

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: P146884

Luminaire Tested: **LDRL-T4-F05-E-7030**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P146884
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-7030
Description: RL LED ROADWAY LARGE CUTOFF COBRAHEAD LUMINAIRE
(5) LIGHTBARS WITH AccuLED OPTICS - TYPE 4 SHORT
Light Source: (35) 3000K CCT, 70 CRI LEDs
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 11078.5 lumens
Efficiency: N/A
Efficacy: 83.1 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

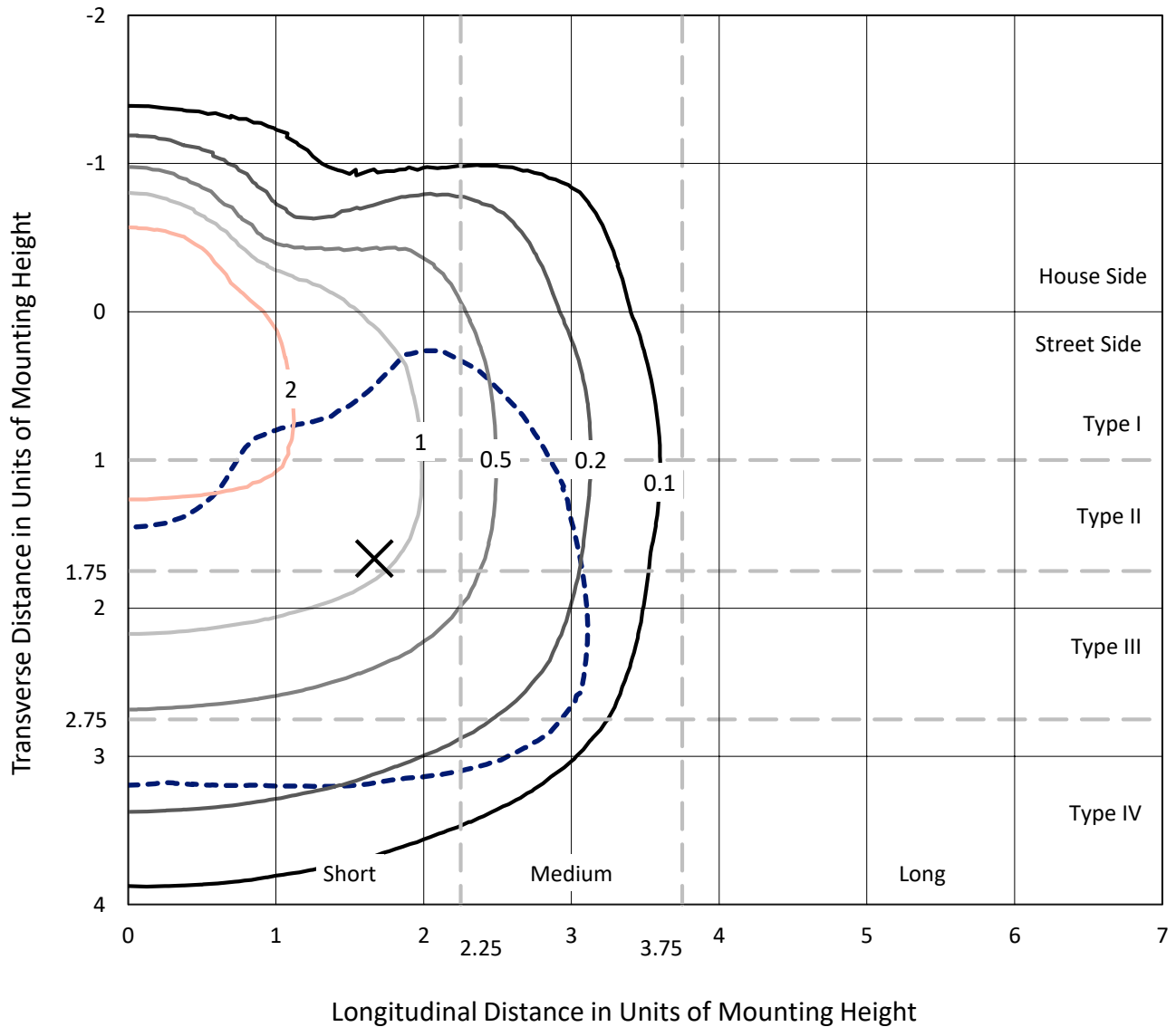
Input Watts (W): 133.3
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



