

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: P146878

Luminaire Tested: **LDRL-T4-E05-E-8030**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P146878
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-E05-E-8030
Description: RL LED ROADWAY LARGE CUTOFF COBRAHEAD LUMINAIRE
(5) LIGHTBARS WITH AccuLED OPTICS - TYPE 4 SHORT
Light Source: (105) 3000K CCT, 80 CRI LEDs
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 12400.8 lumens
Efficiency: N/A
Efficacy: 97.4 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 - G3

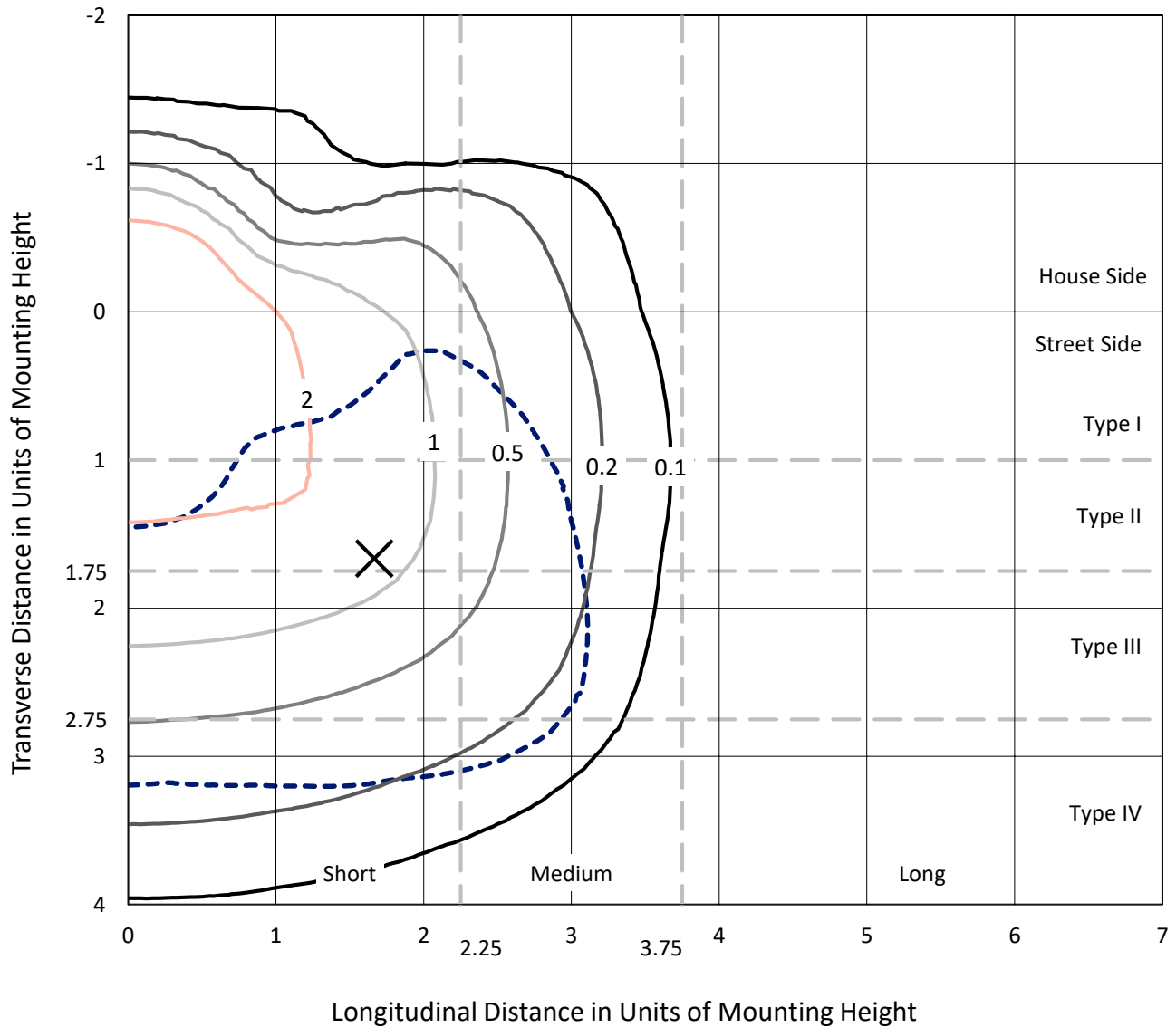
Input Watts (W): 127.3
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



