

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: P145458

Luminaire Tested: **LDRL-SL4-E05-E-8030**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P145458
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (P33703)
Test Lab: INNOVATION CENTER-P3
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: LUMARK
Catalog Number: LDRL-SL4-E05-E-8030
Description: RL LED ROADWAY LARGE CUTOFF COBRAHEAD LUMINAIRE
(5) LIGHTBARS WITH AccuLED OPTICS - TYPE 4 W/ SPILL LIGHT CONTROL
Light Source: (105) 3000K CCT, 80 CRI LEDs
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 12162 lumens
Efficiency: N/A
Efficacy: 95.5 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 - G2

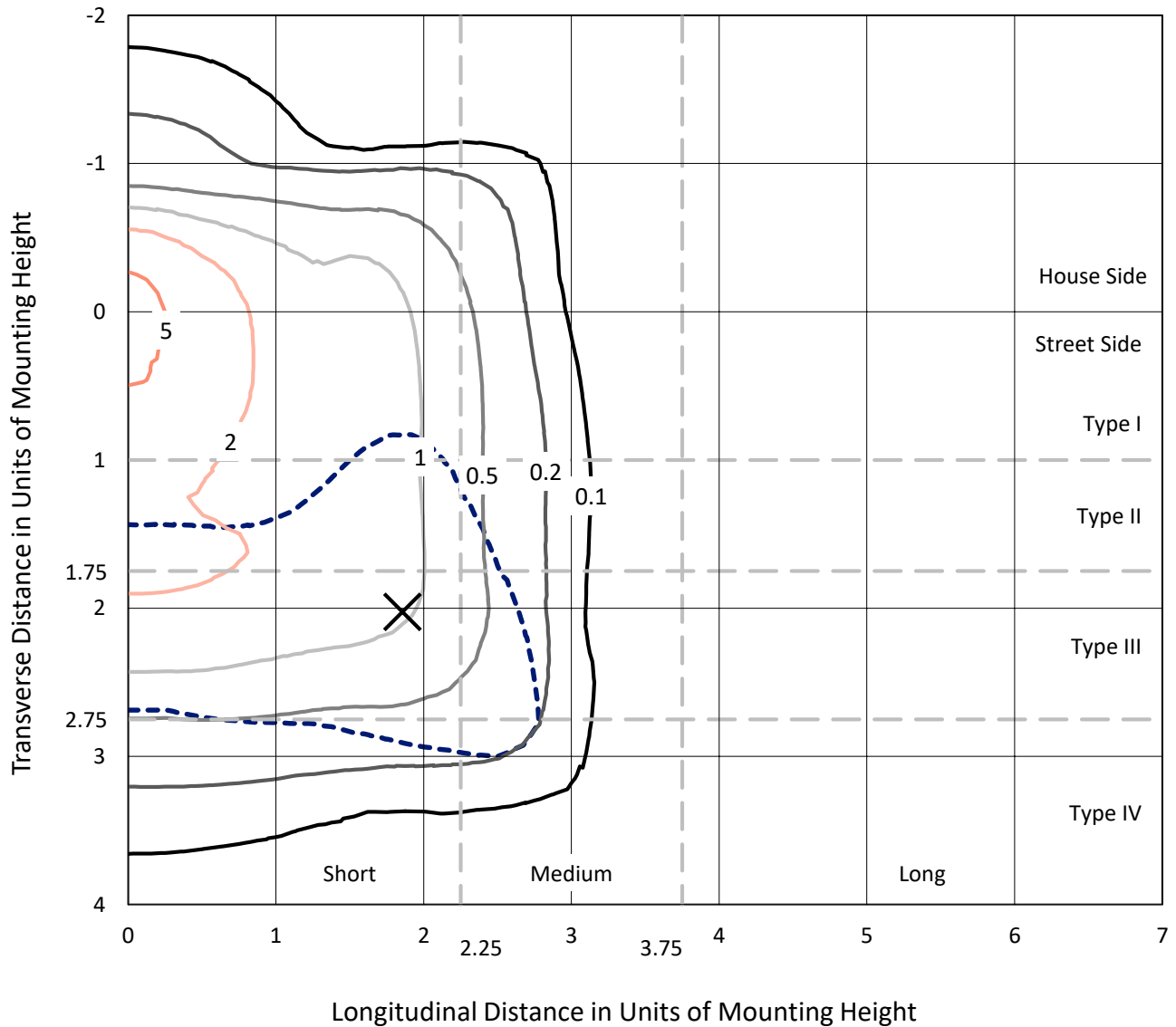
Input Watts (W): 127.3
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