REPORT NUMBER: P146884
 CATALOG NUMBER: LDRL-T4-F05-E-7030

Iso-Footcandle Lines of Horizontal Illumination

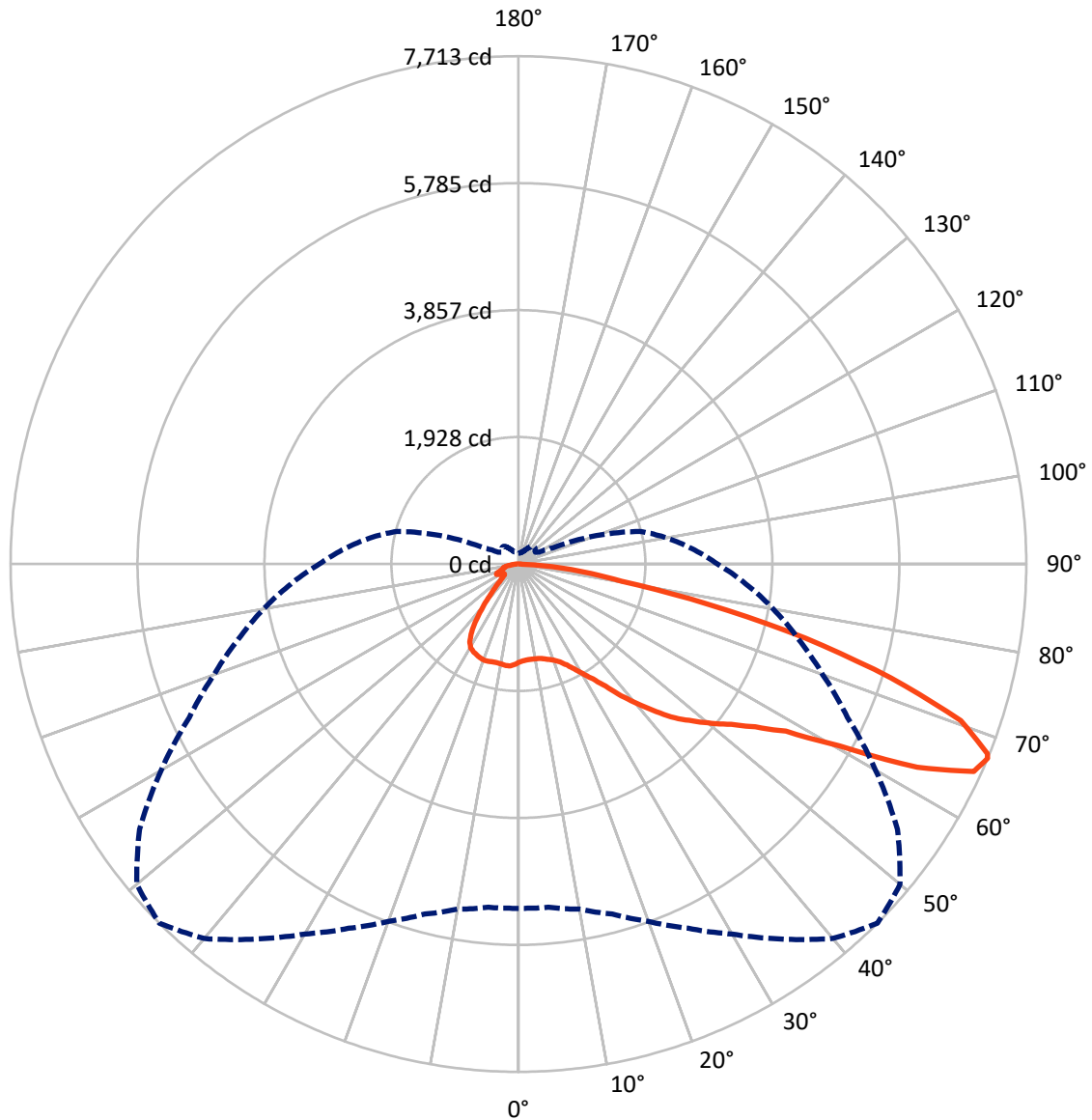
× Max cd
 - - - 1/2 Max cd



Based on 20 foot mounting height. Maximum calculated value = 3.8 fc
 Type IV - Short - Semi-Cutoff

REPORT NUMBER: P146884
CATALOG NUMBER: LDRL-T4-F05-E-7030

Luminous Intensity Polar Plot



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

REPORT NUMBER: P146884

CATALOG NUMBER: LDRL-T4-F05-E-7030

FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	2244.7	0.0	2244.7
	% Fixture	20.3	0.0	20.3
Street Side	Lumens	8833.7	0.0	8833.7
	% Fixture	79.7	0.0	79.7
Total	Lumens	11078.5	0.0	11078.5
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	143.7	1.3
10°-20°	431.6	3.9
20°-30°	733.6	6.6
30°-40°	1102.5	10.0
40°-50°	1433.6	12.9
50°-60°	1968.2	17.8
60°-70°	3104.9	28.0
70°-80°	1876.1	16.9
80°-90°	284.2	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°	11078.5	100.0
0°-180°	11078.5	100.0



