

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: P146885

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

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P146885
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
Description: RL LED ROADWAY LARGE CUTOFF COBRAHEAD LUMINAIRE
(5) LIGHTBARS WITH AccuLED OPTICS - TYPE 4 SHORT
Light Source: (35) 4000K CCT, 70 CRI LEDs
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 12129.5 lumens
Efficiency: N/A
Efficacy: 91.0 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

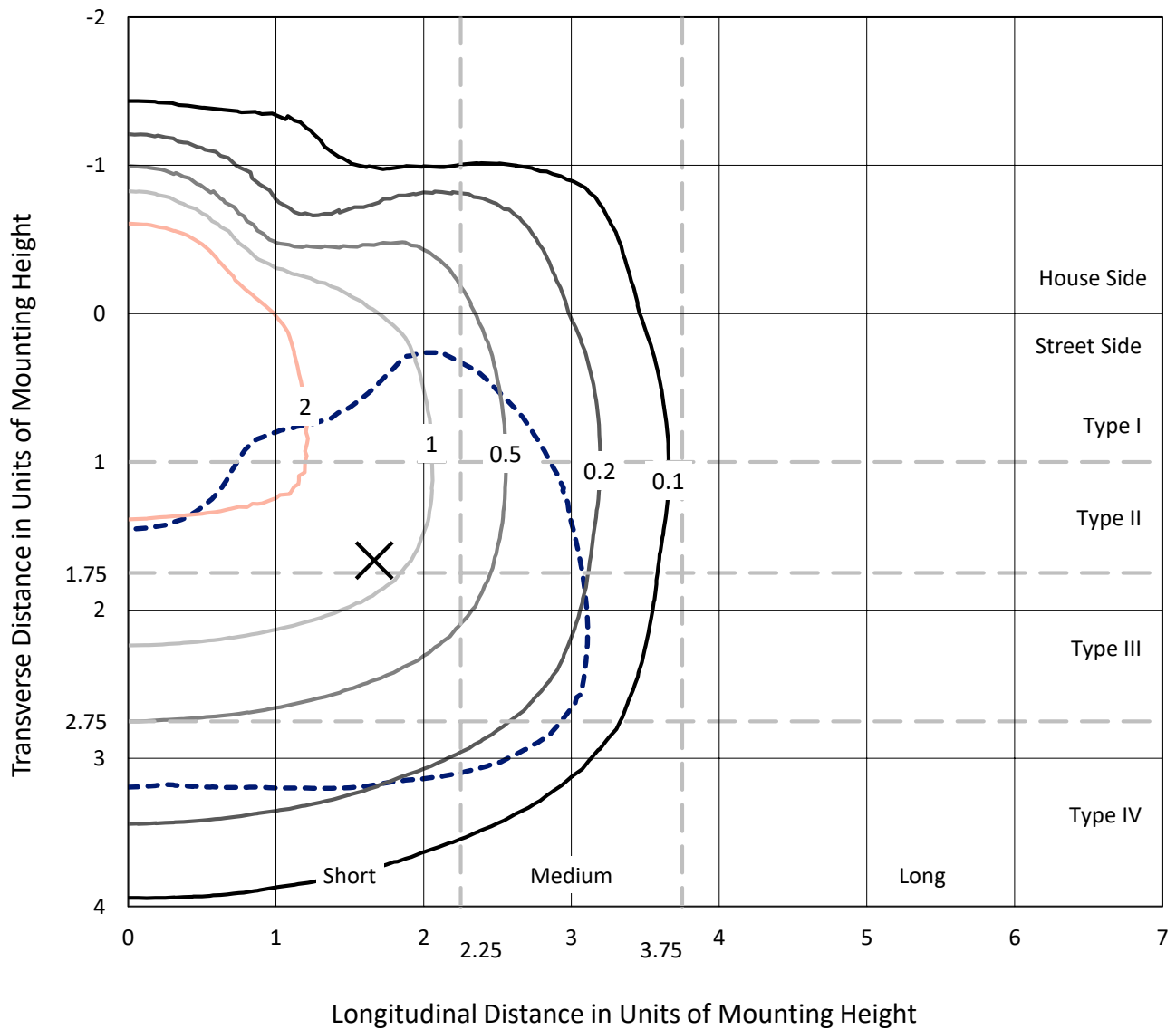
Input Watts (W): 133.3
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