REPORT NUMBER: P145458
 CATALOG NUMBER: LDRL-SL4-E05-E-8030

Iso-Footcandle Lines of Horizontal Illumination

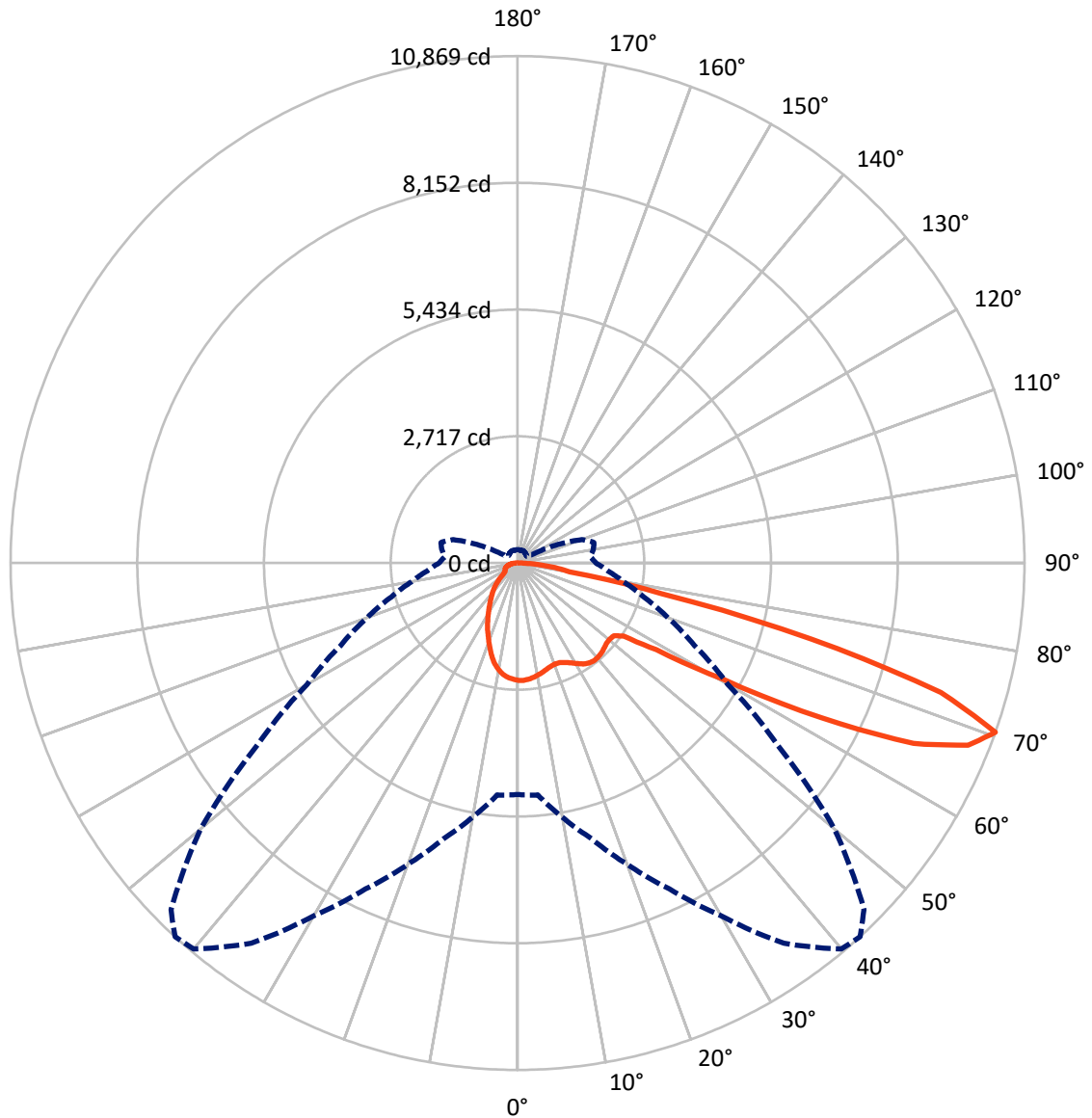
× Max cd
 - - - 1/2 Max cd



Based on 20 foot mounting height. Maximum calculated value = 6.3 fc
 Type IV - Short - Semi-Cutoff

REPORT NUMBER: P145458
CATALOG NUMBER: LDRL-SL4-E05-E-8030

Luminous Intensity Polar Plot



— Vertical Plane Through 42.5-Deg Lateral - - - Horizontal Cone Through 70-Deg Vertical

REPORT NUMBER: P145458

CATALOG NUMBER: LDRL-SL4-E05-E-8030

FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	2627.2	0.0	2627.2
	% Fixture	21.6	0.0	21.6
Street Side	Lumens	9534.8	0.0	9534.8
	% Fixture	78.4	0.0	78.4
Total	Lumens	12162.0	0.0	12162.0
