7
<b>Total</b>	Lumens	14881.0	0.0	14881.0
	% Fixture	100.0	0.0	100.0

**Coefficient of Utilization**

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	193.1	1.3
10°-20°	579.8	3.9
20°-30°	985.4	6.6
30°-40°	1480.9	10.0
40°-50°	1925.6	12.9
50°-60°	2643.8	17.8
60°-70°	4170.6	28.0
70°-80°	2520.0	16.9
80°-90°	381.8	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°	14881.0	100.0
0°-180°	14881.0	100.0



REPORT NUMBER: P146888

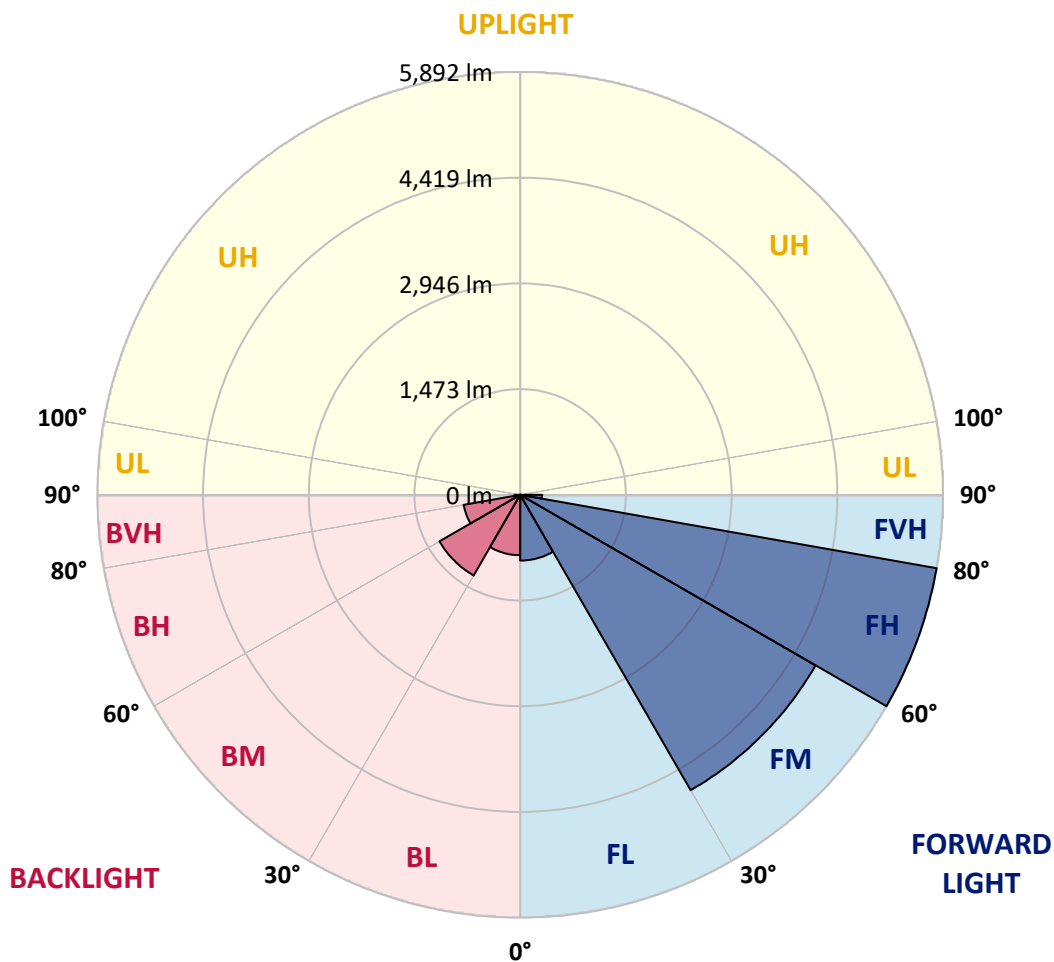
CATALOG NUMBER: LDRL-T4-E06-E-8030

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

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	916.4	6.2			
FM	(30°-60°)	4752.8	31.9			
FH	(60°-80°)	5891.7	39.6			G3/7500
FVH	(80°-90°)	304.8	2.0			G3/500
BL	(0°-30°)	841.8	5.7	B2/1000		
BM	(30°-60°)	1297.5	8.7	B2/2500		
BH	(60°-80°)	799.0	5.4	B2/1000		G2/1000
BVH	(80°-90°)	76.9	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-G3**