REPORT NUMBER: P146878
 CATALOG NUMBER: LDRL-T4-E05-E-8030

Iso-Footcandle Lines of Horizontal Illumination

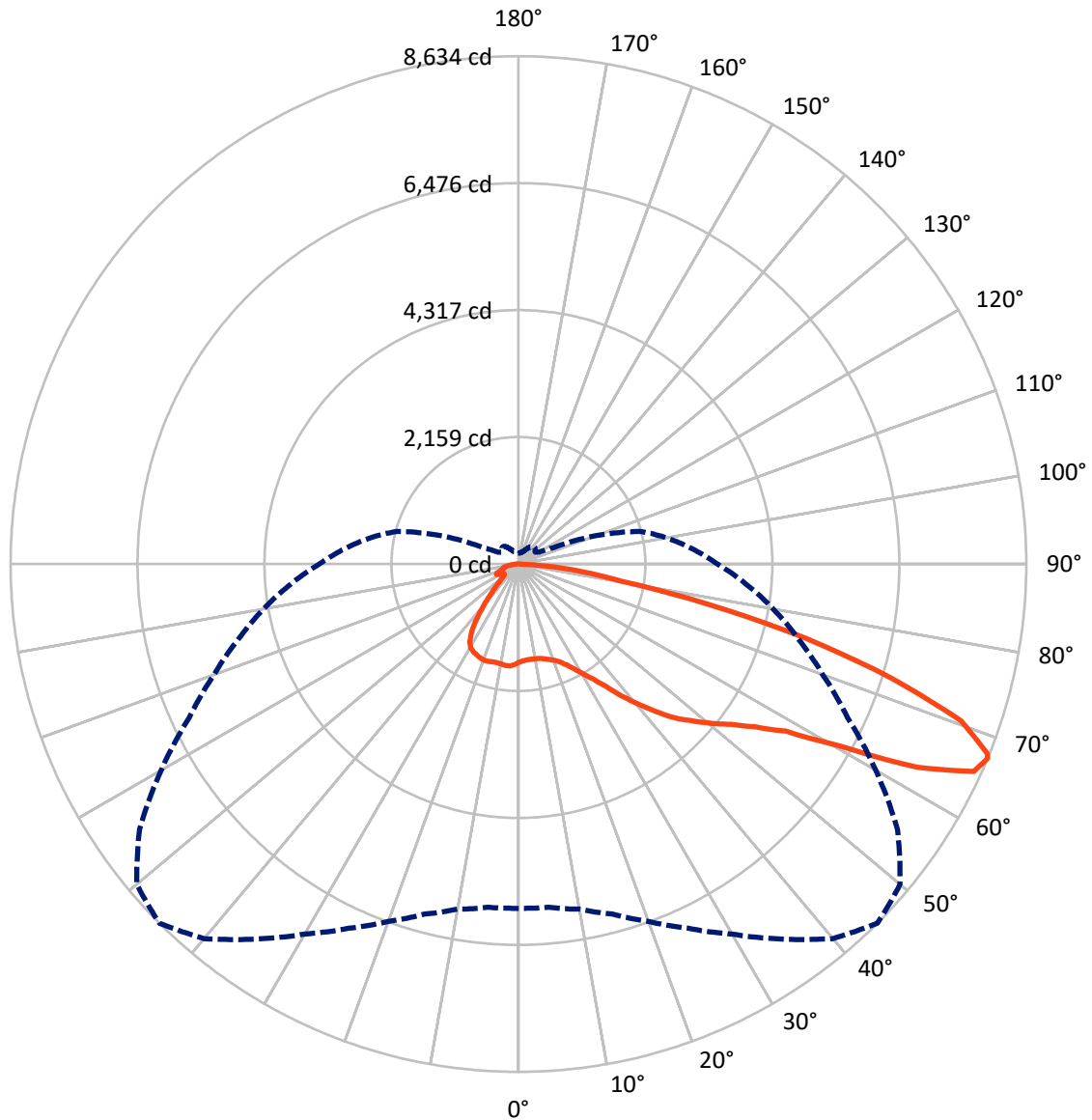
✕ Max cd
 - - - 1/2 Max cd



Based on 20 foot mounting height. Maximum calculated value = 4.3 fc
 Type IV - Short - Semi-Cutoff

REPORT NUMBER: P146878
CATALOG NUMBER: LDRL-T4-E05-E-8030

Luminous Intensity Polar Plot



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

REPORT NUMBER: P146878

CATALOG NUMBER: LDRL-T4-E05-E-8030

FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	2512.7	0.0	2512.7
	% Fixture	20.3	0.0	20.3
Street Side	Lumens	9888.1	0.0	9888.1
	% Fixture	79.7	0.0	79.7
Total	Lumens	12400.8	0.0	12400.8
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	160.9	1.3
10°-20°	483.1	3.9
20°-30°	821.2	6.6
30°-40°	1234.1	10.0
40°-50°	1604.7	12.9
50°-60°	2203.2	17.8
60°-70°	3475.5	28.0
70°-80°	2100.0	16.9
80°-90°	318.1	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°	12400.8	100.0
0°-180°	12400.8	100.0