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	234.0	1.9
10°-20°	630.4	5.2
20°-30°	919.5	7.6
30°-40°	1172.8	9.6
40°-50°	1368.9	11.3
50°-60°	2093.4	17.2
60°-70°	3794.7	31.2
70°-80°	1687.3	13.9
80°-90°	261.1	2.1
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°	12162.0	100.0
0°-180°	12162.0	100.0



REPORT NUMBER: P145458

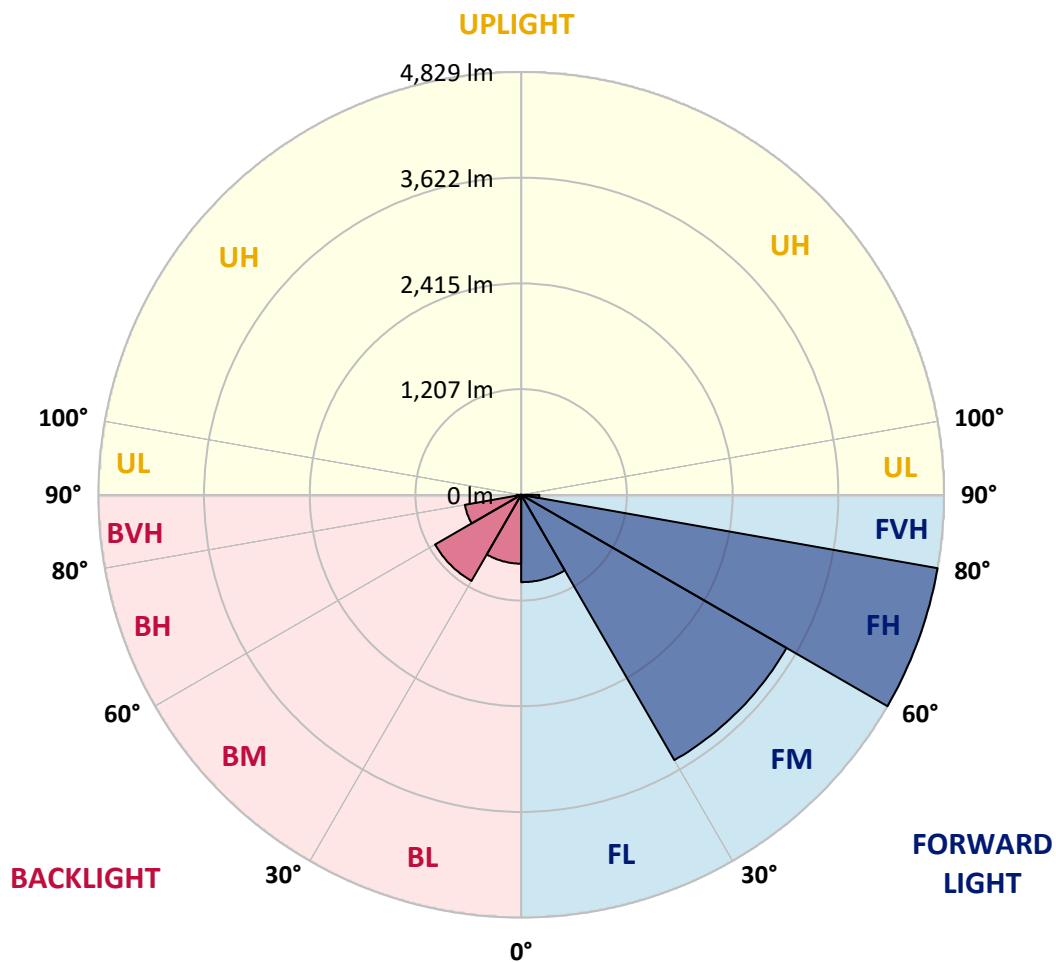
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	997.6	8.2			
FM (30°-60°)	3499.3	28.8			
FH (60°-80°)	4829.3	39.7			G2/5000
FVH (80°-90°)	208.6	1.7			G2/225
BL (0°-30°)	786.3	6.5	B2/1000		
BM (30°-60°)	1135.7	9.3	B2/2500		
BH (60°-80°)	652.7	5.4	B2/1000		G2/1000
BVH (80°-90°)	52.5	0.4			G1/100
UL (90°-100°)	0.0	0.0		U0/0	
UH (100°-180°)	0.0	0.0		U0/0	

