

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: P144549

Luminaire Tested: **LDRL-RW-E04-E-7030**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P144549
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (P33700)
Test Lab: INNOVATION CENTER-P3
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: LUMARK
Catalog Number: LDRL-RW-E04-E-7030
Description: RL LED ROADWAY LARGE CUTOFF COBRAHEAD LUMINAIRE
(4) LIGHTBARS WITH AccuLED OPTICS - RECTANGULAR WIDE
Light Source: (84) 3000K CCT, 70 CRI LEDs
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 10973.6 lumens
Efficiency: N/A
Efficacy: 112.9 lumens/watt
Luminous Opening: Rectangular (W 0.67' x L: 1' x H: 0')
IES Classification: Type I - Short - Full Cutoff
BUG Rating: B3 - U0 - G3

Input Watts (W): 97.2
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

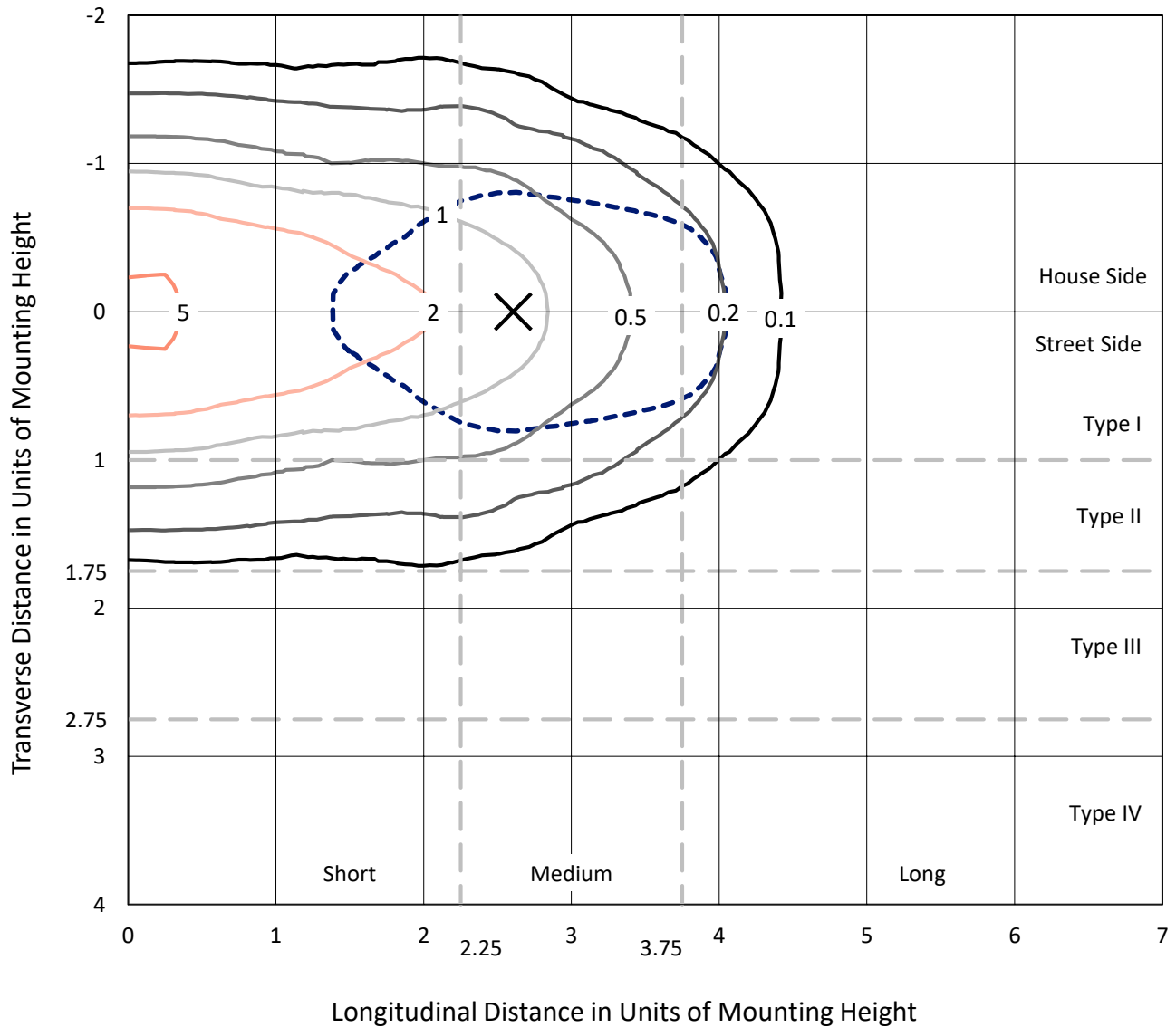


REPORT NUMBER: P144549

CATALOG NUMBER: LDRL-RW-E04-E-7030

Iso-Footcandle Lines of Horizontal Illumination

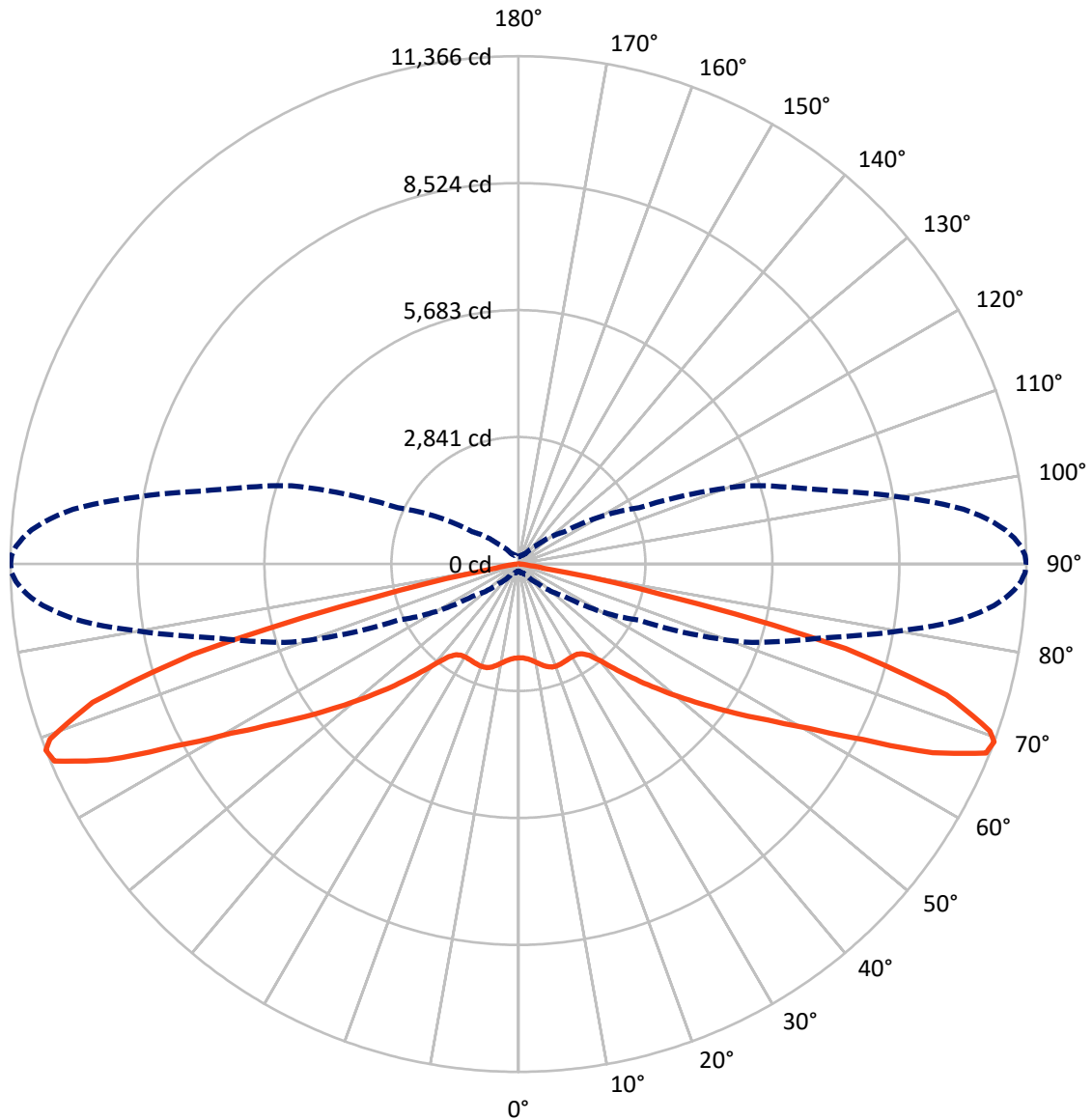
× Max cd
 - - - 1/2 Max cd



Based on 20 foot mounting height. Maximum calculated value = 5.4 fc
 Type I - Short - Full Cutoff