Type IV Short





REPORT NUMBER: P146888

CATALOG NUMBER: LDRL-T4-E06-E-8030

**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	2003.3	2003.3	2003.3	2003.3	2003.3	2003.3	2003.3	2003.3	2003.3	2003.3	2003.3
2.5°	1958.7	1962.8	1959.7	1959.7	1960.8	1961.8	1963.8	1967.8	1968.9	1974.9	1976.0
5°	1919.2	1920.2	1920.2	1921.3	1927.3	1932.4	1937.5	1944.6	1950.6	1961.8	1968.9
7.5°	1905.1	1909.1	1908.1	1910.1	1916.2	1921.3	1927.3	1937.5	1952.7	1961.8	1971.9
10°	1928.4	1931.4	1928.4	1929.4	1930.4	1935.4	1937.5	1944.6	1956.7	1964.8	1973.9
12.5°	1982.0	1982.0	1979.0	1977.0	1973.9	1974.9	1970.9	1969.9	1976.0	1977.0	1978.0
15°	2052.9	2061.0	2050.9	2042.8	2038.7	2034.7	2021.5	2016.5	2015.5	2006.3	1997.2
17.5°	2124.8	2126.9	2120.8	2111.7	2105.6	2096.5	2085.3	2075.2	2063.1	2048.9	2030.6
20°	2204.8	2205.9	2197.8	2184.6	2177.5	2166.4	2152.2	2135.0	2119.8	2097.5	2077.2
22.5°	2316.2	2315.2	2299.0	2287.9	2277.8	2264.6	2244.3	2221.0	2196.7	2170.4	2142.0
25°	2443.9	2443.9	2432.7	2414.5	2409.4	2390.2	2367.9	2340.6	2315.2	2277.8	2243.3
27.5°	2589.7	2590.7	2570.5	2560.3	2549.2	2528.9	2513.7	2492.5	2458.0	2420.6	2385.1
30°	2762.9	2757.8	2741.6	2720.4	2716.3	2700.1	2678.8	2663.6	2621.1	2594.8	2555.3
32.5°	2927.0	2935.1	2931.0	2906.7	2910.8	2894.6	2876.3	2865.2	2820.6	2795.3	2758.8
35°	3172.1	3179.1	3185.2	3176.1	3181.2	3172.1	3156.9	3127.5	3091.0	3057.6	3007.0
37.5°	3362.5	3369.5	3373.6	3395.9	3428.3	3459.7	3473.9	3458.7	3460.7	3410.1	3342.2
40°	3518.4	3535.6	3560.0	3602.5	3667.3	3727.1	3759.5	3784.8	3798.0	3750.4	3662.2
42.5°	3674.4	3692.6	3726.1	3793.9	3883.0	3969.1	4037.0	4115.0	4129.1	4117.0	4042.0
45°	3837.5	3858.7	3900.3	3977.2	4081.5	4194.0	4303.3	4413.7	4469.4	4478.6	4387.4
47.5°	4033.9	4064.3	4102.8	4189.9	4291.2	4417.8	4554.5	4696.3	4783.4	4783.4	4678.1
50°	4279.0	4313.5	4345.9	4433.0	4534.3	4664.9	4822.9	4980.9	5099.4	5106.5	4978.9
52.5°	4622.4	4627.4	4646.7	4726.7	4814.8	4960.6	5110.5	5293.8	5430.6	5436.7	5289.8
55°	5039.6	5039.6	5061.9	5128.8	5210.8	5331.3	5486.3	5689.8	5833.7	5865.1	5676.7
57.5°	5588.6	5608.8	5620.0	5698.0	5753.7	5881.3	6010.9	6232.7	6416.0	6436.3	6244.9
60°	6481.9	6443.4	6505.1	6574.0	6704.7	6797.8	7018.6	7241.4	7475.4	7531.1	7325.5
62.5°	7362.0	7403.5	7479.4	7604.0	7827.8	8036.5	8352.5	8690.7	9054.3	9129.3	8972.3
65°	7416.7	7442.0	7547.3	7762.0	8067.9	8439.6	8875.1	9384.5	9926.3	10206.9	9943.6
67°	7023.7	7030.8	7150.3	7394.4	7761.0	8201.6	8717.1	9338.9	9975.0	10360.8	10164.4
67.5°	6899.1	6912.3	7029.8	7278.9	7649.6	8100.3	8625.9	9265.0	9916.2	10319.3	10142.1
70°	6167.9	6167.9	6294.5	6545.7	6893.0	7332.6	7882.5	8527.7	9235.6	9574.9	9424.0
72.5°	5250.3	5216.9	5359.7	5550.1	5833.7	6217.5	6660.1	7169.5	7702.3	7949.4	7889.6
75°	3816.2	3879.0	3952.9	4093.7	4339.8	4642.6	4901.9	5356.6	5774.9	6048.4	5976.5
77.5°	2082.3	2106.6	2311.2	2395.2	2611.0	2835.8	3120.4	3439.4	3768.6	3940.8	3870.9
80°	1237.6	1285.2	1406.8	1507.0	1623.5	1794.7	2001.3	2071.2	2136.0	2131.9	2005.3
82.5°	781.9	839.6	971.3	1057.4	1118.1	1217.4	1329.8	1417.9	1437.1	1341.9	1195.1
85°	126.6	209.6	547.9	644.1	682.6	736.3	819.3	856.8	800.1	698.8	724.1
87.5°	49.6	59.8	167.1	211.7	223.8	117.5	203.6	239.0	121.5	61.8	139.8
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: P146888