REPORT NUMBER: P146878

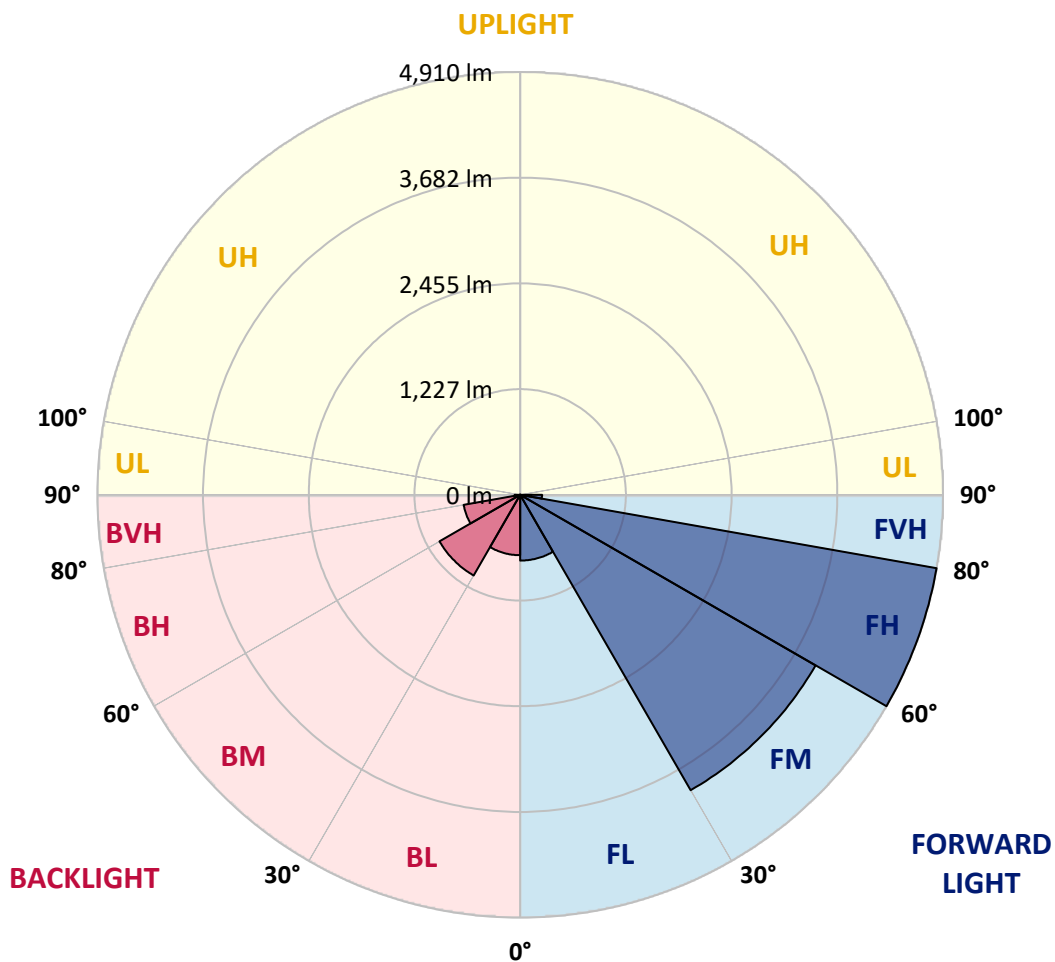
CATALOG NUMBER: LDRL-T4-E05-E-8030

LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	763.7	6.2			
FM	(30°-60°)	3960.7	31.9			
FH	(60°-80°)	4909.7	39.6			G2/5000
FVH	(80°-90°)	254.0	2.0			G3/500
BL	(0°-30°)	701.5	5.7	B2/1000		
BM	(30°-60°)	1081.3	8.7	B2/2500		
BH	(60°-80°)	665.8	5.4	B2/1000		G2/1000
BVH	(80°-90°)	64.1	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: P146878