REPORT NUMBER: P144549
CATALOG NUMBER: LDRL-RW-E04-E-7030

Luminous Intensity Polar Plot



— Vertical Plane Through 90-Deg Lateral - - - Horizontal Cone Through 69-Deg Vertical

REPORT NUMBER: P144549

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FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	5486.8	0.0	5486.8
	% Fixture	50.0	0.0	50.0
Street Side	Lumens	5486.8	0.0	5486.8
	% Fixture	50.0	0.0	50.0
Total	Lumens	10973.6	0.0	10973.6
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	205.6	1.9
10°-20°	647.5	5.9
20°-30°	1048.7	9.6
30°-40°	1306.4	11.9
40°-50°	1626.4	14.8
50°-60°	1995.6	18.2
60°-70°	2461.2	22.4
70°-80°	1530.1	13.9
80°-90°	152.0	1.4
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°	10973.6	100.0
0°-180°	10973.6	100.0



REPORT NUMBER: P144549

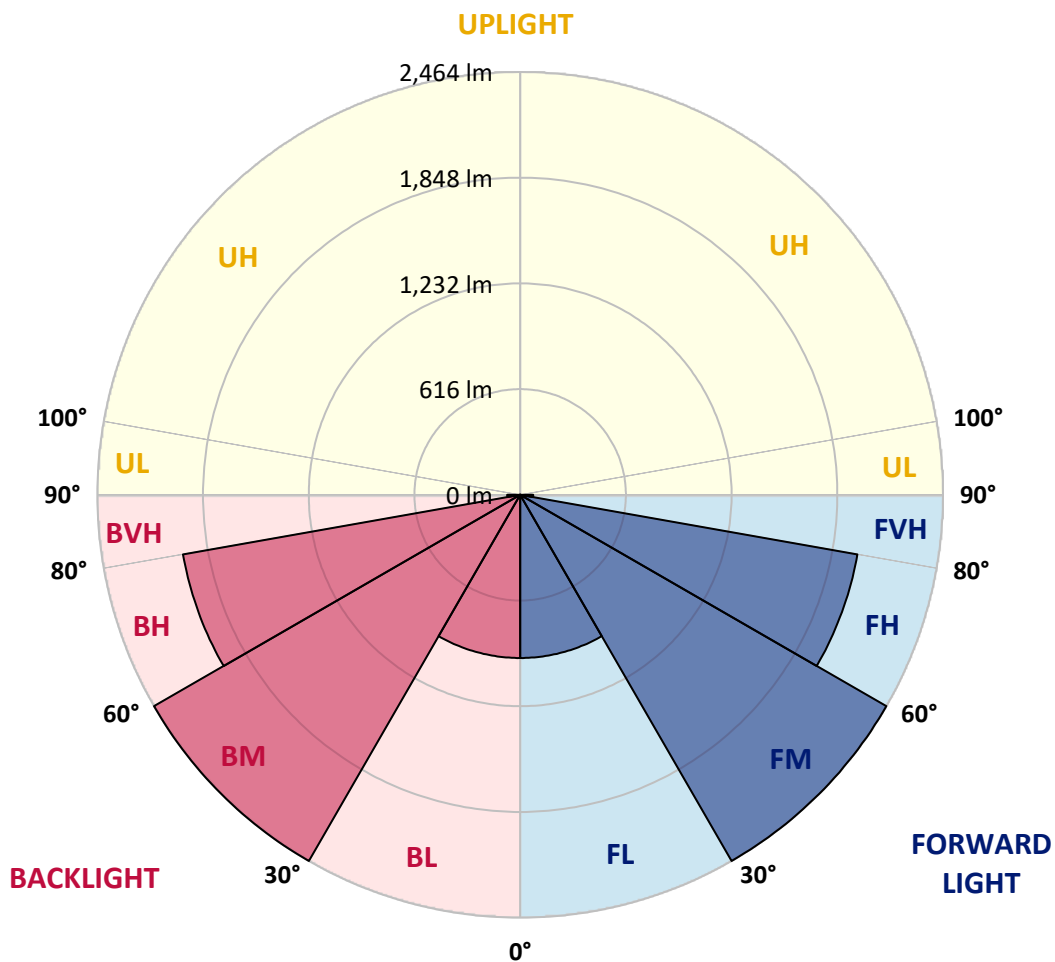
CATALOG NUMBER: LDRL-RW-E04-E-7030

LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	950.9	8.7			
FM	(30°-60°)	2464.2	22.5			
FH	(60°-80°)	1995.7	18.2			G2/5000
FVH	(80°-90°)	76.0	0.7			G1/100
BL	(0°-30°)	950.9	8.7	B2/1000		
BM	(30°-60°)	2464.2	22.5	B2/2500		
BH	(60°-80°)	1995.7	18.2	B3/2500		G3/2500
BVH	(80°-90°)	76.0	0.7			G1/100
UL	(90°-100°)	0.0	0.0		U0/0	
UH	(100°-180°)	0.0	0.0		U0/0	

BUG Rating: B3-U0-G3

Type I Short





REPORT NUMBER: P144549

CATALOG NUMBER: LDRL-RW-E04-E-7030

CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	65°	66°	67°	68°
0°	2101.4	2101.4	2101.4	2101.4	2101.4	2101.4	2101.4	2101.4	2101.4	2101.4	2101.4