BUG Rating: B2-U0-G2

Type IV Short





REPORT NUMBER: P145458

CATALOG NUMBER: LDRL-SL4-E05-E-8030

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	42.5°	45°
0°	2515.1	2515.1	2515.1	2515.1	2515.1	2515.1	2515.1	2515.1	2515.1	2515.1	2515.1
2.5°	2526.9	2524.4	2526.1	2527.8	2527.8	2528.6	2521.0	2521.8	2518.5	2519.3	2520.2
5°	2517.6	2515.1	2516.8	2516.8	2516.8	2515.9	2505.8	2505.0	2500.7	2500.7	2499.1
7.5°	2499.9	2490.6	2495.7	2496.5	2494.8	2490.6	2484.7	2478.8	2476.3	2476.3	2470.4
10°	2472.9	2462.8	2465.3	2467.0	2466.1	2457.7	2455.2	2449.3	2442.5	2440.0	2433.2
12.5°	2438.3	2431.5	2434.9	2434.1	2434.1	2426.5	2422.3	2413.8	2405.4	2401.2	2392.7
15°	2416.3	2407.9	2411.3	2411.3	2407.9	2400.3	2394.4	2379.2	2364.9	2359.8	2348.8
17.5°	2429.8	2421.4	2424.8	2422.3	2416.3	2400.3	2385.1	2360.6	2337.9	2324.4	2310.0
20°	2483.9	2475.4	2478.0	2476.3	2467.8	2441.7	2413.8	2371.6	2329.4	2309.2	2287.2
22.5°	2570.0	2563.2	2567.4	2564.9	2551.4	2517.6	2476.3	2415.5	2352.2	2321.8	2290.6
25°	2697.4	2695.7	2702.5	2694.9	2675.5	2624.8	2564.9	2483.0	2400.3	2362.3	2318.4
27.5°	2851.0	2836.7	2846.8	2840.0	2826.5	2762.4	2681.4	2577.5	2472.0	2422.3	2369.9
30°	2989.4	2976.8	2995.3	2991.9	2971.7	2905.9	2803.7	2682.2	2563.2	2499.9	2440.0
32.5°	3149.8	3133.7	3148.1	3148.1	3117.7	3029.1	2912.6	2773.4	2648.4	2580.9	2509.2
35°	3317.7	3300.8	3314.4	3310.1	3256.1	3138.8	2992.8	2841.7	2704.1	2634.9	2561.5
37.5°	3473.9	3471.3	3474.7	3446.9	3371.7	3221.5	3046.8	2878.0	2732.0	2659.4	2582.6
40°	3630.0	3624.1	3609.7	3560.8	3451.1	3270.5	3074.7	2890.7	2733.7	2657.7	2580.1
42.5°	3727.9	3716.9	3692.5	3625.8	3488.2	3282.3	3066.2	2871.3	2713.4	2635.8	2559.8
