

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: P145477

Luminaire Tested: **LDRL-SL4-F06-E-7060**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P145477
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-F06-E-7060
Description: RL LED ROADWAY LARGE CUTOFF COBRAHEAD LUMINAIRE
(6) LIGHTBARS WITH AccuLED OPTICS - TYPE 4 W/ SPILL LIGHT CONTROL
Light Source: (42) 5700K CCT, 70 CRI LEDs
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 14647.8 lumens
Efficiency: N/A
Efficacy: 93.6 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

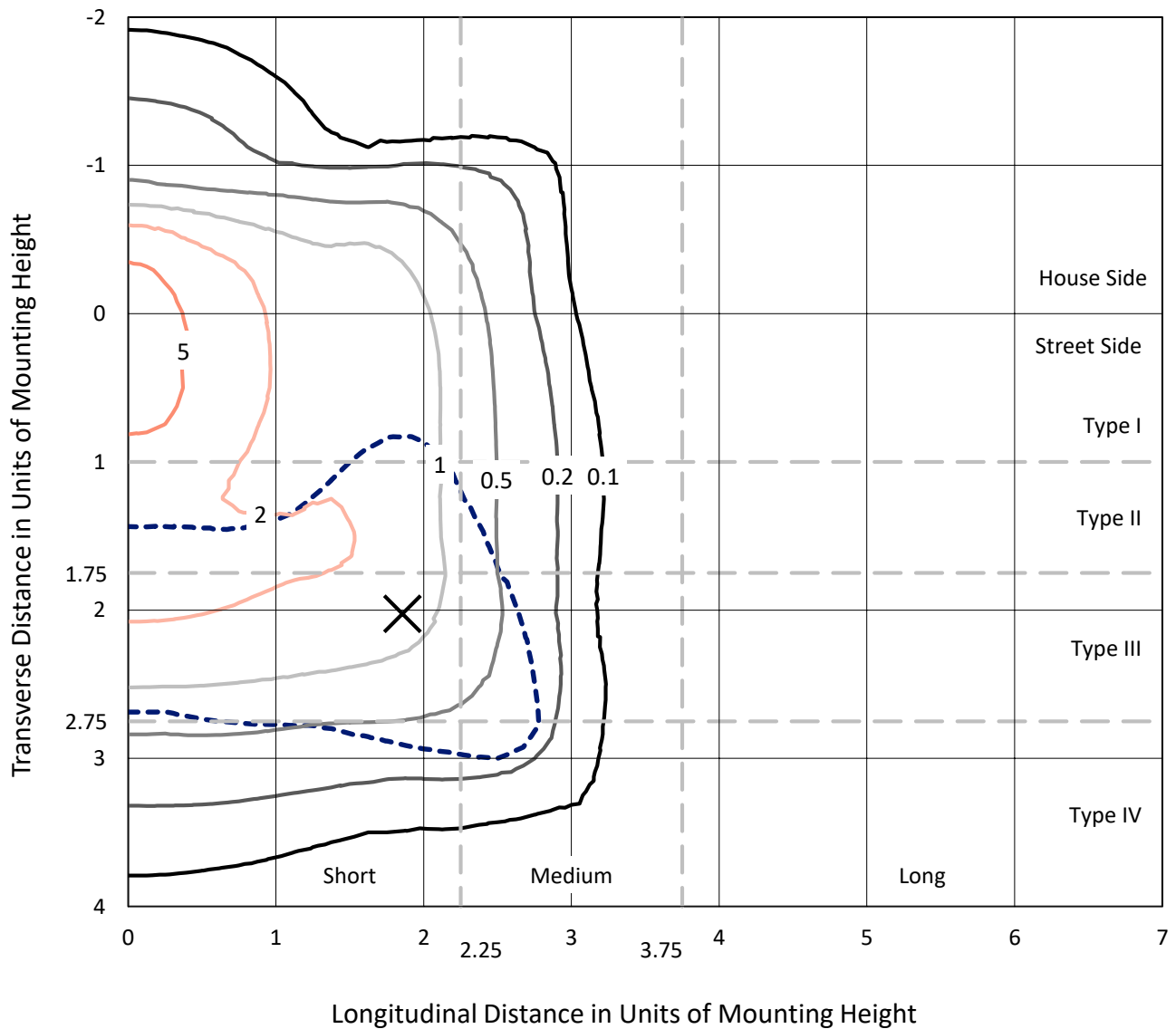
Input Watts (W): 156.5
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