2.5°	2107.0	2104.8	2108.8	2112.4	2111.3	2112.0	2110.6	2108.8	2108.9	2109.0	2109.2
5°	2123.4	2121.2	2124.8	2128.1	2129.2	2131.8	2132.5	2131.4	2131.9	2132.4	2132.9
7.5°	2143.1	2141.3	2146.0	2150.4	2158.8	2163.2	2167.6	2172.0	2172.3	2172.7	2173.1
10°	2161.7	2160.6	2168.2	2177.8	2191.3	2201.6	2214.0	2226.0	2227.0	2227.9	2228.8
12.5°	2173.8	2173.8	2185.4	2202.6	2226.0	2246.8	2268.0	2288.5	2290.4	2292.3	2294.2
15°	2173.0	2174.5	2192.4	2223.8	2264.0	2300.9	2326.8	2349.1	2350.9	2352.8	2354.6
17.5°	2158.0	2158.4	2184.0	2234.0	2296.9	2351.7	2385.3	2397.4	2398.0	2398.7	2399.4
20°	2116.0	2119.0	2155.1	2227.8	2322.4	2398.1	2429.9	2424.8	2423.6	2422.6	2421.4
22.5°	2044.0	2047.8	2096.0	2193.5	2327.2	2428.0	2461.0	2437.9	2434.4	2430.9	2427.4
25°	1944.0	1950.2	2002.5	2127.4	2295.1	2436.8	2481.0	2444.2	2438.7	2433.2	2427.7
27.5°	1828.2	1831.0	1892.8	2024.0	2220.1	2407.6	2490.2	2456.9	2450.0	2443.2	2436.3
30°	1694.0	1701.8	1766.1	1903.1	2114.6	2339.6	2486.5	2481.8	2474.1	2466.4	2458.7
32.5°	1560.8	1567.3	1630.6	1778.1	1993.0	2245.0	2468.2	2519.4	2512.9	2506.5	2500.1
35°	1426.2	1434.3	1499.4	1657.9	1872.0	2137.6	2439.4	2573.1	2570.3	2567.5	2564.8
37.5°	1308.3	1313.4	1377.3	1542.1	1766.0	2039.3	2401.8	2645.0	2651.3	2657.6	2663.9
40°	1188.1	1193.2	1260.0	1428.8	1668.5	1955.3	2367.0	2735.7	2752.9	2770.0	2787.2
42.5°	1072.6	1077.0	1141.7	1310.1	1560.0	1882.6	2346.2	2845.2	2878.2	2911.2	2944.1