CATALOG NUMBER: LDRL-T4-E06-E-8030

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°	105°
0°	2003.3	2003.3	2003.3	2003.3	2003.3	2003.3	2003.3	2003.3	2003.3	2003.3	2003.3
2.5°	1982.0	1987.1	1992.2	1998.2	2000.3	2005.3	2014.4	2013.4	2020.5	2023.6	2028.6
5°	1978.0	1989.1	1997.2	2008.4	2012.4	2023.6	2035.7	2039.8	2048.9	2056.0	2062.0
7.5°	1986.1	1998.2	2008.4	2021.5	2030.6	2039.8	2048.9	2060.0	2068.1	2073.2	2077.2
10°	1989.1	2002.3	2014.4	2025.6	2035.7	2042.8	2052.9	2062.0	2070.1	2073.2	2074.2
12.5°	1990.1	1999.2	2011.4	2023.6	2032.7	2041.8	2048.9	2059.0	2065.1	2066.1	2064.1
15°	1998.2	1999.2	2007.3	2021.5	2030.6	2039.8	2044.8	2049.9	2053.9	2050.9	2047.9
17.5°	2022.5	2015.5	2015.5	2022.5	2027.6	2031.7	2032.7	2031.7	2027.6	2021.5	2016.5
20°	2062.0	2047.9	2036.7	2032.7	2024.6	2014.4	2001.3	1989.1	1973.9	1966.8	1965.8
22.5°	2123.8	2102.6	2082.3	2062.0	2035.7	2006.3	1976.0	1949.6	1928.4	1917.2	1918.2
25°	2229.1	2197.8	2174.5	2139.0	2096.5	2054.9	2015.5	1980.0	1954.7	1934.4	1938.5
27.5°	2370.9	2335.5	2315.2	2274.7	2226.1	2173.4	2126.9	2078.2	2041.8	2016.5	2021.5
30°	2537.0	2526.9	2493.5	2453.0	2407.4	2347.6	2277.8	2204.8	2139.0	2097.5	2089.4
32.5°	2737.6	2726.4	2690.0	2655.5	2596.8	2531.0	2439.8	2324.4	2221.0	2142.0	2107.6
35°	2984.7	2957.3	2912.8	2879.4	2813.5	2728.5	2611.0	2455.0	2298.0	2179.5	2093.4
37.5°	3292.6	3224.7	3150.8	3063.7	2966.5	2863.2	2727.4	2545.1	2350.7	2182.6	2029.6
40°	3586.3	3476.9	3354.4	3216.6	3098.1	2973.5	2832.8	2624.1	2386.1	2161.3	1933.4
42.5°	3913.4	3743.3	3577.2	3387.8	3231.8	3083.9	2922.9	2679.8	2393.2	2103.6	1808.8
45°	4228.4	4009.6	3786.8	3552.9	3354.4	3190.3	3007.0	2727.4	2391.2	2042.8	1685.3
47.5°	4508.9	4247.6	3972.2	3708.8	3477.9	3297.6	3097.1	2792.3	2418.5	2025.6	1603.2
50°	4771.2	4469.4	4146.4	3853.7	3602.5	3418.2	3211.6	2894.6	2502.6	2065.1	1591.1
52.5°	5041.7	4713.5	4343.9	4028.9	3766.6	3552.9	3344.2	3025.2	2620.1	2146.1	1618.4
55°	5394.1	5017.4	4623.4	4274.0	3973.2	3743.3	3502.2	3183.2	2746.7	2240.3	1670.1
57.5°	5918.7	5478.2	5030.5	4654.8	4307.4	4020.8	3756.4	3390.8	2956.3	2382.1	1783.5
60°	6860.6	6372.5	5853.9	5362.7	4962.7	4627.4	4291.2	3837.5	3343.2	2704.1	2043.8
62.5°	8399.1	7723.5	7006.5	6360.3	5810.4	5356.6	4882.7	4337.8	3761.5	3095.1	2437.8
65°	9323.7	8392.0	7479.4	6730.0	6079.8	5498.4	4925.2	4339.8	3781.8	3199.4	2615.0
67°	9438.2	8416.3	7406.5	6608.4	5911.7	5278.7	4656.8	4058.2	3558.9	3070.8	2566.4
67.5°	9403.7	8367.7	7337.7	6531.5	5827.6	5214.9	4603.1	3990.4	3504.3	3016.1	2529.9
70°	8725.2	7711.4	6692.5	5908.6	5234.1	4607.2	4028.9	3415.1	3039.4	2690.0	2269.7
72.5°	7241.4	6450.5	5596.7	4943.4	4361.1	3818.2	3309.8	2796.3	2494.5	2247.4	1951.6
75°	5369.8	4644.7	3922.5	3529.6	3077.9	2643.4	2250.4	1870.6	1754.2	1695.4	1521.2
77.5°	3315.9	2664.6	2120.8	1765.3	1403.7	1099.9	875.0	712.0	742.4	863.9	919.6
80°	1650.8	1219.4	943.9	750.5	606.7	490.2	359.5	263.3	315.0	373.7	423.3
82.5°	993.5	784.9	620.8	525.6	427.4	330.2	234.0	178.3	197.5	265.4	291.7
85°	616.8	494.2	395.0	330.2	273.5	202.6	132.7	131.7	139.8	176.2	201.5
87.5°	181.3	122.5	97.2	101.3	112.4	93.2	69.9	59.8	73.9	101.3	113.4
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: P146888