45°	3761.7	3750.7	3721.2	3646.0	3489.1	3263.7	3033.3	2832.4	2675.5	2604.6	2527.8
47.5°	3733.8	3727.1	3700.1	3624.9	3462.1	3229.1	2991.9	2793.6	2639.2	2570.0	2498.2
50°	3686.6	3682.3	3658.7	3589.5	3436.7	3208.0	2972.5	2775.0	2629.0	2564.9	2497.4
52.5°	3804.7	3792.1	3749.9	3668.0	3489.9	3246.0	3002.9	2802.9	2652.7	2587.7	2518.5
55°	5257.2	5163.5	4954.2	4561.8	4012.3	3586.1	3227.4	2986.0	2824.0	2760.7	2694.9
57.5°	6914.0	6816.1	6729.1	6429.5	5777.1	4972.0	4247.8	3824.1	3533.8	3505.9	3479.8
60°	7552.0	7583.3	7575.7	7464.3	7130.0	6747.7	6141.7	5641.2	5086.7	5063.9	5096.9
62.5°	7991.8	8017.9	8021.3	7987.5	7878.7	7751.2	7624.6	7464.3	7358.8	7313.2	7018.6
65°	8173.2	8211.2	8294.7	8357.2	8374.9	8418.8	8533.6	8969.9	9333.7	9331.2	8986.0
67.5°	7480.3	7525.9	7842.4	8153.0	8413.7	8715.9	9180.9	9890.7	10438.5	10421.6	10138.9
70°	4964.4	4993.1	5530.7	6115.6	6874.3	7713.2	8729.4	9953.2	10802.2	10868.9	10504.3
72.5°	3045.1	3111.0	3286.5	3523.7	3928.8	4706.1	6216.8	8308.2	9554.0	9491.5	9201.2
75°	2056.0	2059.3	2054.3	2079.6	2102.4	2259.4	2867.9	4568.5	6471.7	6505.5	6380.6
77.5°	1405.2	1423.8	1433.9	1427.2	1450.0	1443.2	1478.7	1565.6	2480.5	3165.8	2909.2
80°	1228.0	1235.6	1246.6	1230.5	1188.3	1164.7	1197.6	1166.4	1098.9	1135.2	1087.1
82.5°	777.3	800.1	802.6	858.3	941.0	944.4	986.6	955.4	869.3	812.8	743.6
85°	558.7	567.2	582.4	585.7	557.0	532.6	547.8	521.6	470.1	439.7	389.1
87.5°	325.8	334.2	349.4	340.1	311.4	276.0	249.0	214.4	169.6	158.7	140.1
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: P145458

CATALOG NUMBER: LDRL-SL4-E05-E-8030

CANDELA DISTRIBUTION (continued):