REPORT NUMBER: P145477
 CATALOG NUMBER: LDRL-SL4-F06-E-7060

Iso-Footcandle Lines of Horizontal Illumination

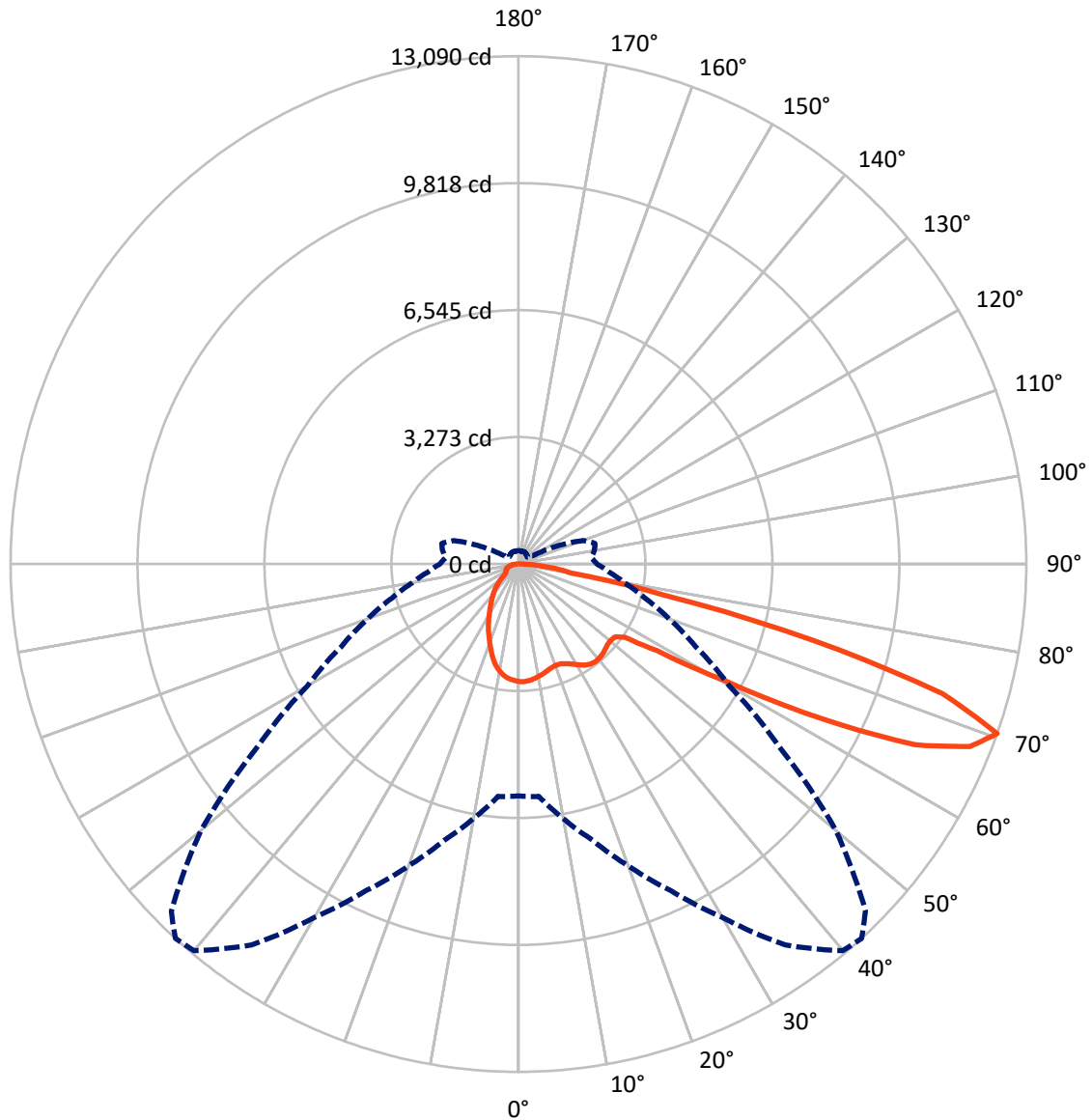
✕ Max cd
 - - - 1/2 Max cd



Based on 20 foot mounting height. Maximum calculated value = 7.6 fc
 Type IV - Short - Semi-Cutoff

REPORT NUMBER: P145477
CATALOG NUMBER: LDRL-SL4-F06-E-7060

Luminous Intensity Polar Plot



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

REPORT NUMBER: P145477

CATALOG NUMBER: LDRL-SL4-F06-E-7060

FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	3164.2	0.0	3164.2
	% Fixture	21.6	0.0	21.6
Street Side	Lumens	11483.6	0.0	11483.6
	% Fixture	78.4	0.0	78.4
Total	Lumens	14647.8	0.0	14647.8
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	281.8	1.9
10°-20°	759.2	5.2
20°-30°	1107.5	7.6
30°-40°	1412.5	9.6
40°-50°	1648.6	11.3
50°-60°	2521.2	17.2
60°-70°	4570.3	31.2
70°-80°	2032.1	13.9
80°-90°	314.5	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°	14647.8	100.0
0°-180°	14647.8	100.0