REPORT NUMBER: P146885
 CATALOG NUMBER: LDRL-T4-F05-E

Iso-Footcandle Lines of Horizontal Illumination

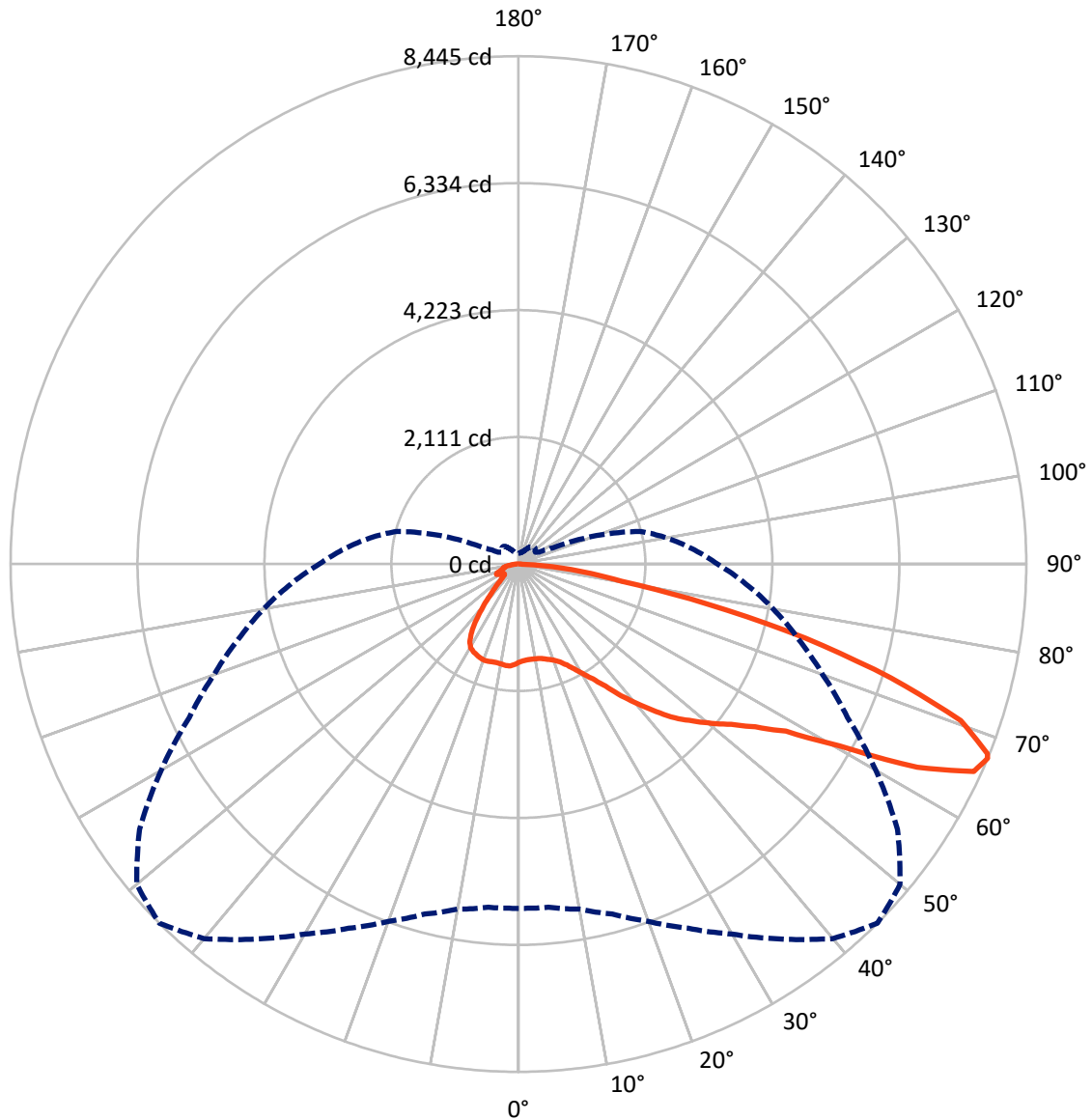
✕ Max cd
 - - - 1/2 Max cd



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

REPORT NUMBER: P146885
CATALOG NUMBER: LDRL-T4-F05-E

Luminous Intensity Polar Plot



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

REPORT NUMBER: P146885
 CATALOG NUMBER: LDRL-T4-F05-E

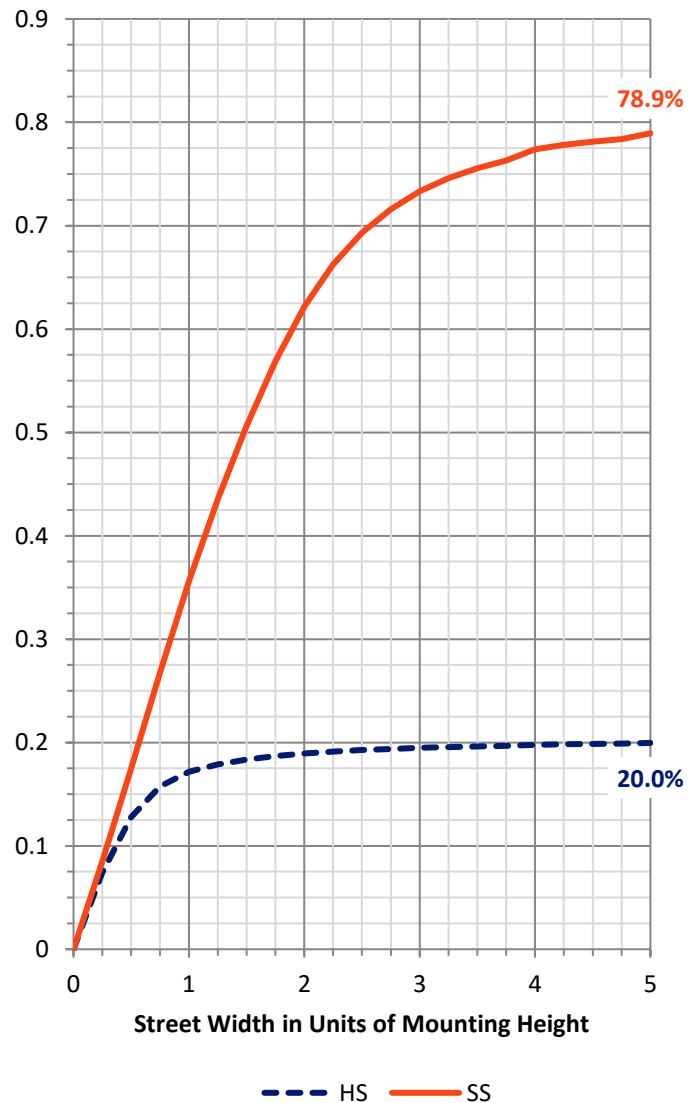
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	2457.7	0.0	2457.7
	% Fixture	20.3	0.0	20.3
Street Side	Lumens	9671.8	0.0	9671.8
	% Fixture	79.7	0.0	79.7
Total	Lumens	12129.5	0.0	12129.5
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	157.4	1.3
10°-20°	472.6	3.9
20°-30°	803.2	6.6
30°-40°	1207.1	10.0
40°-50°	1569.6	12.9
50°-60°	2155.0	17.8
60°-70°	3399.5	28.0
70°-80°	2054.0	16.9
80°-90°	311.2	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°	12129.5	100.0
0°-180°	12129.5	100.0