	50°	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°
0°	2515.1	2515.1	2515.1	2515.1	2515.1	2515.1	2515.1	2515.1	2515.1	2515.1	2515.1
2.5°	2521.0	2516.8	2513.4	2511.7	2515.1	2511.7	2508.3	2506.7	2503.3	2504.1	2499.9
5°	2497.4	2491.5	2486.4	2482.2	2485.6	2479.6	2474.6	2471.2	2467.0	2466.1	2461.9
7.5°	2464.5	2455.2	2448.4	2440.8	2432.4	2427.3	2421.4	2415.5	2406.2	2405.4	2403.7
10°	2421.4	2413.8	2400.3	2388.5	2376.7	2364.0	2351.4	2342.1	2331.1	2326.9	2321.0
12.5°	2378.4	2363.2	2347.1	2328.6	2314.2	2294.0	2277.1	2259.4	2243.3	2233.2	2222.2
15°	2327.7	2311.7	2288.9	2271.2	2250.9	2228.1	2206.2	2180.0	2153.9	2137.8	2122.6
17.5°	2283.8	2263.6	2245.0	2219.7	2199.4	2173.3	2140.4	2112.5	2081.3	2055.1	2027.3
20°	2250.1	2227.3	2205.3	2182.6	2158.1	2128.5	2092.3	2052.6	2012.9	1975.8	1934.4
22.5°	2236.6	2200.3	2175.8	2154.7	2129.4	2095.6	2055.1	2006.2	1957.2	1910.0	1861.8
25°	2248.4	2194.4	2156.4	2132.8	2110.0	2075.4	2029.8	1974.1	1916.7	1856.8	1799.4
27.5°	2280.5	2212.1	2158.1	2120.9	2094.8	2061.0	2010.4	1952.2	1887.2	1819.6	1758.0
30°	2326.9	2241.6	2174.1	2120.9	2082.1	2043.3	1988.4	1922.6	1854.2	1783.4	1714.1
32.5°	2377.5	2274.6	2193.5	2123.5	2063.6	2014.6	1957.2	1893.1	1820.5	1745.4	1671.1
35°	2415.5	2298.2	2202.0	2114.2	2037.4	1975.8	1914.2	1851.7	1780.8	1704.9	1630.6
37.5°	2431.5	2307.5	2200.3	2094.8	2001.1	1933.6	1869.4	1807.0	1738.6	1666.9	1598.5
40°	2432.4	2307.5	2190.2	2068.6	1963.1	1889.7	1822.2	1763.9	1699.8	1638.2	1577.4
42.5°	2416.3	2295.7	2171.6	2044.1	1935.3	1852.6	1783.4	1723.4	1671.9	1617.1	1565.6
45°	2387.7	2272.0	2154.7	2030.6	1925.1	1843.3	1769.0	1712.5	1666.0	1617.1	1572.4
47.5°	2365.7	2258.5	2155.6	2050.1	1949.6	1865.2	1785.0	1725.1	1685.4	1646.6	1614.6
50°	2369.9	2263.6	2165.7	2065.2	1966.5	1881.3	1803.6	1752.1	1728.5	1715.8	1708.2
52.5°	2391.9	2283.8	2209.6	2142.9	2110.8	2058.5	2015.5	1976.6	1982.5	1952.2	1913.3
55°	2618.1	2581.8	2667.0	2728.6	2759.0	2812.2	2889.0	2815.6	2805.4	2711.7	2433.2
57.5°	3515.2	3601.3	3732.1	3825.0	3834.3	3818.2	3754.9	3694.1	3595.4	3454.5	3064.5
60°	5020.1	4999.8	4878.3	4715.4	4588.8	4422.5	4255.4	4114.5	3955.8	3739.7	3324.5
62.5°	6602.5	6114.7	5681.7	5312.9	4999.8	4722.1	4469.8	4257.9	4040.2	3729.6	3287.3
65°	7880.3	6941.8	6178.9	5585.5	5119.6	4727.2	4401.4	4109.4	3818.2	3458.7	3029.9
67.5°	8793.5	7304.7	6153.5	5318.8	4665.6	4125.4	3651.1	3318.6	3019.8	2737.1	2543.8
70°	8866.1	6802.6	5205.7	4184.5	3430.8	2796.1	2304.1	1941.2	1681.2	1563.9	1647.5
72.5°	7576.5	5032.7	3461.2	2561.5	2033.2	1580.0	1270.2	1015.3	806.0	703.0	717.4
75°	4462.2	2416.3	1558.9	1161.3	948.6	757.9	655.8	553.7	488.7	391.6	313.1
77.5°	1699.0	1050.8	786.6	653.2	465.9	335.1	264.2	227.9	209.3	206.8	195.8
80°	979.0	770.6	539.3	352.8	258.3	218.6	187.4	160.4	149.4	146.9	151.1
82.5°	618.6	480.2	296.2	227.0	188.2	162.0	135.0	117.3	108.0	104.7	110.6
85°	319.9	240.5	180.6	155.3	144.3	131.7	108.0	90.3	89.5	93.7	108.0
87.5°	118.2	103.0	81.0	70.1	75.1	70.1	50.6	43.9	39.7	52.3	76.0
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: P145458