REPORT NUMBER: P145477

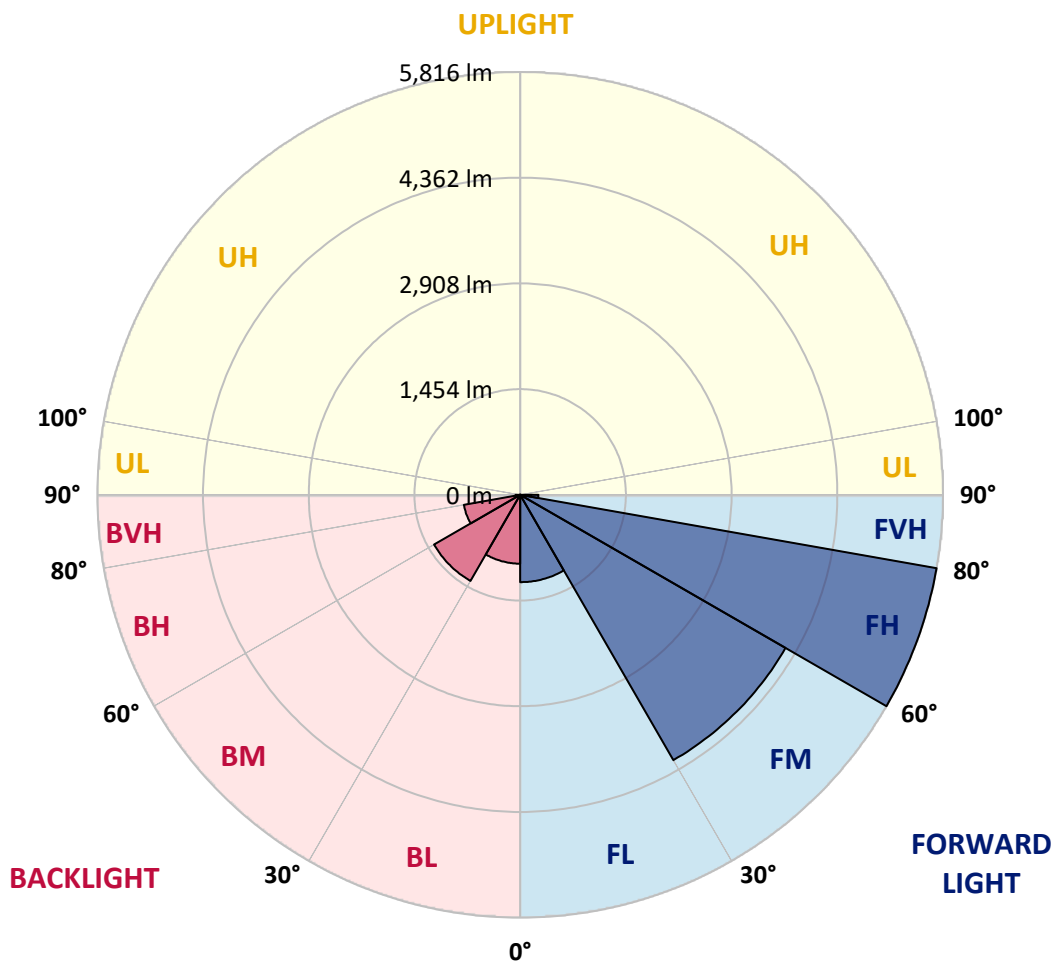
CATALOG NUMBER: LDRL-SL4-F06-E-7060

LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	1201.5	8.2			
FM	(30°-60°)	4214.5	28.8			
FH	(60°-80°)	5816.3	39.7			G3/7500
FVH	(80°-90°)	251.2	1.7			G3/500
BL	(0°-30°)	947.1	6.5	B2/1000		
BM	(30°-60°)	1367.8	9.3	B2/2500		
BH	(60°-80°)	786.1	5.4	B2/1000		G2/1000
BVH	(80°-90°)	63.2	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-G3