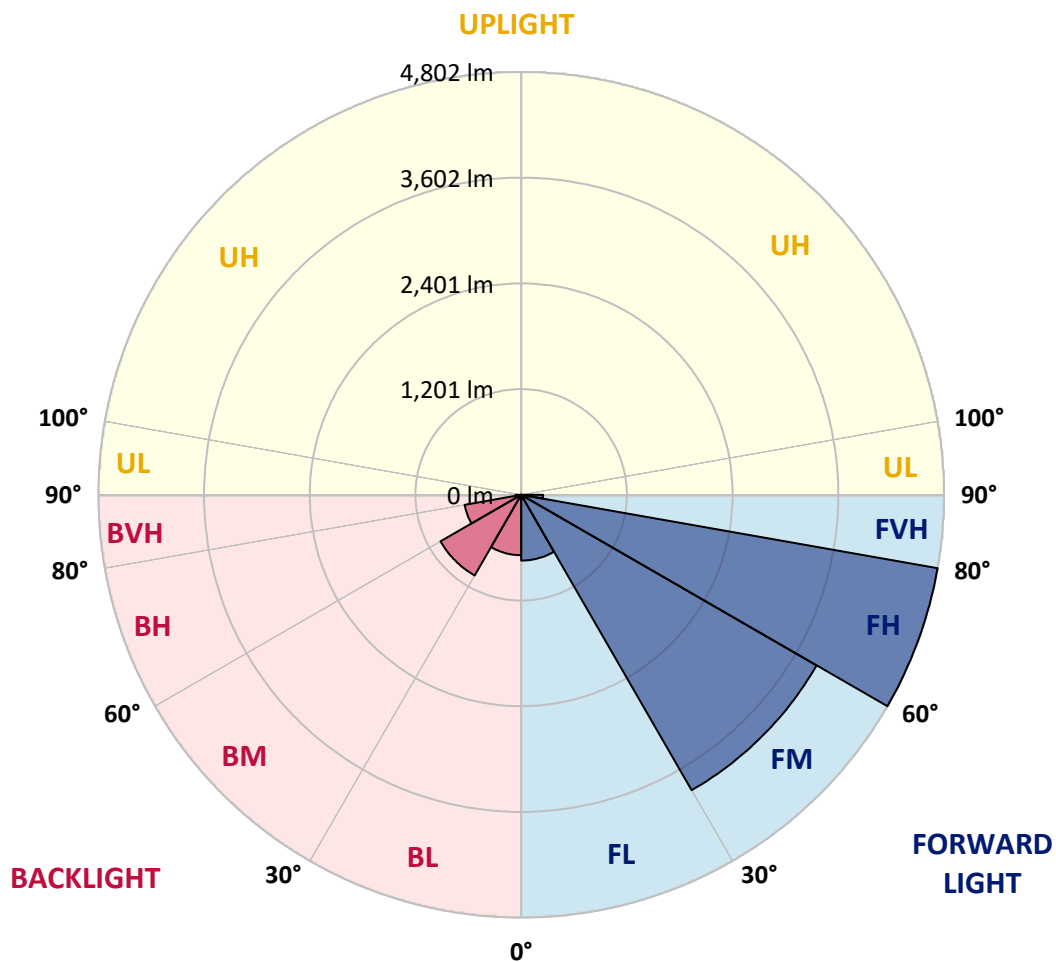


REPORT NUMBER: P146885
 CATALOG NUMBER: LDRL-T4-F05-E

LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	746.9	6.2			
FM	(30°-60°)	3874.0	31.9			
FH	(60°-80°)	4802.3	39.6			G2/5000
FVH	(80°-90°)	248.5	2.0			G3/500
BL	(0°-30°)	686.2	5.7	B2/1000		
BM	(30°-60°)	1057.6	8.7	B2/2500		
BH	(60°-80°)	651.2	5.4	B2/1000		G2/1000
BVH	(80°-90°)	62.7	0.5			G1/100
UL	(90°-100°)	0.0	0.0		U0/0	
UH	(100°-180°)	0.0	0.0		U0/0	