CATALOG NUMBER: LDRL-SL4-E05-E-8030

CANDELA DISTRIBUTION (continued):

	105°	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°
0°	2515.1	2515.1	2515.1	2515.1	2515.1	2515.1	2515.1	2515.1	2515.1	2515.1	2515.1
2.5°	2499.9	2498.2	2499.1	2497.4	2497.4	2499.9	2496.5	2494.0	2498.2	2498.2	2500.7
5°	2461.1	2462.8	2462.8	2461.9	2463.6	2467.8	2467.0	2467.0	2473.7	2476.3	2479.6
7.5°	2399.5	2402.0	2402.8	2405.4	2406.2	2412.1	2416.3	2421.4	2431.5	2434.1	2441.7
10°	2315.9	2314.2	2320.1	2319.3	2326.9	2331.9	2335.3	2346.3	2361.5	2369.9	2377.5
12.5°	2217.2	2217.2	2220.5	2221.4	2228.1	2234.9	2239.1	2252.6	2265.3	2276.2	2293.1
15°	2112.5	2109.1	2101.5	2100.7	2103.2	2110.0	2119.3	2129.4	2148.8	2164.8	2179.2
17.5°	2002.8	1992.7	1983.4	1971.6	1970.7	1969.9	1974.9	1982.5	2012.9	2029.0	2049.2
20°	1905.7	1883.8	1861.8	1837.4	1823.0	1816.3	1818.8	1828.9	1857.6	1878.7	1899.8
22.5°	1818.8	1785.9	1751.3	1712.5	1688.8	1674.5	1676.2	1680.4	1701.5	1714.1	1725.1
25°	1744.5	1699.0	1650.8	1601.1	1568.1	1546.2	1545.3	1545.3	1536.1	1537.8	1531.8
27.5°	1693.9	1630.6	1569.0	1510.7	1467.7	1445.8	1416.2	1395.1	1376.5	1351.2	1340.3
30°	1644.9	1580.0	1509.9	1445.8	1394.3	1351.2	1296.4	1250.8	1214.5	1179.9	1150.4
32.5°	1601.1	1533.5	1466.9	1396.8	1325.9	1251.6	1179.9	1127.6	1076.1	1022.9	987.5
35°	1562.2	1498.9	1432.3	1352.9	1253.3	1156.3	1075.2	1004.3	943.6	879.4	828.0
37.5°	1540.3	1482.9	1413.7	1305.7	1180.7	1070.2	979.9	900.5	819.5	742.7	679.4
40°	1529.3	1478.7	1394.3	1257.5	1115.8	997.6	897.2	801.8	706.4	616.1	550.3
42.5°	1527.6	1478.7	1365.6	1208.6	1060.1	933.5	821.2	706.4	590.8	503.0	444.8
45°	1542.8	1477.0	1335.2	1164.7	1010.3	876.1	741.0	606.0	487.0	410.2	378.1
47.5°	1586.7	1482.9	1311.6	1127.6	963.0	812.8	649.9	494.6	393.3	358.7	357.9
50°	1657.6	1509.9	1306.5	1100.6	916.6	733.4	542.7	395.8	346.9	345.2	354.5
52.5°	1769.8	1560.5	1319.2	1082.0	860.9	630.5	429.6	341.8	332.5	341.8	353.6
55°	2017.1	1650.8	1336.0	1049.1	770.6	499.6	353.6	324.1	328.3	339.3	350.3
57.5°	2467.0	1838.2	1353.8	974.8	624.6	384.0	318.2	317.3	324.9	334.2	344.3
60°	2752.3	2069.5	1396.8	865.1	471.8	317.3	304.7	313.1	322.4	329.2	337.6
62.5°	2761.5	2130.2	1419.6	747.8	351.1	290.3	292.9	308.9	319.9	322.4	326.6
65°	2583.5	2015.5	1316.6	608.5	291.2	275.1	284.4	298.8	309.7	311.4	314.8
67.5°	2256.8	1777.4	1115.8	459.1	265.0	263.3	273.5	284.4	292.0	298.8	303.8
70°	1699.8	1466.9	897.2	356.2	249.0	247.3	257.4	266.7	273.5	281.9	290.3
72.5°	861.7	1015.3	680.3	291.2	227.0	228.7	239.7	248.1	253.2	260.8	269.2
75°	293.7	443.1	430.4	235.5	202.6	209.3	214.4	223.7	231.3	236.3	240.5
77.5°	184.0	192.4	222.0	189.9	178.9	180.6	189.1	197.5	205.9	209.3	211.0
80°	153.6	154.5	155.3	151.9	152.8	157.8	162.9	172.2	180.6	182.3	183.1
82.5°	121.5	130.0	129.1	128.3	132.5	137.6	140.9	144.3	147.7	149.4	151.9
85°	107.2	105.5	106.3	108.9	105.5	102.1	101.3	101.3	106.3	112.3	114.8
87.5°	97.9	83.6	62.5	59.1	59.1	57.4	54.0	54.0	59.1	64.1	66.7
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: P145458

