

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: P145470

Luminaire Tested: **LDRL-SL4-E06-E**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P145470
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-E06-E
Description: RL LED ROADWAY LARGE CUTOFF COBRAHEAD LUMINAIRE
(6) LIGHTBARS WITH AccuLED OPTICS - TYPE 4 W/ SPILL LIGHT CONTROL
Light Source: (126) 4000K CCT, 70 CRI LEDs
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 17292.2 lumens
Efficiency: N/A
Efficacy: 114.9 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')
IES Classification: Type IV - Short - Semi-Cutoff
BUG Rating: B3 - U0 - G3

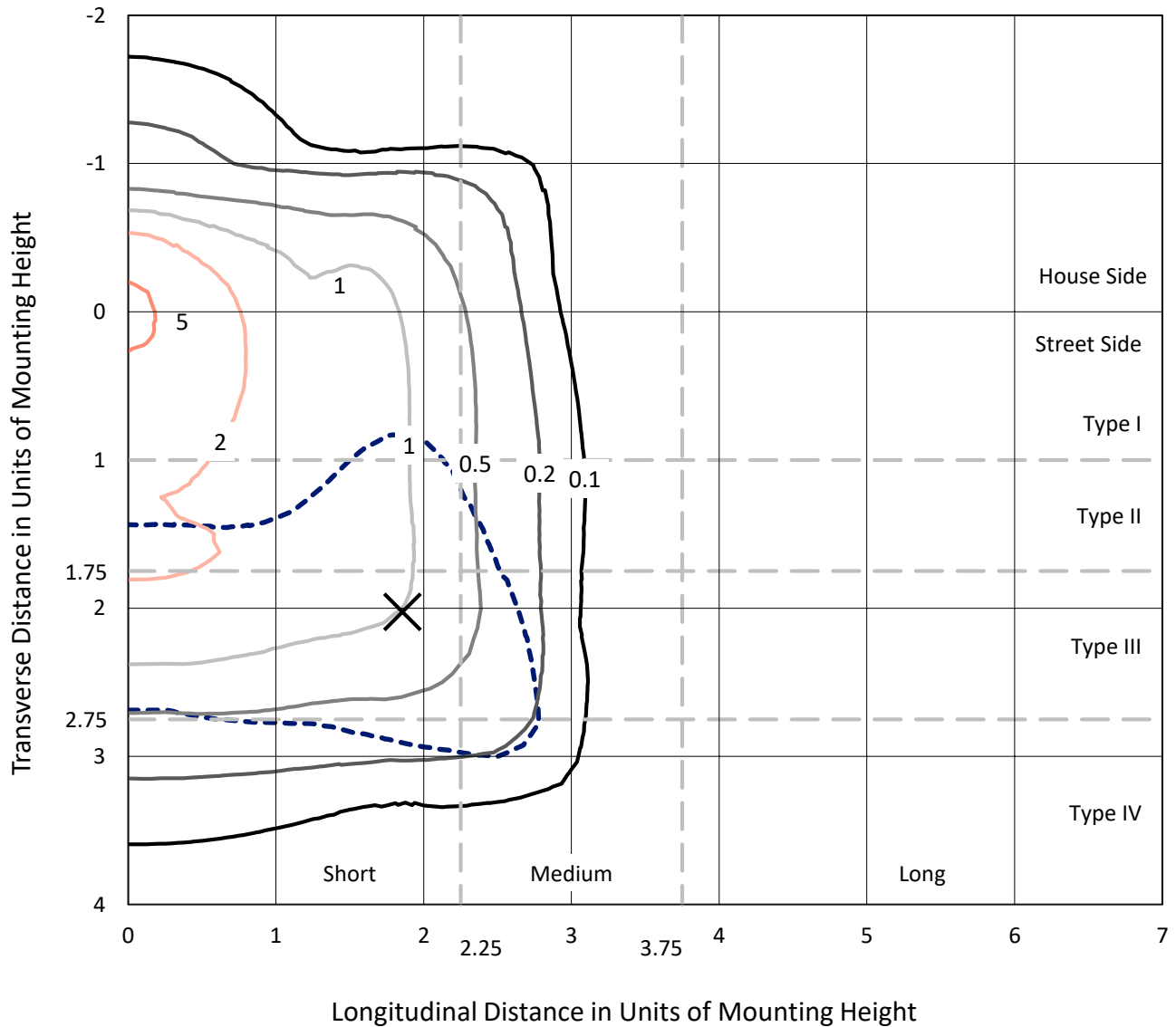
Input Watts (W): 150.5
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