Type IV Short





REPORT NUMBER: P145477

CATALOG NUMBER: LDRL-SL4-F06-E-7060

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	42.5°	45°
0°	3029.1	3029.1	3029.1	3029.1	3029.1	3029.1	3029.1	3029.1	3029.1	3029.1	3029.1
2.5°	3043.4	3040.3	3042.4	3044.4	3044.4	3045.4	3036.3	3037.3	3033.2	3034.2	3035.2
5°	3032.2	3029.1	3031.2	3031.2	3031.2	3030.2	3018.0	3016.9	3011.9	3011.9	3009.8
7.5°	3010.8	2999.7	3005.8	3006.8	3004.7	2999.7	2992.5	2985.4	2982.4	2982.4	2975.3
10°	2978.3	2966.1	2969.2	2971.2	2970.2	2960.0	2957.0	2949.9	2941.7	2938.7	2930.5
12.5°	2936.6	2928.5	2932.6	2931.6	2931.6	2922.4	2917.3	2907.2	2897.0	2891.9	2881.8
15°	2910.2	2900.0	2904.1	2904.1	2900.0	2890.9	2883.8	2865.5	2848.2	2842.1	2828.9
17.5°	2926.5	2916.3	2920.4	2917.3	2910.2	2890.9	2872.6	2843.1	2815.7	2799.4	2782.1
20°	2991.5	2981.4	2984.4	2982.4	2972.2	2940.7	2907.2	2856.3	2805.5	2781.1	2754.7
22.5°	3095.2	3087.1	3092.2	3089.1	3072.9	3032.2	2982.4	2909.2	2833.0	2796.4	2758.8
25°	3248.7	3246.7	3254.8	3245.7	3222.3	3161.3	3089.1	2990.5	2890.9	2845.2	2792.3
27.5°	3433.7	3416.4	3428.6	3420.5	3404.2	3327.0	3229.4	3104.4	2977.3	2917.3	2854.3
30°	3600.4	3585.2	3607.5	3603.5	3579.1	3499.8	3376.8	3230.4	3087.1	3010.8	2938.7
32.5°	3793.5	3774.2	3791.5	3791.5	3754.9	3648.2	3507.9	3340.2	3189.7	3108.4	3022.0
35°	3995.8	3975.5	3991.8	3986.7	3921.6	3780.3	3604.5	3422.5	3256.8	3173.5	3085.0
37.5°	4183.9	4180.8	4184.9	4151.3	4060.9	3879.9	3669.5	3466.2	3290.4	3203.0	3110.5
40°	4371.9	4364.8	4347.5	4288.6	4156.4	3938.9	3703.1	3481.5	3292.4	3200.9	3107.4
42.5°	4489.8	4476.6	4447.1	4366.8	4201.2	3953.1	3692.9	3458.1	3268.0	3174.5	3083.0