CATALOG NUMBER: LDRL-T4-E05-E-8030

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1669.4	1669.4	1669.4	1669.4	1669.4	1669.4	1669.4	1669.4	1669.4	1669.4	1669.4
2.5°	1632.3	1635.7	1633.1	1633.1	1634.0	1634.8	1636.5	1639.9	1640.7	1645.8	1646.6
5°	1599.4	1600.2	1600.2	1601.1	1606.1	1610.3	1614.6	1620.5	1625.5	1634.8	1640.7
7.5°	1587.5	1590.9	1590.1	1591.8	1596.8	1601.1	1606.1	1614.6	1627.2	1634.8	1643.3
10°	1607.0	1609.5	1607.0	1607.8	1608.6	1612.9	1614.6	1620.5	1630.6	1637.3	1644.9
12.5°	1651.7	1651.7	1649.2	1647.5	1644.9	1645.8	1642.4	1641.6	1646.6	1647.5	1648.3
15°	1710.8	1717.5	1709.1	1702.3	1699.0	1695.6	1684.6	1680.4	1679.5	1671.9	1664.4
17.5°	1770.7	1772.4	1767.3	1759.7	1754.7	1747.1	1737.8	1729.3	1719.2	1707.4	1692.2
20°	1837.4	1838.2	1831.5	1820.5	1814.6	1805.3	1793.5	1779.1	1766.5	1747.9	1731.0
22.5°	1930.2	1929.4	1915.9	1906.6	1898.1	1887.2	1870.3	1850.9	1830.6	1808.7	1785.0
25°	2036.6	2036.6	2027.3	2012.1	2007.9	1991.8	1973.3	1950.5	1929.4	1898.1	1869.4
27.5°	2158.1	2158.9	2142.0	2133.6	2124.3	2107.4	2094.8	2077.1	2048.4	2017.1	1987.6
30°	2302.4	2298.2	2284.7	2267.0	2263.6	2250.1	2232.4	2219.7	2184.2	2162.3	2129.4
32.5°	2439.1	2445.9	2442.5	2422.3	2425.6	2412.1	2396.9	2387.7	2350.5	2329.4	2299.0
35°	2643.4	2649.3	2654.4	2646.8	2651.0	2643.4	2630.7	2606.2	2575.9	2548.0	2505.8
37.5°	2802.0	2808.0	2811.3	2829.9	2856.9	2883.1	2894.9	2882.2	2883.9	2841.7	2785.2
40°	2932.0	2946.4	2966.6	3002.1	3056.1	3105.9	3132.9	3154.0	3165.0	3125.3	3051.9
42.5°	3062.0	3077.2	3105.0	3161.6	3235.9	3307.6	3364.1	3429.1	3441.0	3430.8	3368.4