45°	954.3	957.2	1017.9	1181.8	1436.2	1797.8	2340.8	2968.4	3016.0	3063.5	3111.1
47.5°	837.8	844.6	907.2	1062.8	1294.8	1676.6	2332.7	3104.6	3167.7	3230.8	3293.8
50°	726.3	734.0	798.3	945.9	1158.2	1532.6	2291.8	3259.2	3336.1	3412.9	3489.8
52.5°	612.7	620.3	684.7	825.7	1031.4	1370.4	2177.8	3421.4	3512.8	3604.2	3695.6
55°	491.4	494.3	560.4	701.8	904.6	1234.5	1996.2	3570.1	3680.8	3791.5	3902.2
57.5°	357.3	367.2	432.6	564.0	775.2	1114.2	1765.4	3646.1	3784.3	3922.4	4060.6
60°	258.0	264.5	321.8	425.2	628.8	996.2	1560.4	3590.6	3775.0	3959.4	4143.8
62.5°	203.8	211.2	255.4	320.4	486.3	866.6	1426.6	3438.2	3696.9	3955.7	4214.4
65°	180.4	187.0	228.0	260.2	371.9	733.2	1342.6	3287.4	3636.5	3985.7	4334.9
67.5°	164.8	171.7	207.5	229.4	307.2	647.4	1302.8	3173.4	3576.6	3979.9	4383.1
69°	157.4	163.6	196.6	217.0	289.8	618.2	1260.1	2980.4	3380.3	3780.1	4179.9
70°	153.4	158.9	188.9	209.4	282.8	594.0	1196.8	2751.0	3136.8	3522.6	3908.4
72.5°	142.1	145.8	171.0	190.0	258.7	474.2	902.8	1941.0	2268.1	2595.2	2922.2
75°	126.0	130.4	152.7	170.2	197.3	285.0	565.2	1126.7	1350.8	1574.9	1799.0
77.5°	108.1	113.2	131.6	159.3	158.9	185.6	343.0	647.0	755.9	864.8	973.7
80°	92.8	97.2	113.6	157.4	133.0	146.9	255.7	482.6	526.4	570.3	614.1
82.5°	72.7	76.4	95.4	130.0	106.3	111.8	194.7	439.5	469.2	499.0	528.7
85°	45.6	47.2	69.4	89.9	75.6	67.6	125.4	338.3	359.9	381.6	403.2
87.5°	18.2	22.3	33.6	32.2	32.6	27.0	40.6	122.0	133.1	144.2	155.3
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: P144549