BUG Rating: B2-U0-G3
 Type IV Short





REPORT NUMBER: P146885
 CATALOG NUMBER: LDRL-T4-F05-E

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1632.9	1632.9	1632.9	1632.9	1632.9	1632.9	1632.9	1632.9	1632.9	1632.9	1632.9
2.5°	1596.6	1599.9	1597.4	1597.4	1598.2	1599.0	1600.7	1604.0	1604.8	1609.8	1610.6
5°	1564.4	1565.2	1565.2	1566.0	1571.0	1575.1	1579.2	1585.0	1590.0	1599.0	1604.8
7.5°	1552.8	1556.1	1555.3	1556.9	1561.9	1566.0	1571.0	1579.2	1591.6	1599.0	1607.3
10°	1571.8	1574.3	1571.8	1572.6	1573.5	1577.6	1579.2	1585.0	1594.9	1601.5	1608.9
12.5°	1615.6	1615.6	1613.1	1611.4	1608.9	1609.8	1606.5	1605.6	1610.6	1611.4	1612.3
15°	1673.3	1679.9	1671.7	1665.1	1661.8	1658.5	1647.7	1643.6	1642.8	1635.4	1627.9
17.5°	1732.0	1733.6	1728.6	1721.2	1716.3	1708.8	1699.8	1691.5	1681.6	1670.0	1655.2
20°	1797.2	1798.0	1791.4	1780.7	1774.9	1765.8	1754.2	1740.2	1727.8	1709.7	1693.2
22.5°	1888.0	1887.1	1873.9	1864.9	1856.6	1845.9	1829.4	1810.4	1790.6	1769.1	1746.0
25°	1992.0	1992.0	1982.9	1968.1	1963.9	1948.2	1930.1	1907.8	1887.1	1856.6	1828.5
27.5°	2110.9	2111.7	2095.2	2086.9	2077.8	2061.3	2049.0	2031.6	2003.5	1973.0	1944.1
30°	2252.0	2247.9	2234.7	2217.4	2214.1	2200.8	2183.5	2171.1	2136.5	2115.0	2082.8
32.5°	2385.8	2392.4	2389.1	2369.3	2372.6	2359.4	2344.5	2335.4	2299.1	2278.4	2248.7
35°	2585.5	2591.3	2596.3	2588.8	2593.0	2585.5	2573.2	2549.2	2519.5	2492.3	2451.0
37.5°	2740.7	2746.5	2749.8	2768.0	2794.4	2820.0	2831.6	2819.2	2820.8	2779.5	2724.2
40°	2867.9	2881.9	2901.7	2936.4	2989.2	3037.9	3064.3	3085.0	3095.7	3056.9	2985.1
42.5°	2995.0	3009.9	3037.1	3092.4	3165.1	3235.2	3290.5	3354.1	3365.7	3355.8	3294.7
45°	3127.9	3145.2	3179.1	3241.8	3326.9	3418.5	3507.7	3597.6	3643.0	3650.5	3576.2
47.5°	3288.1	3312.8	3344.2	3415.2	3497.7	3600.9	3712.4	3828.0	3899.0	3899.0	3813.1
50°	3487.8	3515.9	3542.3	3613.3	3695.9	3802.4	3931.1	4059.9	4156.5	4162.3	4058.3
52.5°	3767.7	3771.8	3787.5	3852.7	3924.5	4043.4	4165.6	4315.0	4426.5	4431.4	4311.7
55°	4107.8	4107.8	4126.0	4180.5	4247.3	4345.6	4471.9	4637.8	4755.0	4780.6	4627.1
57.5°	4555.2	4571.8	4580.8	4644.4	4689.8	4793.8	4899.5	5080.3	5229.7	5246.2	5090.2
60°	5283.4	5252.0	5302.3	5358.5	5465.0	5540.9	5720.9	5902.5	6093.2	6138.6	5971.0
62.5°	6000.7	6034.6	6096.5	6198.0	6380.5	6550.5	6808.1	7083.8	7380.2	7441.3	7313.3
65°	6045.3	6066.0	6151.8	6326.8	6576.1	6879.1	7234.1	7649.3	8091.0	8319.6	8105.0
67°	5725.0	5730.8	5828.2	6027.2	6326.0	6685.1	7105.3	7612.2	8130.6	8445.1	8285.0
67.5°	5623.5	5634.2	5730.0	5933.0	6235.2	6602.5	7031.0	7551.9	8082.7	8411.3	8266.8
70°	5027.4	5027.4	5130.6	5335.4	5618.5	5976.8	6425.1	6950.9	7528.0	7804.5	7681.5
72.5°	4279.5	4252.3	4368.7	4523.9	4755.0	5067.9	5428.7	5843.9	6278.1	6479.5	6430.8
75°	3110.6	3161.8	3222.0	3336.8	3537.4	3784.2	3995.5	4366.2	4707.1	4930.0	4871.4
77.5°	1697.3	1717.1	1883.8	1952.4	2128.2	2311.5	2543.4	2803.5	3071.8	3212.1	3155.2
80°	1008.8	1047.6	1146.7	1228.4	1323.3	1462.8	1631.2	1688.2	1741.0	1737.7	1634.5
82.5°	637.3	684.4	791.7	861.8	911.4	992.3	1083.9	1155.7	1171.4	1093.8	974.1
85°	103.2	170.9	446.6	525.0	556.4	600.2	667.8	698.4	652.2	569.6	590.3
87.5°	40.5	48.7	136.2	172.5	182.4	95.8	165.9	194.8	99.1	50.4	113.9
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: P146885
 CATALOG NUMBER: LDRL-T4-F05-E