45°	3197.9	3215.6	3250.2	3314.4	3401.3	3495.0	3586.1	3678.1	3724.5	3732.1	3656.2
47.5°	3361.6	3386.9	3419.0	3491.6	3576.0	3681.5	3795.4	3913.6	3986.2	3986.2	3898.4
50°	3565.9	3594.6	3621.6	3694.1	3778.5	3887.4	4019.1	4150.7	4249.5	4255.4	4149.1
52.5°	3852.0	3856.2	3872.2	3938.9	4012.3	4133.9	4258.8	4411.5	4525.5	4530.5	4408.2
55°	4199.7	4199.7	4218.3	4274.0	4342.3	4442.8	4571.9	4741.5	4861.4	4887.6	4730.6
57.5°	4657.1	4674.0	4683.3	4748.3	4794.7	4901.1	5009.1	5193.9	5346.7	5363.6	5204.0
60°	5401.5	5369.5	5421.0	5478.3	5587.2	5664.9	5848.9	6034.5	6229.5	6275.9	6104.6
62.5°	6135.0	6169.6	6232.9	6336.7	6523.2	6697.1	6960.4	7242.3	7545.3	7607.7	7476.9
65°	6180.5	6201.6	6289.4	6468.3	6723.2	7033.0	7395.9	7820.4	8272.0	8505.7	8286.3
67°	5853.1	5859.0	5958.6	6162.0	6467.5	6834.6	7264.2	7782.4	8312.5	8634.0	8470.3
67.5°	5749.3	5760.2	5858.1	6065.8	6374.7	6750.2	7188.3	7720.8	8263.5	8599.4	8451.7
70°	5139.9	5139.9	5245.4	5454.7	5744.2	6110.5	6568.8	7106.4	7696.4	7979.1	7853.3
72.5°	4375.2	4347.4	4466.4	4625.1	4861.4	5181.3	5550.1	5974.6	6418.6	6624.5	6574.7
75°	3180.2	3232.5	3294.1	3411.4	3616.5	3868.9	4084.9	4463.9	4812.4	5040.3	4980.4
77.5°	1735.2	1755.5	1926.0	1996.0	2175.8	2363.2	2600.3	2866.2	3140.5	3284.0	3225.7
80°	1031.4	1071.0	1172.3	1255.9	1352.9	1495.6	1667.7	1726.0	1780.0	1776.6	1671.1
82.5°	651.6	699.7	809.4	881.1	931.8	1014.5	1108.2	1181.6	1197.6	1118.3	995.9
85°	105.5	174.7	456.6	536.8	568.8	613.6	682.8	714.0	666.8	582.4	603.5
87.5°	41.4	49.8	139.3	176.4	186.5	97.9	169.6	199.2	101.3	51.5	116.5
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: P146878