CATALOG NUMBER: LDRL-RW-E04-E-7030

CANDELA DISTRIBUTION (continued):

	69°	70°	71°	72°	73°	74°	75°	76°	77°	78°	79°
0°	2101.4	2101.4	2101.4	2101.4	2101.4	2101.4	2101.4	2101.4	2101.4	2101.4	2101.4
2.5°	2109.4	2109.5	2108.8	2107.6	2108.8	2107.6	2108.0	2109.1	2108.7	2108.8	2108.0
5°	2133.4	2134.0	2134.0	2131.8	2132.9	2133.2	2133.6	2132.8	2133.2	2134.0	2132.4
7.5°	2173.4	2173.8	2174.8	2176.0	2175.2	2175.6	2176.3	2175.6	2174.5	2177.0	2175.2
10°	2229.8	2230.8	2230.8	2234.0	2232.6	2233.7	2237.0	2237.0	2235.2	2237.7	2237.0
12.5°	2296.1	2298.0	2297.6	2297.2	2298.8	2299.8	2303.5	2304.2	2305.0	2309.0	2307.5
15°	2356.4	2358.2	2359.8	2360.4	2363.0	2363.8	2366.0	2367.4	2368.5	2370.0	2370.7
17.5°	2400.0	2400.6	2402.8	2401.8	2405.4	2404.6	2407.2	2408.3	2409.4	2411.2	2412.4
20°	2420.4	2419.2	2419.6	2418.6	2418.6	2419.2	2419.6	2421.2	2420.4	2422.2	2423.6
22.5°	2423.9	2420.4	2418.2	2415.6	2414.5	2412.4	2412.4	2413.1	2410.5	2412.4	2414.6
25°	2422.2	2416.7	2412.7	2408.4	2404.3	2400.6	2398.4	2397.7	2395.9	2395.9	2397.7
27.5°	2429.5	2422.6	2416.8	2409.4	2404.3	2399.2	2394.4	2390.8	2387.1	2386.4	2386.4
30°	2451.1	2443.4	2436.8	2427.7	2419.6	2413.1	2406.5	2401.4	2394.4	2391.6	2388.2
32.5°	2493.7	2487.2	2478.1	2470.0	2460.6	2452.6	2443.8	2435.7	2427.6	2420.4	2417.4
35°	2562.0	2559.2	2554.0	2548.6	2539.4	2529.2	2522.0	2512.4	2503.4	2492.7	2489.8
37.5°	2670.2	2676.4	2673.6	2669.6	2667.0	2663.7	2653.8	2647.6	2641.4	2632.6	2630.8
40°	2804.4	2821.6	2838.6	2850.0	2846.0	2859.5	2861.7	2862.8	2857.4	2864.6	2866.1
42.5°	2977.1	3010.0	3041.1	3063.8	3090.0	3109.8	3135.4	3146.3	3167.1	3188.6	3201.1
45°	3158.7	3206.2	3250.8	3297.2	3342.8	3393.0	3441.5	3475.8	3525.8	3563.2	3586.6
47.5°	3356.9	3420.0	3473.3	3542.7	3608.8	3668.0	3753.2	3821.5	3882.4	3940.6	4001.6
50°	3566.7	3643.6	3709.3	3794.0	3874.4	3967.2	4067.0	4154.0	4249.6	4342.0	4424.2
52.5°	3787.0	3878.4	3967.2	4054.2	4151.8	4252.5	4360.7	4486.4	4601.0	4740.3	4840.0
55°	4012.9	4123.6	4218.2	4309.2	4412.6	4524.4	4653.0	4801.7	4947.4	5099.8	5251.0
57.5°	4198.8	4337.0	4440.4	4546.6	4658.0	4768.8	4928.4	5080.8	5265.6	5452.7	5642.0
60°	4328.3	4512.7	4638.0	4772.5	4901.4	5035.8	5207.9	5400.4	5631.8	5858.2	6115.4
62.5°	4473.2	4731.9	4907.6	5087.0	5243.7	5405.2	5635.4	5857.1	6154.2	6415.0	6738.7
65°	4684.1	5033.2	5292.0	5533.8	5744.2	5964.2	6237.1	6514.4	6854.2	7214.8	7620.6
67.5°	4786.4	5189.6	5528.4	5826.8	6095.7	6376.0	6657.6	6985.7	7368.6	7802.6	8248.3
69°	4579.8	4979.6	5369.0	5670.8	5954.0	6253.2	6554.6	6885.6	7262.6	7713.1	8185.4
70°	4294.2	4680.0	5094.0	5396.4	5682.1	5992.6	6299.6	6633.8	6994.4	7458.4	7936.2
72.5°	3249.3	3576.4	3978.2	4297.8	4598.2	4912.0	5228.0	5518.1	5883.8	6330.2	6770.5
75°	2023.1	2247.2	2608.5	2929.6	3171.2	3440.0	3736.7	4011.4	4378.6	4695.0	5118.4
77.5°	1082.5	1191.4	1402.2	1632.4	1766.8	1898.0	2091.2	2240.3	2394.8	2577.9	2752.8
80°	658.0	701.8	773.8	823.5	804.8	751.2	734.0	680.2	699.6	666.8	643.0
82.5°	558.5	588.2	632.0	662.0	640.0	554.2	457.0	384.7	333.6	284.6	241.8
85°	424.8	446.4	469.1	482.6	481.6	438.8	348.5	270.0	210.4	163.0	135.5
87.5°	166.4	177.5	194.0	191.4	199.8	201.3	157.4	121.7	86.6	58.4	51.2
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: P144549
 CATALOG NUMBER: LDRL-RW-E04-E-7030

CANDELA DISTRIBUTION (continued):