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°	105°
0°	1632.9	1632.9	1632.9	1632.9	1632.9	1632.9	1632.9	1632.9	1632.9	1632.9	1632.9
2.5°	1615.6	1619.7	1623.8	1628.8	1630.4	1634.5	1642.0	1641.1	1646.9	1649.4	1653.5
5°	1612.3	1621.3	1627.9	1637.0	1640.3	1649.4	1659.3	1662.6	1670.0	1675.8	1680.8
7.5°	1618.9	1628.8	1637.0	1647.7	1655.2	1662.6	1670.0	1679.1	1685.7	1689.8	1693.2
10°	1621.3	1632.1	1642.0	1651.0	1659.3	1665.1	1673.3	1680.8	1687.4	1689.8	1690.7
12.5°	1622.2	1629.6	1639.5	1649.4	1656.8	1664.3	1670.0	1678.3	1683.2	1684.1	1682.4
15°	1628.8	1629.6	1636.2	1647.7	1655.2	1662.6	1666.7	1670.9	1674.2	1671.7	1669.2
17.5°	1648.6	1642.8	1642.8	1648.6	1652.7	1656.0	1656.8	1656.0	1652.7	1647.7	1643.6
20°	1680.8	1669.2	1660.1	1656.8	1650.2	1642.0	1631.2	1621.3	1608.9	1603.2	1602.3
22.5°	1731.1	1713.8	1697.3	1680.8	1659.3	1635.4	1610.6	1589.1	1571.8	1562.7	1563.5
25°	1817.0	1791.4	1772.4	1743.5	1708.8	1675.0	1642.8	1613.9	1593.3	1576.8	1580.1
27.5°	1932.6	1903.7	1887.1	1854.1	1814.5	1771.6	1733.6	1694.0	1664.3	1643.6	1647.7
30°	2067.9	2059.7	2032.4	1999.4	1962.3	1913.6	1856.6	1797.2	1743.5	1709.7	1703.1
32.5°	2231.4	2222.3	2192.6	2164.5	2116.6	2063.0	1988.7	1894.6	1810.4	1746.0	1717.9
35°	2432.8	2410.5	2374.2	2347.0	2293.3	2224.0	2128.2	2001.1	1873.1	1776.5	1706.4
37.5°	2683.8	2628.5	2568.2	2497.2	2418.0	2333.8	2223.1	2074.5	1916.0	1779.0	1654.4
40°	2923.2	2834.0	2734.1	2621.9	2525.3	2423.7	2309.0	2138.9	1944.9	1761.7	1575.9
42.5°	3189.8	3051.1	2915.8	2761.4	2634.3	2513.7	2382.5	2184.3	1950.7	1714.6	1474.4
45°	3446.6	3268.3	3086.6	2895.9	2734.1	2600.4	2451.0	2223.1	1949.1	1665.1	1373.7
47.5°	3675.2	3462.3	3237.7	3023.1	2834.9	2687.9	2524.5	2276.0	1971.4	1651.0	1306.8
50°	3889.0	3643.0	3379.7	3141.1	2936.4	2786.1	2617.7	2359.4	2039.9	1683.2	1296.9
52.5°	4109.5	3842.0	3540.7	3283.9	3070.1	2895.9	2725.9	2465.8	2135.6	1749.3	1319.2
55°	4396.7	4089.7	3768.5	3483.7	3238.5	3051.1	2854.7	2594.6	2238.8	1826.1	1361.3
57.5°	4824.4	4465.3	4100.4	3794.1	3511.0	3277.3	3061.9	2763.9	2409.7	1941.6	1453.7
60°	5592.1	5194.2	4771.5	4371.2	4045.1	3771.8	3497.7	3127.9	2725.1	2204.2	1665.9
62.5°	6846.1	6295.5	5711.0	5184.3	4736.0	4366.2	3979.9	3535.7	3066.0	2522.8	1987.0
65°	7599.8	6840.3	6096.5	5485.6	4955.6	4481.8	4014.5	3537.4	3082.5	2607.8	2131.5
67°	7693.1	6860.1	6037.1	5386.6	4818.6	4302.6	3795.8	3307.9	2900.9	2503.0	2091.9
67.5°	7665.0	6820.5	5980.9	5323.8	4750.1	4250.6	3752.0	3252.6	2856.3	2458.4	2062.2
70°	7111.9	6285.5	5455.1	4816.1	4266.3	3755.3	3283.9	2783.7	2477.4	2192.6	1850.0
72.5°	5902.5	5257.8	4561.9	4029.4	3554.7	3112.2	2697.8	2279.3	2033.3	1831.8	1590.8
75°	4376.9	3785.9	3197.3	2877.0	2508.8	2154.6	1834.3	1524.7	1429.8	1381.9	1239.9
77.5°	2702.8	2172.0	1728.6	1438.9	1144.2	896.5	713.3	580.3	605.1	704.2	749.6
80°	1345.6	993.9	769.4	611.7	494.5	399.6	293.1	214.6	256.7	304.6	345.1
82.5°	809.8	639.8	506.0	428.4	348.4	269.1	190.7	145.3	161.0	216.3	237.8
85°	502.7	402.9	322.0	269.1	222.9	165.1	108.1	107.3	113.9	143.6	164.3
87.5°	147.8	99.9	79.3	82.6	91.6	75.9	57.0	48.7	60.3	82.6	92.5
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: P146885
 CATALOG NUMBER: LDRL-T4-F05-E