CATALOG NUMBER: LDRL-T4-E05-E-8030

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°	105°
0°	1669.4	1669.4	1669.4	1669.4	1669.4	1669.4	1669.4	1669.4	1669.4	1669.4	1669.4
2.5°	1651.7	1655.9	1660.1	1665.2	1666.9	1671.1	1678.7	1677.9	1683.8	1686.3	1690.5
5°	1648.3	1657.6	1664.4	1673.6	1677.0	1686.3	1696.4	1699.8	1707.4	1713.3	1718.4
7.5°	1655.1	1665.2	1673.6	1684.6	1692.2	1699.8	1707.4	1716.7	1723.4	1727.6	1731.0
10°	1657.6	1668.6	1678.7	1688.0	1696.4	1702.3	1710.8	1718.4	1725.1	1727.6	1728.5
12.5°	1658.4	1666.0	1676.2	1686.3	1693.9	1701.5	1707.4	1715.8	1720.9	1721.7	1720.1
15°	1665.2	1666.0	1672.8	1684.6	1692.2	1699.8	1704.0	1708.2	1711.6	1709.1	1706.5
17.5°	1685.4	1679.5	1679.5	1685.4	1689.7	1693.0	1693.9	1693.0	1689.7	1684.6	1680.4
20°	1718.4	1706.5	1697.3	1693.9	1687.1	1678.7	1667.7	1657.6	1644.9	1639.0	1638.2
22.5°	1769.8	1752.1	1735.2	1718.4	1696.4	1671.9	1646.6	1624.7	1607.0	1597.7	1598.5
25°	1857.6	1831.5	1812.0	1782.5	1747.1	1712.5	1679.5	1650.0	1628.9	1612.0	1615.4
27.5°	1975.8	1946.2	1929.4	1895.6	1855.1	1811.2	1772.4	1731.9	1701.5	1680.4	1684.6
30°	2114.2	2105.8	2077.9	2044.1	2006.2	1956.4	1898.1	1837.4	1782.5	1747.9	1741.2
32.5°	2281.3	2272.0	2241.6	2212.9	2164.0	2109.1	2033.2	1937.0	1850.9	1785.0	1756.3
35°	2487.2	2464.5	2427.3	2399.5	2344.6	2273.7	2175.8	2045.8	1915.0	1816.3	1744.5
37.5°	2743.8	2687.3	2625.7	2553.1	2472.0	2386.0	2272.9	2120.9	1958.9	1818.8	1691.4
40°	2988.6	2897.4	2795.3	2680.5	2581.8	2478.0	2360.6	2186.8	1988.4	1801.1	1611.2
42.5°	3261.2	3119.4	2981.0	2823.1	2693.2	2570.0	2435.8	2233.2	1994.4	1753.0	1507.4
45°	3523.7	3341.4	3155.7	2960.7	2795.3	2658.6	2505.8	2272.9	1992.7	1702.3	1404.4
47.5°	3757.4	3539.7	3310.1	3090.7	2898.3	2748.0	2580.9	2326.9	2015.5	1688.0	1336.0
50°	3976.0	3724.5	3455.3	3211.4	3002.1	2848.5	2676.3	2412.1	2085.5	1720.9	1325.9
52.5°	4201.4	3927.9	3619.9	3357.4	3138.8	2960.7	2786.9	2521.0	2183.4	1788.4	1348.7
55°	4495.1	4181.1	3852.8	3561.6	3311.0	3119.4	2918.5	2652.7	2288.9	1866.9	1391.7
57.5°	4932.3	4565.1	4192.1	3879.0	3589.5	3350.6	3130.4	2825.7	2463.6	1985.1	1486.3
60°	5717.2	5310.4	4878.3	4468.9	4135.6	3856.2	3576.0	3197.9	2786.0	2253.5	1703.2
62.5°	6999.2	6436.3	5838.7	5300.3	4842.0	4463.9	4068.9	3614.8	3134.6	2579.2	2031.5
65°	7769.8	6993.3	6232.9	5608.3	5066.5	4582.0	4104.3	3616.5	3151.5	2666.2	2179.2
67°	7865.2	7013.6	6172.1	5507.0	4926.4	4398.9	3880.7	3381.9	2965.8	2559.0	2138.7
67.5°	7836.5	6973.1	6114.7	5442.9	4856.3	4345.7	3835.9	3325.3	2920.2	2513.4	2108.3
70°	7271.0	6426.1	5577.1	4923.8	4361.7	3839.3	3357.4	2845.9	2532.8	2241.6	1891.4
72.5°	6034.5	5375.4	4663.9	4119.5	3634.2	3181.8	2758.2	2330.3	2078.7	1872.8	1626.4
75°	4474.8	3870.5	3268.8	2941.3	2564.9	2202.8	1875.3	1558.9	1461.8	1412.8	1267.7
77.5°	2763.2	2220.5	1767.3	1471.1	1169.8	916.6	729.2	593.3	618.6	719.9	766.3
80°	1375.7	1016.2	786.6	625.4	505.6	408.5	299.6	219.4	262.5	311.4	352.8
82.5°	828.0	654.1	517.4	438.0	356.2	275.1	195.0	148.5	164.6	221.1	243.1
85°	514.0	411.9	329.2	275.1	227.9	168.8	110.6	109.7	116.5	146.9	168.0
87.5°	151.1	102.1	81.0	84.4	93.7	77.6	58.2	49.8	61.6	84.4	94.5
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: P146878