REPORT NUMBER: P146884

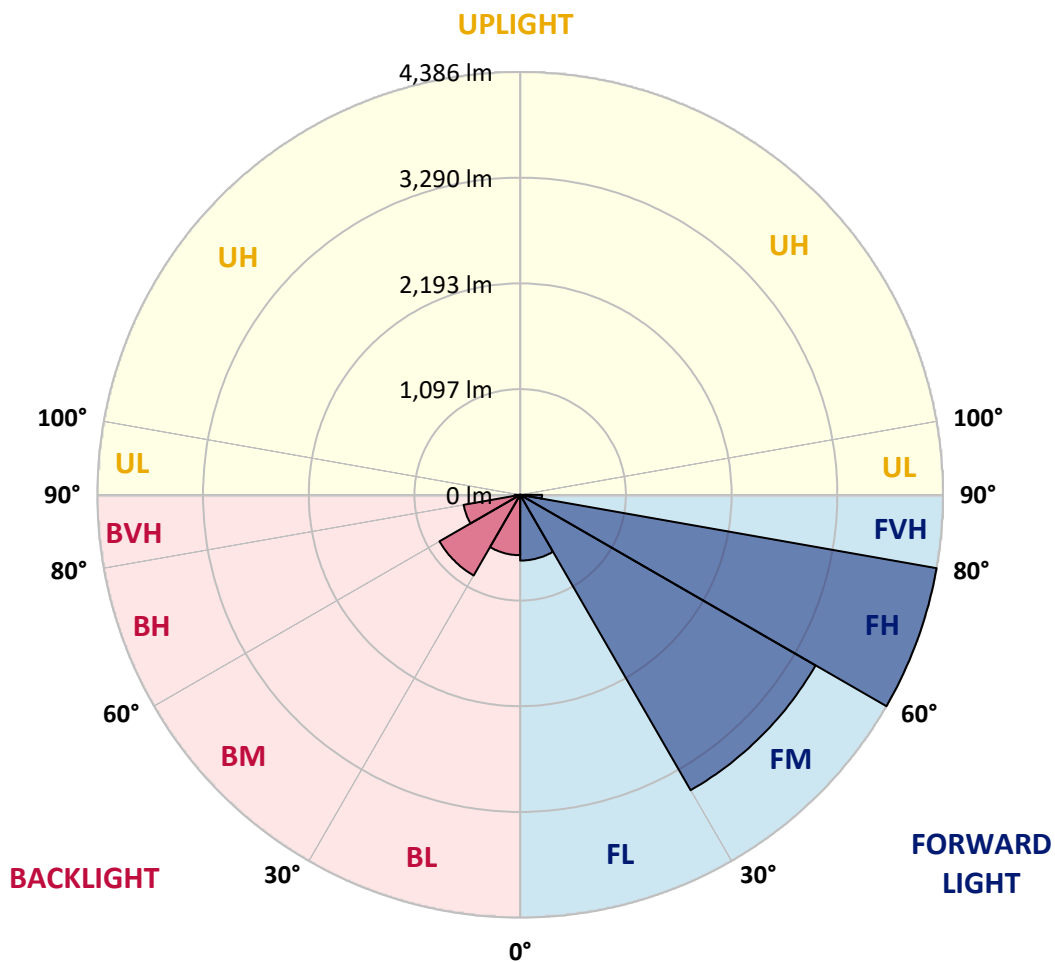
CATALOG NUMBER: LDRL-T4-F05-E-7030

LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	682.2	6.2			
FM (30°-60°)	3538.4	31.9			
FH (60°-80°)	4386.2	39.6			G2/5000
FVH (80°-90°)	227.0	2.0			G3/500
BL (0°-30°)	626.7	5.7	B2/1000		
BM (30°-60°)	966.0	8.7	B1/1000		
BH (60°-80°)	594.8	5.4	B2/1000		G2/1000
BVH (80°-90°)	57.3	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: P146884