CATALOG NUMBER: LDRL-T4-E06-E-8030

**CANDELA DISTRIBUTION (continued):**

	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°	160°
0°	2003.3	2003.3	2003.3	2003.3	2003.3	2003.3	2003.3	2003.3	2003.3	2003.3	2003.3
2.5°	2029.6	2036.7	2039.8	2040.8	2041.8	2047.9	2047.9	2053.9	2056.0	2056.0	2058.0
5°	2068.1	2075.2	2078.2	2079.3	2081.3	2084.3	2083.3	2087.4	2089.4	2088.4	2088.4
7.5°	2082.3	2084.3	2084.3	2087.4	2090.4	2087.4	2085.3	2087.4	2086.3	2087.4	2087.4
10°	2077.2	2075.2	2075.2	2073.2	2076.2	2070.1	2070.1	2072.2	2071.2	2073.2	2076.2
12.5°	2065.1	2064.1	2061.0	2060.0	2064.1	2060.0	2061.0	2064.1	2066.1	2070.1	2075.2
15°	2047.9	2044.8	2044.8	2048.9	2059.0	2062.0	2066.1	2071.2	2072.2	2074.2	2076.2
17.5°	2018.5	2023.6	2035.7	2049.9	2069.1	2076.2	2078.2	2075.2	2065.1	2057.0	2048.9
20°	1978.0	2000.3	2031.7	2062.0	2085.3	2084.3	2071.2	2051.9	2027.6	2010.4	1999.2
22.5°	1943.5	1987.1	2035.7	2072.2	2087.4	2068.1	2037.7	2008.4	1980.0	1954.7	1932.4
25°	1967.8	2009.4	2050.9	2073.2	2072.2	2038.7	1998.2	1965.8	1927.3	1891.9	1854.4
27.5°	2046.8	2072.2	2084.3	2077.2	2056.0	2011.4	1966.8	1921.3	1871.6	1829.1	1785.5
30°	2100.5	2100.5	2088.4	2060.0	2022.5	1972.9	1918.2	1859.5	1800.7	1751.1	1701.5
32.5°	2083.3	2043.8	2008.4	1969.9	1927.3	1873.7	1810.9	1747.1	1680.2	1622.5	1580.0
35°	2008.4	1923.3	1849.4	1794.7	1750.1	1686.3	1613.4	1540.5	1485.8	1446.3	1422.0
37.5°	1874.7	1739.0	1631.6	1564.8	1495.9	1430.1	1346.0	1312.6	1264.0	1239.7	1230.5
40°	1712.6	1514.1	1379.4	1293.3	1220.4	1138.4	1081.7	1060.4	1042.2	1037.1	1033.0
42.5°	1526.3	1278.1	1118.1	1029.0	940.9	881.1	855.8	842.6	839.6	839.6	844.7
45°	1332.8	1038.1	853.8	781.9	709.0	677.6	671.5	665.4	666.4	663.4	665.4
47.5°	1182.9	833.5	644.1	578.3	540.8	530.7	523.6	521.6	521.6	516.5	510.4
50°	1105.0	696.8	505.4	453.7	432.5	425.4	425.4	421.3	413.2	408.2	395.0
52.5°	1084.7	625.9	437.5	393.0	374.7	368.7	362.6	356.5	344.3	333.2	318.0
55°	1100.9	603.6	416.3	374.7	354.5	347.4	342.3	332.2	315.0	298.8	281.6
57.5°	1168.8	617.8	424.4	379.8	361.6	356.5	351.4	336.2	315.0	291.7	272.4
60°	1354.1	684.6	458.8	407.1	391.9	393.0	385.9	366.6	336.2	302.8	274.5
62.5°	1593.1	777.8	503.4	445.6	443.6	453.7	453.7	420.3	370.7	320.0	281.6
65°	1729.8	807.2	509.4	450.7	467.9	497.3	495.3	450.7	382.8	320.0	278.5
67°	1695.4	775.8	484.1	421.3	441.6	475.0	470.9	428.4	364.6	306.9	270.4
67.5°	1668.1	765.7	478.0	414.2	434.5	461.8	461.8	419.3	356.5	302.8	267.4
70°	1468.5	676.5	447.7	386.9	386.9	394.0	388.9	358.5	316.0	278.5	255.2
72.5°	1224.5	591.5	423.3	367.6	348.4	344.3	337.3	316.0	288.6	262.3	242.1
75°	949.0	523.6	404.1	347.4	322.1	313.0	305.9	289.7	268.4	246.1	228.9
77.5°	664.4	448.7	378.8	330.2	302.8	295.7	284.6	266.4	249.1	229.9	213.7
80°	412.2	370.7	330.2	297.8	269.4	259.3	245.1	228.9	214.7	203.6	191.4
82.5°	293.7	272.4	246.1	228.9	199.5	169.1	181.3	182.3	173.2	166.1	163.1
85°	196.5	177.2	164.1	148.9	131.7	118.5	121.5	130.6	131.7	128.6	128.6
87.5°	107.4	91.2	88.1	91.2	79.0	74.9	76.0	84.1	85.1	85.1	86.1
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: P146888