	80°	81°	82°	83°	84°	85°	86°	87°	88°	89°	90°
0°	2101.4	2101.4	2101.4	2101.4	2101.4	2101.4	2101.4	2101.4	2101.4	2101.4	2101.4
2.5°	2106.6	2106.2	2106.6	2107.6	2107.6	2108.4	2107.6	2108.0	2107.0	2105.8	2106.6
5°	2132.5	2131.8	2132.5	2133.2	2133.2	2132.5	2134.4	2134.3	2133.6	2132.5	2132.9
7.5°	2177.0	2177.4	2176.4	2180.0	2176.7	2177.0	2179.2	2178.9	2178.2	2178.5	2178.9
10°	2239.2	2238.8	2239.5	2241.7	2238.4	2240.6	2243.2	2243.9	2242.1	2242.1	2242.5
12.5°	2307.8	2310.8	2311.2	2312.6	2312.6	2314.4	2314.8	2315.2	2316.6	2317.0	2314.8
15°	2373.6	2375.8	2377.2	2378.7	2376.9	2379.4	2382.4	2382.4	2382.0	2383.5	2381.3
17.5°	2414.2	2416.0	2418.6	2418.2	2418.6	2420.8	2422.6	2423.3	2424.0	2424.0	2424.4
20°	2427.0	2428.0	2429.6	2431.0	2431.7	2433.9	2435.4	2436.4	2437.2	2436.4	2436.8
22.5°	2416.7	2418.2	2421.1	2422.2	2422.6	2425.9	2427.3	2428.4	2429.2	2429.9	2428.8
25°	2399.2	2400.6	2403.6	2404.6	2405.4	2408.3	2410.1	2412.7	2413.4	2413.8	2414.2
27.5°	2387.2	2387.9	2390.0	2391.5	2391.9	2395.2	2397.8	2399.6	2400.0	2400.3	2400.3
30°	2387.5	2387.5	2390.1	2390.4	2390.0	2393.0	2394.4	2395.6	2396.2	2396.2	2396.6
32.5°	2412.7	2411.2	2413.4	2410.1	2410.5	2410.1	2409.8	2410.9	2410.2	2410.6	2409.1
35°	2484.0	2479.9	2476.6	2478.1	2473.0	2465.6	2469.7	2467.9	2463.8	2464.2	2465.3
37.5°	2620.6	2616.6	2620.2	2617.0	2618.0	2607.8	2610.4	2601.2	2598.6	2602.0	2592.5
40°	2863.2	2861.4	2868.3	2865.4	2867.2	2870.1	2872.6	2863.9	2849.2	2862.5	2862.8
42.5°	3199.2	3215.7	3222.3	3231.4	3241.3	3236.9	3245.6	3248.2	3232.2	3244.2	3247.1
45°	3620.9	3638.4	3658.9	3665.0	3681.2	3683.4	3690.0	3691.8	3677.2	3678.6	3681.9
47.5°	4062.6	4094.7	4118.8	4135.6	4152.4	4155.8	4159.4	4152.4	4153.6	4156.8	4156.8
50°	4496.6	4565.3	4608.0	4641.2	4670.2	4655.2	4668.0	4669.0	4673.4	4664.3	4669.8
52.5°	4952.9	5043.9	5115.5	5171.4	5188.9	5242.2	5220.4	5237.2	5248.5	5231.6	5242.6
55°	5398.6	5528.3	5643.4	5724.5	5781.5	5835.6	5844.0	5887.4	5882.4	5898.8	5891.5
57.5°	5822.5	6003.7	6168.0	6288.2	6370.1	6452.6	6508.5	6556.0	6560.8	6607.9	6581.2
60°	6335.0	6587.4	6799.0	6978.0	7099.0	7221.7	7318.5	7396.3	7414.2	7495.0	7468.3
62.5°	7026.6	7334.6	7604.9	7815.0	8084.2	8214.0	8402.4	8520.1	8593.5	8613.6	8651.3
65°	7998.8	8399.9	8756.5	9092.6	9395.4	9605.5	9823.6	9999.0	10139.7	10128.0	10185.7
67.5°	8721.0	9178.4	9607.8	10010.7	10336.6	10606.9	10857.6	11047.2	11172.8	11252.8	11286.8
69°	8645.8	9136.8	9610.2	10040.6	10376.8	10678.9	10923.0	11109.6	11253.6	11340.5	11365.7
70°	8395.6	8900.0	9393.6	9816.0	10158.6	10490.4	10738.8	10946.7	11083.7	11178.7	11193.3
72.5°	7261.8	7808.4	8245.0	8705.7	9035.6	9371.3	9527.8	9785.2	9964.0	10021.6	10020.5
75°	5477.2	5933.2	6316.8	6657.2	6952.4	7180.0	7253.8	7437.2	7585.6	7583.7	7569.8
77.5°	2949.4	3056.8	3200.4	3248.6	3339.6	3338.1	3246.8	3275.6	3359.6	3196.8	3249.3
80°	632.8	623.3	615.2	610.4	607.9	609.0	612.3	591.4	612.0	602.8	564.1
82.5°	220.3	215.2	210.1	213.8	211.2	213.4	212.6	215.2	214.8	214.1	209.0
85°	123.8	119.4	116.9	118.7	114.7	111.0	108.5	107.4	107.0	104.5	103.0
87.5°	47.1	46.8	46.4	44.6	40.2	36.9	34.7	30.4	28.5	26.0	24.1
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)