CATALOG NUMBER: LDRL-T4-F05-E-7030

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1491.4	1491.4	1491.4	1491.4	1491.4	1491.4	1491.4	1491.4	1491.4	1491.4	1491.4
2.5°	1458.2	1461.2	1459.0	1459.0	1459.7	1460.5	1462.0	1465.0	1465.8	1470.3	1471.0
5°	1428.8	1429.6	1429.6	1430.3	1434.8	1438.6	1442.4	1447.7	1452.2	1460.5	1465.8
7.5°	1418.3	1421.3	1420.5	1422.0	1426.6	1430.3	1434.8	1442.4	1453.7	1460.5	1468.0
10°	1435.6	1437.9	1435.6	1436.4	1437.1	1440.9	1442.4	1447.7	1456.7	1462.7	1469.5
12.5°	1475.6	1475.6	1473.3	1471.8	1469.5	1470.3	1467.3	1466.5	1471.0	1471.8	1472.5
15°	1528.3	1534.4	1526.8	1520.8	1517.8	1514.8	1505.0	1501.2	1500.4	1493.7	1486.9
17.5°	1581.9	1583.4	1578.9	1572.1	1567.6	1560.8	1552.5	1544.9	1535.9	1525.3	1511.8
20°	1641.4	1642.2	1636.2	1626.4	1621.1	1612.8	1602.2	1589.4	1578.1	1561.5	1546.4
22.5°	1724.4	1723.6	1711.6	1703.3	1695.7	1685.9	1670.8	1653.5	1635.4	1615.8	1594.7
25°	1819.4	1819.4	1811.1	1797.5	1793.8	1779.4	1762.8	1742.5	1723.6	1695.7	1670.1
27.5°	1928.0	1928.7	1913.6	1906.1	1897.8	1882.7	1871.4	1855.6	1829.9	1802.0	1775.7
30°	2056.9	2053.1	2041.1	2025.2	2022.2	2010.1	1994.3	1983.0	1951.3	1931.7	1902.3
32.5°	2179.0	2185.1	2182.1	2164.0	2167.0	2154.9	2141.3	2133.0	2099.9	2081.0	2053.9
35°	2361.5	2366.8	2371.3	2364.5	2368.3	2361.5	2350.2	2328.3	2301.2	2276.3	2238.6
37.5°	2503.3	2508.5	2511.6	2528.1	2552.3	2575.6	2586.2	2574.9	2576.4	2538.7	2488.2
40°	2619.4	2632.2	2650.3	2682.0	2730.2	2774.7	2798.8	2817.7	2827.5	2792.0	2726.4
42.5°	2735.5	2749.1	2773.9	2824.5	2890.8	2954.9	3005.4	3063.5	3074.0	3065.0	3009.2