REPORT NUMBER: P145470
 CATALOG NUMBER: LDRL-SL4-E06-E

Iso-Footcandle Lines of Horizontal Illumination

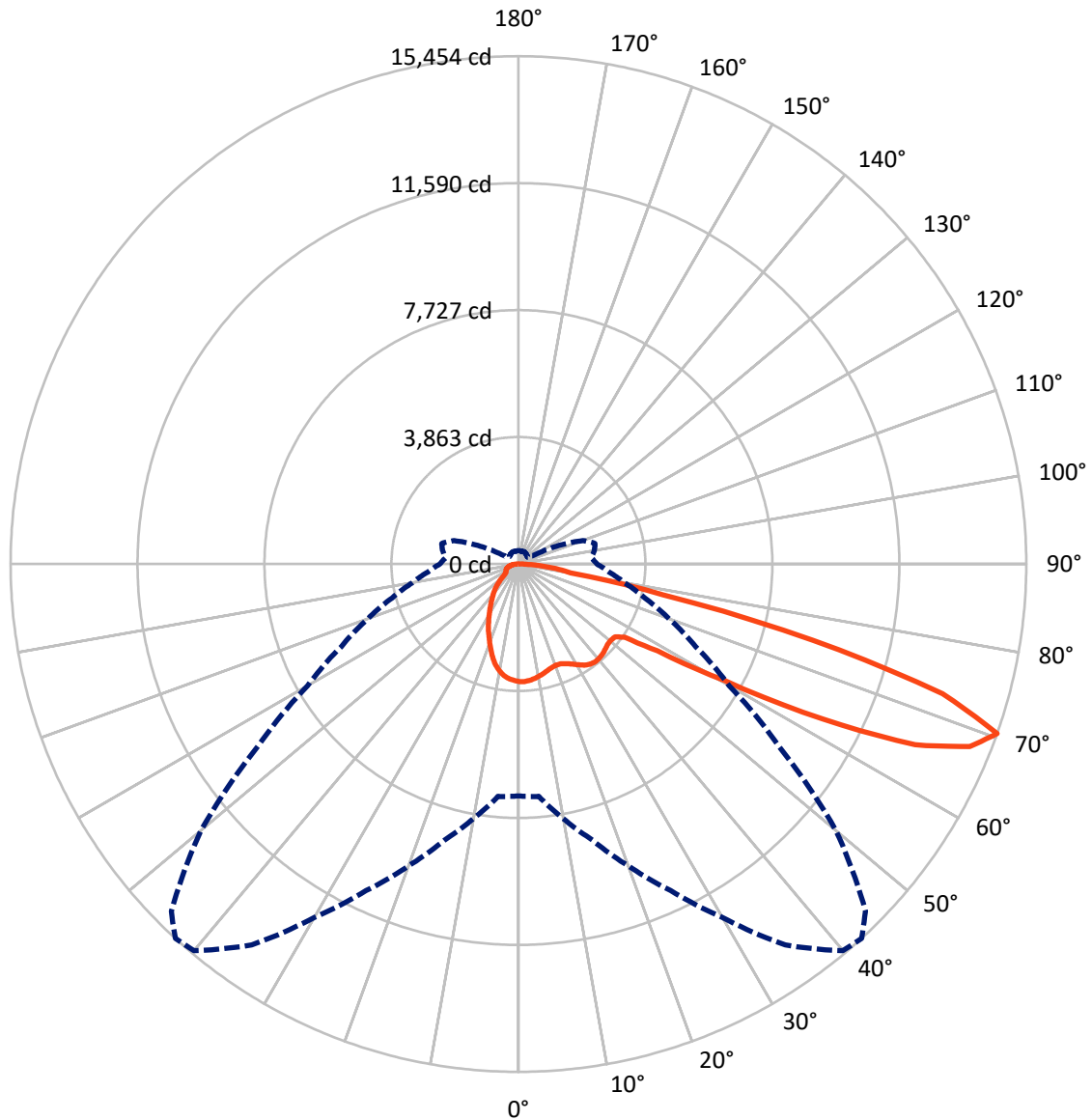
× Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 5.7 fc
 Type IV - Short - Semi-Cutoff