CANDELA DISTRIBUTION (continued):

	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°	160°
0°	1632.9	1632.9	1632.9	1632.9	1632.9	1632.9	1632.9	1632.9	1632.9	1632.9	1632.9
2.5°	1654.4	1660.1	1662.6	1663.4	1664.3	1669.2	1669.2	1674.2	1675.8	1675.8	1677.5
5°	1685.7	1691.5	1694.0	1694.8	1696.5	1698.9	1698.1	1701.4	1703.1	1702.2	1702.2
7.5°	1697.3	1698.9	1698.9	1701.4	1703.9	1701.4	1699.8	1701.4	1700.6	1701.4	1701.4
10°	1693.2	1691.5	1691.5	1689.8	1692.3	1687.4	1687.4	1689.0	1688.2	1689.8	1692.3
12.5°	1683.2	1682.4	1679.9	1679.1	1682.4	1679.1	1679.9	1682.4	1684.1	1687.4	1691.5
15°	1669.2	1666.7	1666.7	1670.0	1678.3	1680.8	1684.1	1688.2	1689.0	1690.7	1692.3
17.5°	1645.3	1649.4	1659.3	1670.9	1686.5	1692.3	1694.0	1691.5	1683.2	1676.6	1670.0
20°	1612.3	1630.4	1656.0	1680.8	1699.8	1698.9	1688.2	1672.5	1652.7	1638.7	1629.6
22.5°	1584.2	1619.7	1659.3	1689.0	1701.4	1685.7	1661.0	1637.0	1613.9	1593.3	1575.1
25°	1604.0	1637.8	1671.7	1689.8	1689.0	1661.8	1628.8	1602.3	1571.0	1542.1	1511.5
27.5°	1668.4	1689.0	1698.9	1693.2	1675.8	1639.5	1603.2	1566.0	1525.6	1490.9	1455.4
30°	1712.1	1712.1	1702.2	1679.1	1648.6	1608.1	1563.5	1515.7	1467.8	1427.3	1386.9
32.5°	1698.1	1665.9	1637.0	1605.6	1571.0	1527.2	1476.0	1424.0	1369.5	1322.5	1287.8
35°	1637.0	1567.7	1507.4	1462.8	1426.5	1374.5	1315.1	1255.6	1211.0	1178.8	1159.0
37.5°	1528.0	1417.4	1329.9	1275.4	1219.3	1165.6	1097.1	1069.9	1030.3	1010.4	1003.0
40°	1396.0	1234.2	1124.4	1054.2	994.8	927.9	881.7	864.3	849.5	845.3	842.0
42.5°	1244.1	1041.8	911.4	838.7	766.9	718.2	697.6	686.8	684.4	684.4	688.5
45°	1086.4	846.2	695.9	637.3	577.9	552.3	547.3	542.4	543.2	540.7	542.4
47.5°	964.2	679.4	525.0	471.4	440.8	432.6	426.8	425.1	425.1	421.0	416.1
50°	900.6	568.0	411.9	369.8	352.5	346.7	346.7	343.4	336.8	332.7	322.0
52.5°	884.1	510.2	356.6	320.3	305.4	300.5	295.5	290.6	280.7	271.6	259.2
55°	897.3	492.0	339.3	305.4	288.9	283.2	279.0	270.8	256.7	243.5	229.5
57.5°	952.7	503.6	345.9	309.6	294.7	290.6	286.5	274.1	256.7	237.8	222.1
60°	1103.7	558.1	374.0	331.9	319.5	320.3	314.5	298.8	274.1	246.8	223.7
62.5°	1298.6	634.0	410.3	363.2	361.6	369.8	369.8	342.6	302.1	260.9	229.5
65°	1410.0	657.9	415.2	367.4	381.4	405.3	403.7	367.4	312.0	260.9	227.0
67°	1381.9	632.4	394.6	343.4	359.9	387.2	383.9	349.2	297.2	250.1	220.4
67.5°	1359.6	624.1	389.6	337.6	354.2	376.4	376.4	341.8	290.6	246.8	217.9
70°	1197.0	551.5	364.9	315.4	315.4	321.1	317.0	292.2	257.6	227.0	208.0
72.5°	998.1	482.1	345.1	299.7	284.0	280.7	274.9	257.6	235.3	213.8	197.3
75°	773.5	426.8	329.4	283.2	262.5	255.1	249.3	236.1	218.8	200.6	186.6
77.5°	541.5	365.7	308.7	269.1	246.8	241.1	232.0	217.1	203.1	187.4	174.2
80°	336.0	302.1	269.1	242.7	219.6	211.3	199.8	186.6	175.0	165.9	156.0
82.5°	239.4	222.1	200.6	186.6	162.6	137.9	147.8	148.6	141.2	135.4	132.9
85°	160.2	144.5	133.7	121.4	107.3	96.6	99.1	106.5	107.3	104.8	104.8
87.5°	87.5	74.3	71.8	74.3	64.4	61.1	61.9	68.5	69.3	69.3	70.2
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: P146885
 CATALOG NUMBER: LDRL-T4-F05-E