45°	4530.5	4517.3	4481.7	4391.2	4202.2	3930.8	3653.3	3411.3	3222.3	3136.9	3044.4
47.5°	4497.0	4488.8	4456.3	4365.8	4169.6	3889.1	3603.5	3364.6	3178.6	3095.2	3008.8
50°	4440.0	4434.9	4406.5	4323.1	4139.2	3863.7	3580.1	3342.2	3166.4	3089.1	3007.8
52.5°	4582.3	4567.1	4516.3	4417.7	4203.2	3909.4	3616.7	3375.8	3194.8	3116.6	3033.2
55°	6331.7	6218.9	5966.8	5494.1	4832.4	4319.1	3887.1	3596.3	3401.2	3324.9	3245.7
57.5°	8327.1	8209.2	8104.5	7743.6	6957.9	5988.1	5116.0	4605.7	4256.0	4222.5	4191.0
60°	9095.6	9133.2	9124.0	8989.8	8587.3	8126.8	7397.0	6794.2	6126.4	6098.9	6138.6
62.5°	9625.2	9656.7	9660.7	9620.1	9488.9	9335.5	9183.0	8989.8	8862.8	8807.9	8453.1
65°	9843.7	9889.4	9990.1	10065.3	10086.6	10139.5	10277.7	10803.3	11241.4	11238.3	10822.6
67.5°	9009.2	9064.0	9445.2	9819.3	10133.4	10497.3	11057.4	11912.3	12572.0	12551.6	12211.1
70°	5979.0	6013.6	6661.1	7365.5	8279.3	9289.7	10513.6	11987.5	13010.1	13090.4	12651.2
72.5°	3667.5	3746.8	3958.2	4243.8	4731.8	5668.0	7487.5	10006.3	11506.7	11431.5	11081.8
75°	2476.2	2480.2	2474.1	2504.6	2532.1	2721.1	3454.0	5502.3	7794.5	7835.1	7684.7
77.5°	1692.5	1714.8	1727.0	1718.9	1746.3	1738.2	1780.9	1885.6	2987.5	3812.9	3503.8
80°	1479.0	1488.1	1501.4	1482.0	1431.2	1402.8	1442.4	1404.8	1323.5	1367.2	1309.2
82.5°	936.2	963.6	966.7	1033.8	1133.4	1137.5	1188.3	1150.7	1047.0	978.9	895.5
85°	672.9	683.1	701.4	705.4	670.9	641.4	659.7	628.2	566.2	529.6	468.6
87.5°	392.4	402.5	420.8	409.6	375.1	332.4	299.9	258.2	204.3	191.1	168.7
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: P145477

CATALOG NUMBER: LDRL-SL4-F06-E-7060

CANDELA DISTRIBUTION (continued):