45°	2856.9	2872.7	2903.6	2960.9	3038.6	3122.3	3203.7	3285.9	3327.4	3334.2	3266.3
47.5°	3003.2	3025.8	3054.4	3119.3	3194.7	3288.9	3390.7	3496.3	3561.1	3561.1	3482.7
50°	3185.6	3211.3	3235.4	3300.2	3375.6	3472.9	3590.5	3708.1	3796.4	3801.6	3706.6
52.5°	3441.2	3445.0	3459.3	3518.9	3584.5	3693.1	3804.7	3941.1	4042.9	4047.4	3938.1
55°	3751.9	3751.9	3768.5	3818.2	3879.3	3969.0	4084.4	4235.9	4343.0	4366.4	4226.1
57.5°	4160.5	4175.6	4183.9	4242.0	4283.4	4378.4	4475.0	4640.1	4776.5	4791.6	4649.1
60°	4825.6	4796.9	4842.9	4894.2	4991.4	5060.8	5225.2	5391.1	5565.2	5606.7	5453.6
62.5°	5480.8	5511.7	5568.2	5661.0	5827.6	5982.9	6218.2	6470.0	6740.7	6796.5	6679.6
65°	5521.5	5540.3	5618.8	5778.6	6006.3	6283.0	6607.2	6986.5	7389.9	7598.7	7402.7
67°	5228.9	5234.2	5323.2	5504.9	5777.9	6105.8	6489.6	6952.6	7426.1	7713.4	7567.1
67.5°	5136.2	5146.0	5233.5	5419.0	5694.9	6030.4	6421.8	6897.5	7382.4	7682.4	7550.5
70°	4591.8	4591.8	4686.1	4873.1	5131.7	5458.9	5868.3	6348.6	6875.7	7128.3	7015.9
72.5°	3908.7	3883.8	3990.1	4131.9	4343.0	4628.8	4958.3	5337.5	5734.1	5918.1	5873.6
75°	2841.0	2887.8	2942.8	3047.6	3230.9	3456.3	3649.3	3987.9	4299.3	4502.8	4449.3
77.5°	1550.2	1568.3	1720.6	1783.2	1943.8	2111.2	2323.1	2560.6	2805.6	2933.8	2881.8
80°	921.4	956.8	1047.3	1121.9	1208.7	1336.1	1489.9	1541.9	1590.2	1587.2	1492.9
82.5°	582.1	625.1	723.1	787.2	832.4	906.3	990.0	1055.6	1069.9	999.0	889.7
85°	94.2	156.1	407.9	479.5	508.2	548.2	610.0	637.9	595.7	520.3	539.1
87.5°	36.9	44.5	124.4	157.6	166.6	87.5	151.6	177.9	90.5	46.0	104.1
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: P146884