CATALOG NUMBER: LDRL-T4-E05-E-8030

CANDELA DISTRIBUTION (continued):

	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°	160°
0°	1669.4	1669.4	1669.4	1669.4	1669.4	1669.4	1669.4	1669.4	1669.4	1669.4	1669.4
2.5°	1691.4	1697.3	1699.8	1700.6	1701.5	1706.5	1706.5	1711.6	1713.3	1713.3	1715.0
5°	1723.4	1729.3	1731.9	1732.7	1734.4	1736.9	1736.1	1739.5	1741.2	1740.3	1740.3
7.5°	1735.2	1736.9	1736.9	1739.5	1742.0	1739.5	1737.8	1739.5	1738.6	1739.5	1739.5
10°	1731.0	1729.3	1729.3	1727.6	1730.2	1725.1	1725.1	1726.8	1726.0	1727.6	1730.2
12.5°	1720.9	1720.1	1717.5	1716.7	1720.1	1716.7	1717.5	1720.1	1721.7	1725.1	1729.3
15°	1706.5	1704.0	1704.0	1707.4	1715.8	1718.4	1721.7	1726.0	1726.8	1728.5	1730.2
17.5°	1682.1	1686.3	1696.4	1708.2	1724.3	1730.2	1731.9	1729.3	1720.9	1714.1	1707.4
20°	1648.3	1666.9	1693.0	1718.4	1737.8	1736.9	1726.0	1709.9	1689.7	1675.3	1666.0
22.5°	1619.6	1655.9	1696.4	1726.8	1739.5	1723.4	1698.1	1673.6	1650.0	1628.9	1610.3
25°	1639.9	1674.5	1709.1	1727.6	1726.8	1699.0	1665.2	1638.2	1606.1	1576.6	1545.3
27.5°	1705.7	1726.8	1736.9	1731.0	1713.3	1676.2	1639.0	1601.1	1559.7	1524.2	1488.0
30°	1750.4	1750.4	1740.3	1716.7	1685.4	1644.1	1598.5	1549.6	1500.6	1459.3	1417.9
32.5°	1736.1	1703.2	1673.6	1641.6	1606.1	1561.4	1509.1	1455.9	1400.2	1352.1	1316.6
35°	1673.6	1602.7	1541.1	1495.6	1458.4	1405.2	1344.5	1283.7	1238.1	1205.2	1185.0
37.5°	1562.2	1449.1	1359.7	1304.0	1246.6	1191.7	1121.7	1093.8	1053.3	1033.0	1025.4
40°	1427.2	1261.8	1149.5	1077.8	1017.0	948.6	901.4	883.7	868.5	864.2	860.9
42.5°	1271.9	1065.1	931.8	857.5	784.1	734.3	713.2	702.2	699.7	699.7	703.9
45°	1110.7	865.1	711.5	651.6	590.8	564.6	559.6	554.5	555.3	552.8	554.5
47.5°	985.8	694.6	536.8	481.9	450.7	442.3	436.3	434.7	434.7	430.4	425.4
50°	920.8	580.7	421.2	378.1	360.4	354.5	354.5	351.1	344.3	340.1	329.2
52.5°	903.9	521.6	364.6	327.5	312.3	307.2	302.1	297.1	287.0	277.7	265.0
55°	917.4	503.0	346.9	312.3	295.4	289.5	285.3	276.8	262.5	249.0	234.6
57.5°	974.0	514.8	353.6	316.5	301.3	297.1	292.9	280.2	262.5	243.1	227.0
60°	1128.4	570.5	382.3	339.3	326.6	327.5	321.6	305.5	280.2	252.4	228.7
62.5°	1327.6	648.2	419.5	371.4	369.7	378.1	378.1	350.3	308.9	266.7	234.6
65°	1441.5	672.7	424.5	375.6	389.9	414.4	412.7	375.6	319.0	266.7	232.1
67°	1412.8	646.5	403.4	351.1	368.0	395.8	392.5	357.0	303.8	255.7	225.3
67.5°	1390.1	638.1	398.4	345.2	362.1	384.9	384.9	349.4	297.1	252.4	222.8
70°	1223.8	563.8	373.0	322.4	322.4	328.3	324.1	298.8	263.3	232.1	212.7
72.5°	1020.4	492.9	352.8	306.4	290.3	287.0	281.0	263.3	240.5	218.6	201.7
75°	790.8	436.3	336.8	289.5	268.4	260.8	254.9	241.4	223.7	205.1	190.7
77.5°	553.7	373.9	315.7	275.1	252.4	246.4	237.2	222.0	207.6	191.6	178.1
80°	343.5	308.9	275.1	248.1	224.5	216.1	204.2	190.7	178.9	169.6	159.5
82.5°	244.8	227.0	205.1	190.7	166.3	140.9	151.1	151.9	144.3	138.4	135.9
85°	163.7	147.7	136.7	124.1	109.7	98.7	101.3	108.9	109.7	107.2	107.2
87.5°	89.5	76.0	73.4	76.0	65.8	62.5	63.3	70.1	70.9	70.9	71.7
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: P146878