CANDELA DISTRIBUTION (continued):

	165°	170°	175°	180°
0°	1632.9	1632.9	1632.9	1632.9
2.5°	1678.3	1680.8	1679.9	1681.6
5°	1703.9	1705.5	1704.7	1705.5
7.5°	1699.8	1703.1	1704.7	1702.2
10°	1693.2	1698.1	1701.4	1701.4
12.5°	1694.8	1703.1	1708.0	1708.0
15°	1693.2	1699.8	1701.4	1701.4
17.5°	1667.6	1667.6	1668.4	1665.1
20°	1623.0	1618.0	1616.4	1610.6
22.5°	1559.4	1547.9	1540.4	1536.3
25°	1486.8	1468.6	1457.1	1450.4
27.5°	1426.5	1410.8	1399.3	1392.7
30°	1359.6	1341.5	1334.9	1329.9
32.5°	1263.1	1245.7	1240.8	1236.6
35°	1137.6	1131.8	1118.6	1109.5
37.5°	992.3	984.9	979.9	976.6
40°	840.4	841.2	837.1	829.7
42.5°	688.5	696.7	688.5	686.8
45°	540.7	549.8	549.8	552.3
47.5°	416.9	415.2	418.5	419.4
50°	315.4	310.4	308.7	306.3
52.5°	250.1	244.4	241.1	236.9
55°	220.4	213.8	210.5	209.7
57.5°	210.5	202.3	197.3	196.5
60°	208.0	196.5	189.9	188.2
62.5°	208.0	194.0	186.6	184.1
65°	205.6	191.5	184.9	182.4
67°	202.3	189.9	183.3	181.6
67.5°	200.6	189.0	183.3	180.8
70°	196.5	186.6	180.0	177.5
72.5°	187.4	179.1	172.5	170.9
75°	177.5	170.1	165.9	164.3
77.5°	165.9	159.3	154.4	150.2
80°	148.6	141.2	133.7	132.1
82.5°	126.3	118.1	112.3	111.4
85°	101.5	94.9	88.3	88.3
87.5°	71.0	66.9	62.7	58.6
90°	0.0	0.0	0.0	0.0

(END OF REPORT)