CATALOG NUMBER: LDRL-T4-F05-E-7030

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°	105°
0°	1491.4	1491.4	1491.4	1491.4	1491.4	1491.4	1491.4	1491.4	1491.4	1491.4	1491.4
2.5°	1475.6	1479.3	1483.1	1487.6	1489.1	1492.9	1499.7	1498.9	1504.2	1506.5	1510.2
5°	1472.5	1480.8	1486.9	1495.2	1498.2	1506.5	1515.5	1518.5	1525.3	1530.6	1535.1
7.5°	1478.6	1487.6	1495.2	1505.0	1511.8	1518.5	1525.3	1533.6	1539.7	1543.4	1546.4
10°	1480.8	1490.6	1499.7	1508.0	1515.5	1520.8	1528.3	1535.1	1541.2	1543.4	1544.2
12.5°	1481.6	1488.4	1497.4	1506.5	1513.3	1520.1	1525.3	1532.9	1537.4	1538.1	1536.6
15°	1487.6	1488.4	1494.4	1505.0	1511.8	1518.5	1522.3	1526.1	1529.1	1526.8	1524.6
17.5°	1505.7	1500.4	1500.4	1505.7	1509.5	1512.5	1513.3	1512.5	1509.5	1505.0	1501.2
20°	1535.1	1524.6	1516.3	1513.3	1507.2	1499.7	1489.9	1480.8	1469.5	1464.3	1463.5
22.5°	1581.1	1565.3	1550.2	1535.1	1515.5	1493.7	1471.0	1451.4	1435.6	1427.3	1428.1
25°	1659.5	1636.2	1618.8	1592.4	1560.8	1529.9	1500.4	1474.1	1455.2	1440.1	1443.1
27.5°	1765.1	1738.7	1723.6	1693.5	1657.3	1618.1	1583.4	1547.2	1520.1	1501.2	1505.0
30°	1888.8	1881.2	1856.3	1826.2	1792.2	1747.8	1695.7	1641.4	1592.4	1561.5	1555.5
32.5°	2038.0	2029.8	2002.6	1977.0	1933.2	1884.2	1816.4	1730.4	1653.5	1594.7	1569.1
35°	2222.0	2201.7	2168.5	2143.6	2094.6	2031.3	1943.8	1827.7	1710.8	1622.6	1558.5
37.5°	2451.2	2400.7	2345.7	2280.8	2208.4	2131.5	2030.5	1894.8	1750.0	1624.9	1511.0
40°	2669.9	2588.5	2497.2	2394.7	2306.5	2213.7	2108.9	1953.6	1776.4	1609.0	1439.4
42.5°	2913.4	2786.8	2663.1	2522.1	2406.0	2295.9	2176.0	1995.1	1781.7	1566.0	1346.6
45°	3147.9	2985.1	2819.2	2645.0	2497.2	2375.1	2238.6	2030.5	1780.2	1520.8	1254.6
47.5°	3356.8	3162.2	2957.2	2761.1	2589.2	2455.0	2305.7	2078.8	1800.5	1508.0	1193.6
50°	3552.1	3327.4	3086.8	2868.9	2682.0	2544.7	2390.9	2154.9	1863.1	1537.4	1184.5
52.5°	3753.4	3509.1	3233.9	2999.4	2804.1	2645.0	2489.7	2252.2	1950.6	1597.7	1204.9
55°	4015.8	3735.3	3442.0	3181.9	2957.9	2786.8	2607.3	2369.8	2044.8	1667.8	1243.3
57.5°	4406.3	4078.4	3745.1	3465.4	3206.7	2993.4	2796.6	2524.4	2200.9	1773.4	1327.8
60°	5107.6	4744.1	4358.1	3992.4	3694.6	3445.0	3194.7	2856.9	2488.9	2013.2	1521.6
62.5°	6252.9	5750.0	5216.1	4735.1	4325.7	3987.9	3635.0	3229.4	2800.3	2304.2	1814.9
65°	6941.3	6247.6	5568.2	5010.3	4526.2	4093.4	3666.7	3230.9	2815.4	2381.9	1946.8
67°	7026.5	6265.7	5514.0	4919.8	4401.1	3929.8	3466.9	3021.3	2649.5	2286.1	1910.6
67.5°	7000.8	6229.5	5462.7	4862.5	4338.5	3882.3	3426.9	2970.7	2608.8	2245.4	1883.5
70°	6495.7	5740.9	4982.4	4398.8	3896.6	3429.9	2999.4	2542.5	2262.7	2002.6	1689.7
72.5°	5391.1	4802.2	4166.6	3680.2	3246.7	2842.6	2464.1	2081.8	1857.1	1673.1	1452.9
75°	3997.7	3457.8	2920.2	2627.7	2291.4	1967.9	1675.4	1392.6	1305.9	1262.2	1132.5
77.5°	2468.6	1983.8	1578.9	1314.2	1045.0	818.8	651.5	530.1	552.7	643.2	684.6
80°	1229.0	907.8	702.7	558.7	451.6	364.9	267.7	196.0	234.5	278.2	315.2
82.5°	739.7	584.3	462.2	391.3	318.2	245.8	174.2	132.7	147.0	197.5	217.2
85°	459.2	367.9	294.1	245.8	203.6	150.8	98.8	98.0	104.1	131.2	150.0
87.5°	135.0	91.2	72.4	75.4	83.7	69.4	52.0	44.5	55.0	75.4	84.4
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: P146884