CATALOG NUMBER: LDRL-T4-E05-E-8030

CANDELA DISTRIBUTION (continued):

	165°	170°	175°	180°
0°	1669.4	1669.4	1669.4	1669.4
2.5°	1715.8	1718.4	1717.5	1719.2
5°	1742.0	1743.7	1742.8	1743.7
7.5°	1737.8	1741.2	1742.8	1740.3
10°	1731.0	1736.1	1739.5	1739.5
12.5°	1732.7	1741.2	1746.2	1746.2
15°	1731.0	1737.8	1739.5	1739.5
17.5°	1704.9	1704.9	1705.7	1702.3
20°	1659.3	1654.2	1652.5	1646.6
22.5°	1594.3	1582.5	1574.9	1570.7
25°	1520.0	1501.5	1489.6	1482.9
27.5°	1458.4	1442.4	1430.6	1423.8
30°	1390.1	1371.5	1364.7	1359.7
32.5°	1291.3	1273.6	1268.5	1264.3
35°	1163.0	1157.1	1143.6	1134.3
37.5°	1014.5	1006.9	1001.8	998.4
40°	859.2	860.0	855.8	848.2
42.5°	703.9	712.3	703.9	702.2
45°	552.8	562.1	562.1	564.6
47.5°	426.2	424.5	427.9	428.7
50°	322.4	317.3	315.7	313.1
52.5°	255.7	249.8	246.4	242.2
55°	225.3	218.6	215.2	214.4
57.5°	215.2	206.8	201.7	200.9
60°	212.7	200.9	194.1	192.4
62.5°	212.7	198.3	190.7	188.2
65°	210.2	195.8	189.1	186.5
67°	206.8	194.1	187.4	185.7
67.5°	205.1	193.3	187.4	184.8
70°	200.9	190.7	184.0	181.5
72.5°	191.6	183.1	176.4	174.7
75°	181.5	173.9	169.6	168.0
77.5°	169.6	162.9	157.8	153.6
80°	151.9	144.3	136.7	135.0
82.5°	129.1	120.7	114.8	113.9
85°	103.8	97.1	90.3	90.3
87.5°	72.6	68.4	64.1	59.9
90°	0.0	0.0	0.0	0.0

(END OF REPORT)