	50°	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°
0°	3029.1	3029.1	3029.1	3029.1	3029.1	3029.1	3029.1	3029.1	3029.1	3029.1	3029.1
2.5°	3036.3	3031.2	3027.1	3025.1	3029.1	3025.1	3021.0	3019.0	3014.9	3015.9	3010.8
5°	3007.8	3000.7	2994.6	2989.5	2993.6	2986.4	2980.4	2976.3	2971.2	2970.2	2965.1
7.5°	2968.2	2957.0	2948.8	2939.7	2929.5	2923.4	2916.3	2909.2	2898.0	2897.0	2895.0
10°	2916.3	2907.2	2890.9	2876.7	2862.4	2847.2	2831.9	2820.8	2807.5	2802.5	2795.3
12.5°	2864.5	2846.2	2826.9	2804.5	2787.2	2762.8	2742.5	2721.1	2701.8	2689.6	2676.4
15°	2803.5	2784.2	2756.7	2735.4	2711.0	2683.5	2657.1	2625.6	2594.1	2574.8	2556.5
17.5°	2750.6	2726.2	2703.9	2673.4	2649.0	2617.5	2577.8	2544.3	2506.7	2475.2	2441.6
20°	2710.0	2682.5	2656.1	2628.6	2599.2	2563.6	2519.9	2472.1	2424.3	2379.6	2329.8
22.5°	2693.7	2650.0	2620.5	2595.1	2564.6	2523.9	2475.2	2416.2	2357.2	2300.3	2242.4
25°	2707.9	2642.9	2597.1	2568.7	2541.2	2499.6	2444.7	2377.6	2308.5	2236.3	2167.2
27.5°	2746.6	2664.2	2599.2	2554.4	2522.9	2482.3	2421.3	2351.1	2272.9	2191.6	2117.4
30°	2802.5	2699.8	2618.5	2554.4	2507.7	2460.9	2394.9	2315.6	2233.2	2147.8	2064.5
32.5°	2863.5	2739.4	2641.9	2557.5	2485.3	2426.4	2357.2	2280.0	2192.6	2102.1	2012.7
35°	2909.2	2767.9	2652.0	2546.3	2453.8	2379.6	2305.4	2230.2	2144.8	2053.3	1963.9
37.5°	2928.5	2779.1	2650.0	2522.9	2410.1	2328.8	2251.5	2176.3	2094.0	2007.6	1925.2
40°	2929.5	2779.1	2637.8	2491.4	2364.4	2275.9	2194.6	2124.5	2047.2	1973.0	1899.8
42.5°	2910.2	2764.9	2615.4	2461.9	2330.8	2231.2	2147.8	2075.7	2013.7	1947.6	1885.6
45°	2875.7	2736.4	2595.1	2445.7	2318.6	2220.0	2130.6	2062.5	2006.6	1947.6	1893.7
47.5°	2849.2	2720.1	2596.1	2469.1	2348.1	2246.4	2149.9	2077.7	2029.9	1983.2	1944.5
50°	2854.3	2726.2	2608.3	2487.4	2368.4	2265.8	2172.2	2110.2	2081.8	2066.5	2057.4
52.5°	2880.7	2750.6	2661.2	2580.9	2542.2	2479.2	2427.4	2380.6	2387.7	2351.1	2304.4
55°	3153.2	3109.4	3212.1	3286.3	3322.9	3386.9	3479.4	3391.0	3378.8	3266.0	2930.5
57.5°	4233.7	4337.4	4494.9	4606.7	4617.9	4598.6	4522.4	4449.2	4330.3	4160.5	3690.9
60°	6046.1	6021.7	5875.3	5679.1	5526.7	5326.4	5125.1	4955.4	4764.3	4504.1	4004.0
62.5°	7952.0	7364.5	6843.0	6398.8	6021.7	5687.3	5383.3	5128.2	4865.9	4491.9	3959.2
65°	9491.0	8360.6	7441.7	6727.1	6166.0	5693.4	5301.0	4949.3	4598.6	4165.6	3649.2
67.5°	10590.8	8797.7	7411.2	6405.9	5619.2	4968.6	4397.3	3996.8	3637.0	3296.5	3063.7
70°	10678.2	8192.9	6269.7	5039.8	4132.0	3367.6	2775.0	2337.9	2024.8	1883.6	1984.2
72.5°	9125.0	6061.3	4168.6	3085.0	2448.7	1902.9	1529.8	1222.8	970.7	846.7	864.0
75°	5374.2	2910.2	1877.5	1398.7	1142.5	912.8	789.8	666.8	588.5	471.7	377.1
77.5°	2046.2	1265.5	947.4	786.8	561.1	403.5	318.2	274.5	252.1	249.0	235.8
80°	1179.1	928.1	649.5	424.9	311.0	263.3	225.7	193.1	179.9	176.9	182.0
82.5°	745.1	578.4	356.8	273.4	226.7	195.2	162.6	141.3	130.1	126.0	133.2
85°	385.2	289.7	217.5	187.0	173.8	158.6	130.1	108.8	107.7	112.8	130.1
87.5°	142.3	124.0	97.6	84.4	90.5	84.4	61.0	52.9	47.8	63.0	91.5
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: P145477