CATALOG NUMBER: LDRL-T4-F05-E-7030

CANDELA DISTRIBUTION (continued):

	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°	160°
0°	1491.4	1491.4	1491.4	1491.4	1491.4	1491.4	1491.4	1491.4	1491.4	1491.4	1491.4
2.5°	1511.0	1516.3	1518.5	1519.3	1520.1	1524.6	1524.6	1529.1	1530.6	1530.6	1532.1
5°	1539.7	1544.9	1547.2	1547.9	1549.5	1551.7	1551.0	1554.0	1555.5	1554.7	1554.7
7.5°	1550.2	1551.7	1551.7	1554.0	1556.2	1554.0	1552.5	1554.0	1553.2	1554.0	1554.0
10°	1546.4	1544.9	1544.9	1543.4	1545.7	1541.2	1541.2	1542.7	1541.9	1543.4	1545.7
12.5°	1537.4	1536.6	1534.4	1533.6	1536.6	1533.6	1534.4	1536.6	1538.1	1541.2	1544.9
15°	1524.6	1522.3	1522.3	1525.3	1532.9	1535.1	1538.1	1541.9	1542.7	1544.2	1545.7
17.5°	1502.7	1506.5	1515.5	1526.1	1540.4	1545.7	1547.2	1544.9	1537.4	1531.4	1525.3
20°	1472.5	1489.1	1512.5	1535.1	1552.5	1551.7	1541.9	1527.6	1509.5	1496.7	1488.4
22.5°	1446.9	1479.3	1515.5	1542.7	1554.0	1539.7	1517.0	1495.2	1474.1	1455.2	1438.6
25°	1465.0	1495.9	1526.8	1543.4	1542.7	1517.8	1487.6	1463.5	1434.8	1408.5	1380.6
27.5°	1523.8	1542.7	1551.7	1546.4	1530.6	1497.4	1464.3	1430.3	1393.4	1361.7	1329.3
30°	1563.8	1563.8	1554.7	1533.6	1505.7	1468.8	1428.1	1384.3	1340.6	1303.7	1266.7
32.5°	1551.0	1521.6	1495.2	1466.5	1434.8	1394.9	1348.1	1300.6	1250.9	1207.9	1176.2
35°	1495.2	1431.8	1376.8	1336.1	1302.9	1255.4	1201.1	1146.8	1106.1	1076.7	1058.6
37.5°	1395.6	1294.6	1214.7	1164.9	1113.6	1064.6	1002.1	977.2	941.0	922.9	916.1
40°	1275.0	1127.2	1026.9	962.8	908.6	847.5	805.3	789.4	775.9	772.1	769.1
42.5°	1136.3	951.5	832.4	766.1	700.5	656.0	637.1	627.3	625.1	625.1	628.8
45°	992.3	772.8	635.6	582.1	527.8	504.4	499.9	495.4	496.1	493.9	495.4
47.5°	880.7	620.5	479.5	430.5	402.6	395.1	389.8	388.3	388.3	384.5	380.0
50°	822.6	518.7	376.2	337.8	322.0	316.7	316.7	313.7	307.6	303.9	294.1
52.5°	807.5	466.0	325.7	292.5	279.0	274.5	269.9	265.4	256.4	248.1	236.8
55°	819.6	449.4	309.9	279.0	263.9	258.6	254.8	247.3	234.5	222.4	209.6
57.5°	870.1	459.9	315.9	282.7	269.2	265.4	261.6	250.3	234.5	217.2	202.8
60°	1008.1	509.7	341.6	303.1	291.8	292.5	287.3	272.9	250.3	225.4	204.3
62.5°	1186.0	579.1	374.7	331.8	330.2	337.8	337.8	312.9	276.0	238.3	209.6
65°	1287.8	600.9	379.3	335.5	348.3	370.2	368.7	335.5	285.0	238.3	207.3
67°	1262.2	577.6	360.4	313.7	328.7	353.6	350.6	318.9	271.4	228.5	201.3
67.5°	1241.8	570.0	355.9	308.4	323.5	343.8	343.8	312.2	265.4	225.4	199.1
70°	1093.3	503.7	333.3	288.0	288.0	293.3	289.5	266.9	235.2	207.3	190.0
72.5°	911.6	440.3	315.2	273.7	259.4	256.4	251.1	235.2	214.9	195.3	180.2
75°	706.5	389.8	300.8	258.6	239.8	233.0	227.7	215.6	199.8	183.2	170.4
77.5°	494.6	334.0	282.0	245.8	225.4	220.2	211.9	198.3	185.5	171.2	159.1
80°	306.9	276.0	245.8	221.7	200.6	193.0	182.5	170.4	159.8	151.6	142.5
82.5°	218.7	202.8	183.2	170.4	148.5	125.9	135.0	135.7	128.9	123.7	121.4
85°	146.3	131.9	122.1	110.8	98.0	88.2	90.5	97.3	98.0	95.8	95.8
87.5°	79.9	67.9	65.6	67.9	58.8	55.8	56.5	62.6	63.3	63.3	64.1
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: P146884