CATALOG NUMBER: LDRL-SL4-E05-E-8030

CANDELA DISTRIBUTION (continued):

	160°	165°	170°	175°	180°
0°	2515.1	2515.1	2515.1	2515.1	2515.1
2.5°	2499.9	2500.7	2499.9	2499.9	2504.1
5°	2481.3	2484.7	2483.0	2485.6	2488.1
7.5°	2443.4	2451.8	2453.5	2460.2	2457.7
10°	2388.5	2394.4	2402.8	2409.6	2407.1
12.5°	2301.6	2315.9	2328.6	2336.2	2334.5
15°	2191.0	2211.3	2228.1	2234.0	2227.3
17.5°	2072.8	2085.5	2105.8	2110.0	2116.7
20°	1923.5	1922.6	1940.3	1940.3	1937.0
22.5°	1728.5	1741.2	1741.2	1729.3	1723.4
25°	1529.3	1533.5	1520.9	1523.4	1507.4
27.5°	1329.3	1318.3	1308.2	1312.4	1300.6
30°	1138.5	1114.9	1104.8	1106.5	1093.8
32.5°	955.4	927.5	917.4	903.9	892.9
35°	789.1	745.2	719.1	712.3	719.9
37.5°	626.2	595.0	563.8	541.0	543.5
40°	495.4	463.4	443.1	433.8	432.1
42.5°	409.3	390.8	386.5	387.4	387.4
45°	371.4	372.2	375.6	379.0	379.8
47.5°	363.8	368.8	374.7	379.0	379.8
50°	362.9	368.0	372.2	377.3	379.0
52.5°	362.1	365.4	368.0	370.5	373.0
55°	358.7	360.4	359.5	361.2	363.8
57.5°	350.3	351.1	349.4	350.3	355.3
60°	342.7	343.5	340.1	344.3	345.2
62.5°	333.4	332.5	330.8	333.4	333.4
65°	319.9	314.8	316.5	319.0	319.9
67.5°	303.8	298.8	298.8	300.5	303.0
70°	283.6	281.0	281.0	284.4	287.8
72.5°	260.8	262.5	267.5	272.6	277.7
75°	242.2	246.4	251.5	264.2	271.8
77.5°	218.6	219.4	223.7	236.3	249.8
80°	185.7	184.8	185.7	187.4	189.9
82.5°	146.9	145.2	140.1	141.8	138.4
85°	108.0	105.5	99.6	95.4	94.5
87.5°	62.5	62.5	59.9	56.5	53.2
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)