CATALOG NUMBER: LDRL-SL4-F06-E-7060

CANDELA DISTRIBUTION (continued):

	105°	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°
0°	3029.1	3029.1	3029.1	3029.1	3029.1	3029.1	3029.1	3029.1	3029.1	3029.1	3029.1
2.5°	3010.8	3008.8	3009.8	3007.8	3007.8	3010.8	3006.8	3003.7	3008.8	3008.8	3011.9
5°	2964.1	2966.1	2966.1	2965.1	2967.1	2972.2	2971.2	2971.2	2979.3	2982.4	2986.4
7.5°	2889.9	2892.9	2893.9	2897.0	2898.0	2905.1	2910.2	2916.3	2928.5	2931.6	2940.7
10°	2789.3	2787.2	2794.3	2793.3	2802.5	2808.6	2812.6	2825.8	2844.1	2854.3	2863.5
12.5°	2670.3	2670.3	2674.4	2675.4	2683.5	2691.7	2696.7	2713.0	2728.3	2741.5	2761.8
15°	2544.3	2540.2	2531.1	2530.0	2533.1	2541.2	2552.4	2564.6	2588.0	2607.3	2624.6
17.5°	2412.1	2399.9	2388.8	2374.5	2373.5	2372.5	2378.6	2387.7	2424.3	2443.6	2468.0
20°	2295.2	2268.8	2242.4	2212.9	2195.6	2187.5	2190.5	2202.7	2237.3	2262.7	2288.1
22.5°	2190.5	2150.9	2109.2	2062.5	2034.0	2016.7	2018.8	2023.8	2049.2	2064.5	2077.7
25°	2101.1	2046.2	1988.3	1928.3	1888.6	1862.2	1861.2	1861.2	1850.0	1852.0	1844.9
27.5°	2040.1	1963.9	1889.7	1819.5	1767.7	1741.2	1705.7	1680.3	1657.9	1627.4	1614.2
30°	1981.1	1902.9	1818.5	1741.2	1679.2	1627.4	1561.3	1506.4	1462.7	1421.1	1385.5
32.5°	1928.3	1847.0	1766.7	1682.3	1596.9	1507.5	1421.1	1358.0	1296.0	1232.0	1189.3
35°	1881.5	1805.3	1725.0	1629.4	1509.5	1392.6	1295.0	1209.6	1136.4	1059.2	997.2
37.5°	1855.1	1786.0	1702.6	1572.5	1422.1	1288.9	1180.1	1084.6	987.0	894.5	818.3
40°	1841.9	1780.9	1679.2	1514.6	1343.8	1201.5	1080.5	965.7	850.8	742.0	662.8
42.5°	1839.8	1780.9	1644.7	1455.6	1276.7	1124.2	989.0	850.8	711.5	605.8	535.7
45°	1858.1	1778.9	1608.1	1402.8	1216.7	1055.1	892.5	729.8	586.5	494.0	455.4
47.5°	1911.0	1786.0	1579.6	1358.0	1159.8	978.9	782.7	595.7	473.7	432.0	431.0
50°	1996.4	1818.5	1573.5	1325.5	1103.9	883.3	653.6	476.7	417.8	415.7	426.9
52.5°	2131.6	1879.5	1588.8	1303.1	1036.8	759.3	517.4	411.7	400.5	411.7	425.9
55°	2429.4	1988.3	1609.1	1263.5	928.1	601.8	425.9	390.3	395.4	408.6	421.8
57.5°	2971.2	2213.9	1630.5	1174.0	752.2	462.5	383.2	382.2	391.3	402.5	414.7
60°	3314.8	2492.4	1682.3	1041.9	568.2	382.2	367.0	377.1	388.3	396.4	406.6
62.5°	3326.0	2565.6	1709.7	900.6	422.9	349.7	352.7	372.0	385.2	388.3	393.4
65°	3111.5	2427.4	1585.7	732.9	350.7	331.4	342.6	359.8	373.1	375.1	379.2
67.5°	2718.1	2140.7	1343.8	553.0	319.2	317.1	329.3	342.6	351.7	359.8	365.9
70°	2047.2	1766.7	1080.5	429.0	299.9	297.8	310.0	321.2	329.3	339.5	349.7
72.5°	1037.8	1222.8	819.3	350.7	273.4	275.5	288.7	298.8	304.9	314.1	324.3
75°	353.7	533.7	518.4	283.6	244.0	252.1	258.2	269.4	278.5	284.6	289.7
77.5°	221.6	231.8	267.3	228.7	215.5	217.5	227.7	237.9	248.0	252.1	254.1
80°	185.0	186.0	187.0	183.0	184.0	190.1	196.2	207.4	217.5	219.6	220.6
82.5°	146.4	156.5	155.5	154.5	159.6	165.7	169.8	173.8	177.9	179.9	183.0
85°	129.1	127.1	128.1	131.1	127.1	123.0	122.0	122.0	128.1	135.2	138.2
87.5°	117.9	100.6	75.2	71.2	71.2	69.1	65.1	65.1	71.2	77.3	80.3
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: P145477