REPORT NUMBER: P145470
CATALOG NUMBER: LDRL-SL4-E06-E

Luminous Intensity Polar Plot



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

REPORT NUMBER: P145470

CATALOG NUMBER: LDRL-SL4-E06-E

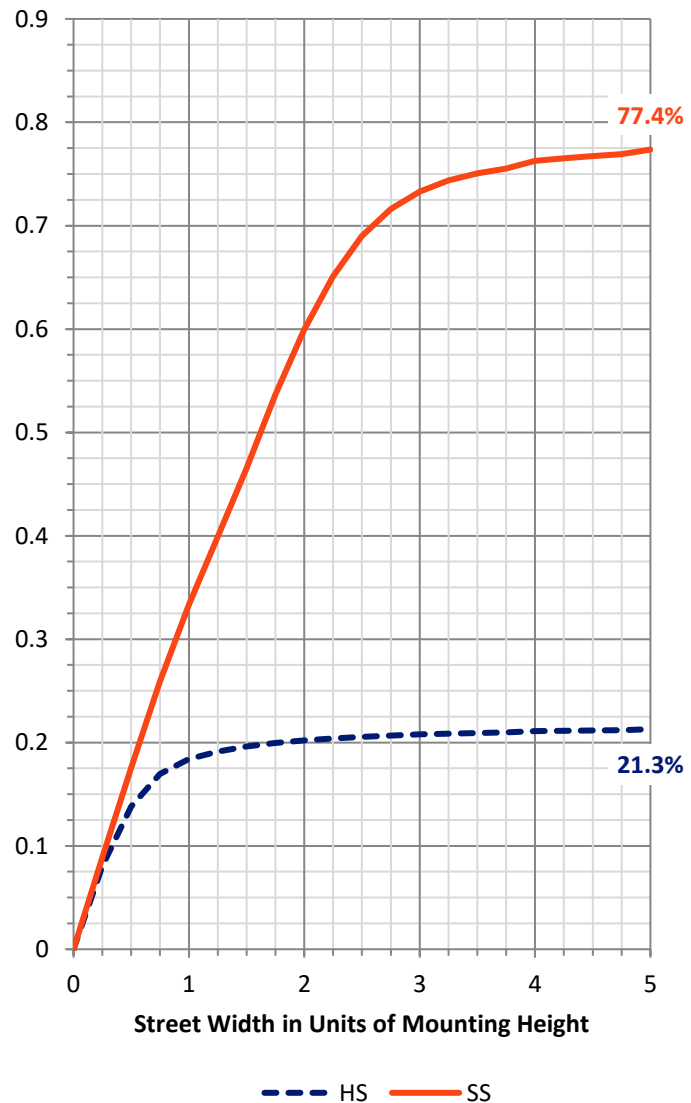
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	3735.4	0.0	3735.4
	% Fixture	21.6	0.0	21.6
Street Side	Lumens	13556.7	0.0	13556.7
	% Fixture	78.4	0.0	78.4
Total	Lumens	17292.2	0.0	17292.2
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	332.7	1.9
10°-20°	896.3	5.2
20°-30°	1307.4	7.6
30°-40°	1667.5	9.6
40°-50°	1946.3	11.3
50°-60°	2976.4	17.2
60°-70°	5395.4	31.2
70°-80°	2399.0	13.9
80°-90°	371.2	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°	17292.2	100.0
0°-180°	17292.2	100.0