CATALOG NUMBER: LDRL-T4-F05-E-7030

CANDELA DISTRIBUTION (continued):

	165°	170°	175°	180°
0°	1491.4	1491.4	1491.4	1491.4
2.5°	1532.9	1535.1	1534.4	1535.9
5°	1556.2	1557.8	1557.0	1557.8
7.5°	1552.5	1555.5	1557.0	1554.7
10°	1546.4	1551.0	1554.0	1554.0
12.5°	1547.9	1555.5	1560.0	1560.0
15°	1546.4	1552.5	1554.0	1554.0
17.5°	1523.1	1523.1	1523.8	1520.8
20°	1482.4	1477.8	1476.3	1471.0
22.5°	1424.3	1413.7	1407.0	1403.2
25°	1357.9	1341.4	1330.8	1324.8
27.5°	1302.9	1288.6	1278.0	1272.0
30°	1241.8	1225.2	1219.2	1214.7
32.5°	1153.6	1137.8	1133.3	1129.5
35°	1039.0	1033.7	1021.7	1013.4
37.5°	906.3	899.5	895.0	892.0
40°	767.6	768.3	764.5	757.8
42.5°	628.8	636.4	628.8	627.3
45°	493.9	502.2	502.2	504.4
47.5°	380.8	379.3	382.3	383.0
50°	288.0	283.5	282.0	279.7
52.5°	228.5	223.2	220.2	216.4
55°	201.3	195.3	192.3	191.5
57.5°	192.3	184.7	180.2	179.5
60°	190.0	179.5	173.4	171.9
62.5°	190.0	177.2	170.4	168.1
65°	187.7	174.9	168.9	166.6
67°	184.7	173.4	167.4	165.9
67.5°	183.2	172.7	167.4	165.1
70°	179.5	170.4	164.4	162.1
72.5°	171.2	163.6	157.6	156.1
75°	162.1	155.3	151.6	150.0
77.5°	151.6	145.5	141.0	137.2
80°	135.7	128.9	122.1	120.6
82.5°	115.4	107.8	102.5	101.8
85°	92.7	86.7	80.7	80.7
87.5°	64.8	61.1	57.3	53.5
90°	0.0	0.0	0.0	0.0

(END OF REPORT)