CATALOG NUMBER: LDRL-SL4-F06-E-7060

CANDELA DISTRIBUTION (continued):

	160°	165°	170°	175°	180°
0°	3029.1	3029.1	3029.1	3029.1	3029.1
2.5°	3010.8	3011.9	3010.8	3010.8	3015.9
5°	2988.5	2992.5	2990.5	2993.6	2996.6
7.5°	2942.7	2952.9	2954.9	2963.1	2960.0
10°	2876.7	2883.8	2893.9	2902.1	2899.0
12.5°	2772.0	2789.3	2804.5	2813.6	2811.6
15°	2638.8	2663.2	2683.5	2690.7	2682.5
17.5°	2496.5	2511.7	2536.1	2541.2	2549.4
20°	2316.6	2315.6	2336.9	2336.9	2332.8
22.5°	2081.8	2097.0	2097.0	2082.8	2075.7
25°	1841.9	1847.0	1831.7	1834.8	1815.5
27.5°	1601.0	1587.8	1575.6	1580.6	1566.4
30°	1371.2	1342.8	1330.6	1332.6	1317.4
32.5°	1150.7	1117.1	1104.9	1088.7	1075.4
35°	950.4	897.6	866.1	857.9	867.1
37.5°	754.2	716.6	679.0	651.6	654.6
40°	596.7	558.1	533.7	522.5	520.4
42.5°	493.0	470.6	465.6	466.6	466.6
45°	447.3	448.3	452.3	456.4	457.4
47.5°	438.1	444.2	451.3	456.4	457.4
50°	437.1	443.2	448.3	454.4	456.4
52.5°	436.1	440.1	443.2	446.2	449.3
55°	432.0	434.0	433.0	435.1	438.1
57.5°	421.8	422.9	420.8	421.8	427.9
60°	412.7	413.7	409.6	414.7	415.7
62.5°	401.5	400.5	398.5	401.5	401.5
65°	385.2	379.2	381.2	384.2	385.2
67.5°	365.9	359.8	359.8	361.9	364.9
70°	341.5	338.5	338.5	342.6	346.6
72.5°	314.1	316.1	322.2	328.3	334.4
75°	291.7	296.8	302.9	318.2	327.3
77.5°	263.3	264.3	269.4	284.6	300.9
80°	223.6	222.6	223.6	225.7	228.7
82.5°	176.9	174.8	168.7	170.8	166.7
85°	130.1	127.1	119.9	114.9	113.8
87.5°	75.2	75.2	72.2	68.1	64.0
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)