REPORT NUMBER: P145470

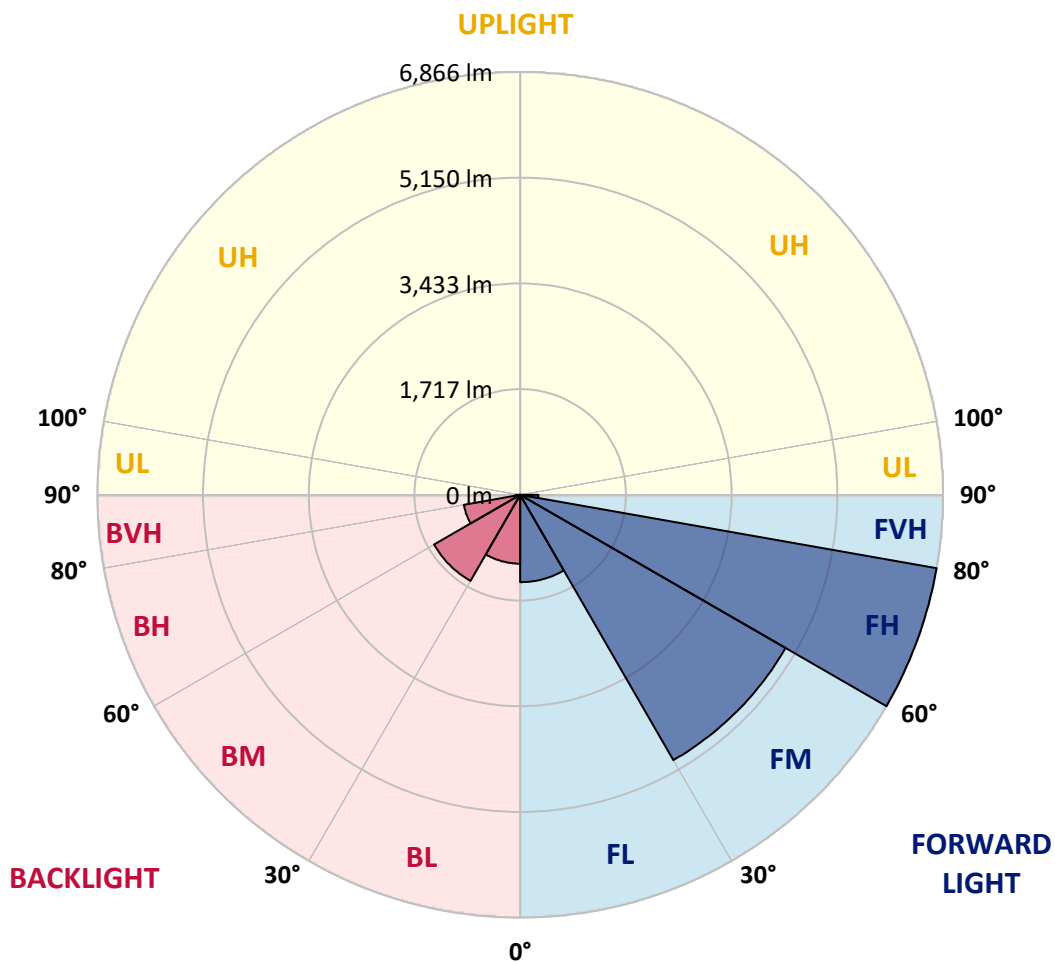
CATALOG NUMBER: LDRL-SL4-E06-E

LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	1418.4	8.2			
FM	(30°-60°)	4975.4	28.8			
FH	(60°-80°)	6866.4	39.7			G3/7500
FVH	(80°-90°)	296.6	1.7			G3/500
BL	(0°-30°)	1118.0	6.5	B3/2500		
BM	(30°-60°)	1614.8	9.3	B2/2500		
BH	(60°-80°)	928.0	5.4	B2/1000		G2/1000
BVH	(80°-90°)	74.6	0.4			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 IV Short