CATALOG NUMBER: LDRL-T4-E06-E-8030

**CANDELA DISTRIBUTION (continued):**

	165°	170°	175°	180°
0°	2003.3	2003.3	2003.3	2003.3
2.5°	2059.0	2062.0	2061.0	2063.1
5°	2090.4	2092.4	2091.4	2092.4
7.5°	2085.3	2089.4	2091.4	2088.4
10°	2077.2	2083.3	2087.4	2087.4
12.5°	2079.3	2089.4	2095.5	2095.5
15°	2077.2	2085.3	2087.4	2087.4
17.5°	2045.8	2045.8	2046.8	2042.8
20°	1991.1	1985.1	1983.0	1976.0
22.5°	1913.2	1899.0	1889.9	1884.8
25°	1824.0	1801.8	1787.6	1779.5
27.5°	1750.1	1730.9	1716.7	1708.6
30°	1668.1	1645.8	1637.7	1631.6
32.5°	1549.6	1528.3	1522.2	1517.2
35°	1395.6	1388.5	1372.3	1361.2
37.5°	1217.4	1208.3	1202.2	1198.1
40°	1031.0	1032.0	1027.0	1017.9
42.5°	844.7	854.8	844.7	842.6
45°	663.4	674.5	674.5	677.6
47.5°	511.5	509.4	513.5	514.5
50°	386.9	380.8	378.8	375.7
52.5°	306.9	299.8	295.7	290.7
55°	270.4	262.3	258.3	257.2
57.5°	258.3	248.1	242.1	241.0
60°	255.2	241.0	232.9	230.9
62.5°	255.2	238.0	228.9	225.9
65°	252.2	235.0	226.9	223.8
67°	248.1	232.9	224.8	222.8
67.5°	246.1	231.9	224.8	221.8
70°	241.0	228.9	220.8	217.7
72.5°	229.9	219.8	211.7	209.6
75°	217.7	208.6	203.6	201.5
77.5°	203.6	195.5	189.4	184.3
80°	182.3	173.2	164.1	162.0
82.5°	155.0	144.8	137.7	136.7
85°	124.6	116.5	108.4	108.4
87.5°	87.1	82.0	77.0	71.9
90°	0.0	0.0	0.0	0.0

(END OF REPORT)