REPORT NUMBER: P145470
 CATALOG NUMBER: LDRL-SL4-E06-E

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	42.5°	45°
0°	3576.0	3576.0	3576.0	3576.0	3576.0	3576.0	3576.0	3576.0	3576.0	3576.0	3576.0
2.5°	3592.8	3589.2	3591.6	3594.0	3594.0	3595.2	3584.4	3585.6	3580.8	3582.0	3583.2
5°	3579.6	3576.0	3578.4	3578.4	3578.4	3577.2	3562.8	3561.6	3555.6	3555.6	3553.2
7.5°	3554.4	3541.2	3548.4	3549.6	3547.2	3541.2	3532.8	3524.4	3520.8	3520.8	3512.4
10°	3516.0	3501.6	3505.2	3507.6	3506.4	3494.4	3490.8	3482.4	3472.8	3469.2	3459.6
12.5°	3466.8	3457.2	3462.0	3460.8	3460.8	3450.0	3444.0	3432.0	3420.0	3414.0	3402.0
15°	3435.6	3423.6	3428.4	3428.4	3423.6	3412.8	3404.4	3382.8	3362.4	3355.2	3339.6
17.5°	3454.8	3442.8	3447.6	3444.0	3435.6	3412.8	3391.2	3356.4	3324.0	3304.8	3284.4
20°	3531.6	3519.6	3523.2	3520.8	3508.8	3471.6	3432.0	3372.0	3312.0	3283.2	3252.0
22.5°	3654.0	3644.4	3650.4	3646.8	3627.6	3579.6	3520.8	3434.4	3344.4	3301.2	3256.8
25°	3835.2	3832.8	3842.4	3831.6	3804.0	3732.0	3646.8	3530.4	3412.8	3358.8	3296.4
27.5°	4053.6	4033.2	4047.6	4038.0	4018.8	3927.6	3812.4	3664.8	3514.8	3444.0	3369.6
30°	4250.4	4232.4	4258.8	4254.0	4225.2	4131.6	3986.4	3813.6	3644.4	3554.4	3469.2
32.5°	4478.4	4455.6	4476.0	4476.0	4432.8	4306.8	4141.2	3943.2	3765.6	3669.6	3567.6
35°	4717.2	4693.2	4712.4	4706.4	4629.6	4462.8	4255.2	4040.4	3844.8	3746.4	3642.0
37.5°	4939.2	4935.6	4940.4	4900.8	4794.0	4580.4	4332.0	4092.0	3884.4	3781.2	3672.0
40°	5161.2	5152.8	5132.4	5062.8	4906.8	4650.0	4371.6	4110.0	3886.8	3778.8	3668.4
42.5°	5300.4	5284.8	5250.0	5155.2	4959.6	4666.8	4359.6	4082.4	3858.0	3747.6	3639.6
45°	5348.4	5332.8	5290.8	5184.0	4960.8	4640.4	4312.8	4027.2	3804.0	3703.2	3594.0
47.5°	5308.8	5299.2	5260.8	5154.0	4922.4	4591.2	4254.0	3972.0	3752.4	3654.0	3552.0
50°	5241.6	5235.6	5202.0	5103.6	4886.4	4561.2	4226.4	3945.6	3738.0	3646.8	3550.8
52.5°	5409.6	5391.6	5331.6	5215.2	4962.0	4615.2	4269.6	3985.2	3771.6	3679.2	3580.8
55°	7474.8	7341.6	7044.0	6486.0	5704.8	5098.8	4588.8	4245.6	4015.2	3925.2	3831.6
57.5°	9830.4	9691.2	9567.6	9141.6	8214.0	7069.2	6039.6	5437.2	5024.4	4984.8	4947.6
60°	10737.6	10782.0	10771.2	10612.8	10137.6	9594.0	8732.4	8020.8	7232.4	7200.0	7246.8
62.5°	11362.8	11400.0	11404.8	11356.8	11202.0	11020.8	10840.8	10612.8	10462.8	10398.0	9979.2
65°	11620.8	11674.8	11793.6	11882.4	11907.6	11970.0	12133.2	12753.6	13270.8	13267.2	12776.4
67.5°	10635.6	10700.4	11150.4	11592.0	11962.8	12392.4	13053.6	14062.8	14841.6	14817.6	14415.6
70°	7058.4	7099.2	7863.6	8695.2	9774.0	10966.8	12411.6	14151.6	15358.8	15453.6	14935.2
72.5°	4329.6	4423.2	4672.8	5010.0	5586.0	6691.2	8839.2	11812.8	13584.0	13495.2	13082.4
75°	2923.2	2928.0	2920.8	2956.8	2989.2	3212.4	4077.6	6495.6	9201.6	9249.6	9072.0
77.5°	1998.0	2024.4	2038.8	2029.2	2061.6	2052.0	2102.4	2226.0	3526.8	4501.2	4136.4
80°	1746.0	1756.8	1772.4	1749.6	1689.6	1656.0	1702.8	1658.4	1562.4	1614.0	1545.6
82.5°	1105.2	1137.6	1141.2	1220.4	1338.0	1342.8	1402.8	1358.4	1236.0	1155.6	1057.2
85°	794.4	806.4	828.0	832.8	792.0	757.2	778.8	741.6	668.4	625.2	553.2
87.5°	463.2	475.2	496.8	483.6	442.8	392.4	354.0	304.8	241.2	225.6	199.2
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: P145470

CATALOG NUMBER: LDRL-SL4-E06-E

CANDELA DISTRIBUTION (continued):

	50°	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°
0°	3576.0	3576.0	3576.0	3576.0	3576.0	3576.0	3576.0	3576.0	3576.0	3576.0	3576.0
2.5°	3584.4	3578.4	3573.6	3571.2	3576.0	3571.2	3566.4	3564.0	3559.2	3560.4	3554.4
5°	3550.8	3542.4	3535.2	3529.2	3534.0	3525.6	3518.4	3513.6	3507.6	3506.4	3500.4
7.5°	3504.0	3490.8	3481.2	3470.4	3458.4	3451.2	3442.8	3434.4	3421.2	3420.0	3417.6
10°	3442.8	3432.0	3412.8	3396.0	3379.2	3361.2	3343.2	3330.0	3314.4	3308.4	3300.0
12.5°	3381.6	3360.0	3337.2	3310.8	3290.4	3261.6	3237.6	3212.4	3189.6	3175.2	3159.6
15°	3309.6	3286.8	3254.4	3229.2	3200.4	3168.0	3136.8	3099.6	3062.4	3039.6	3018.0
17.5°	3247.2	3218.4	3192.0	3156.0	3127.2	3090.0	3043.2	3003.6	2959.2	2922.0	2882.4
20°	3199.2	3166.8	3135.6	3103.2	3068.4	3026.4	2974.8	2918.4	2862.0	2809.2	2750.4
22.5°	3180.0	3128.4	3093.6	3063.6	3027.6	2979.6	2922.0	2852.4	2782.8	2715.6	2647.2
25°	3196.8	3120.0	3066.0	3032.4	3000.0	2950.8	2886.0	2806.8	2725.2	2640.0	2558.4
27.5°	3242.4	3145.2	3068.4	3015.6	2978.4	2930.4	2858.4	2775.6	2683.2	2587.2	2499.6
30°	3308.4	3187.2	3091.2	3015.6	2960.4	2905.2	2827.2	2733.6	2636.4	2535.6	2437.2
32.5°	3380.4	3234.0	3118.8	3019.2	2934.0	2864.4	2782.8	2691.6	2588.4	2481.6	2376.0
35°	3434.4	3267.6	3130.8	3006.0	2896.8	2809.2	2721.6	2632.8	2532.0	2424.0	2318.4
37.5°	3457.2	3280.8	3128.4	2978.4	2845.2	2749.2	2658.0	2569.2	2472.0	2370.0	2272.8
40°	3458.4	3280.8	3114.0	2941.2	2791.2	2686.8	2590.8	2508.0	2416.8	2329.2	2242.8
42.5°	3435.6	3264.0	3087.6	2906.4	2751.6	2634.0	2535.6	2450.4	2377.2	2299.2	2226.0
45°	3394.8	3230.4	3063.6	2887.2	2737.2	2620.8	2515.2	2434.8	2368.8	2299.2	2235.6
47.5°	3363.6	3211.2	3064.8	2914.8	2772.0	2652.0	2538.0	2452.8	2396.4	2341.2	2295.6
50°	3369.6	3218.4	3079.2	2936.4	2796.0	2674.8	2564.4	2491.2	2457.6	2439.6	2428.8
52.5°	3400.8	3247.2	3141.6	3046.8	3001.2	2926.8	2865.6	2810.4	2818.8	2775.6	2720.4
55°	3722.4	3670.8	3792.0	3879.6	3922.8	3998.4	4107.6	4003.2	3988.8	3855.6	3459.6
57.5°	4998.0	5120.4	5306.4	5438.4	5451.6	5428.8	5338.8	5252.4	5112.0	4911.6	4357.2
60°	7137.6	7108.8	6936.0	6704.4	6524.4	6288.0	6050.4	5850.0	5624.4	5317.2	4726.8
62.5°	9387.6	8694.0	8078.4	7554.0	7108.8	6714.0	6355.2	6054.0	5744.4	5302.8	4674.0
65°	11204.4	9870.0	8785.2	7941.6	7279.2	6721.2	6258.0	5842.8	5428.8	4917.6	4308.0
67.5°	12502.8	10386.0	8749.2	7562.4	6633.6	5865.6	5191.2	4718.4	4293.6	3891.6	3616.8
70°	12606.0	9672.0	7401.6	5949.6	4878.0	3975.6	3276.0	2760.0	2390.4	2223.6	2342.4
72.5°	10772.4	7155.6	4921.2	3642.0	2890.8	2246.4	1806.0	1443.6	1146.0	999.6	1020.0
75°	6344.4	3435.6	2216.4	1651.2	1348.8	1077.6	932.4	787.2	694.8	556.8	445.2
77.5°	2415.6	1494.0	1118.4	928.8	662.4	476.4	375.6	324.0	297.6	294.0	278.4
80°	1392.0	1095.6	766.8	501.6	367.2	310.8	266.4	228.0	212.4	208.8	214.8
82.5°	879.6	682.8	421.2	322.8	267.6	230.4	192.0	166.8	153.6	148.8	157.2
85°	454.8	342.0	256.8	220.8	205.2	187.2	153.6	128.4	127.2	133.2	153.6
87.5°	168.0	146.4	115.2	99.6	106.8	99.6	72.0	62.4	56.4	74.4	108.0
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: P145470

CATALOG NUMBER: LDRL-SL4-E06-E

CANDELA DISTRIBUTION (continued):

	105°	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°
0°	3576.0	3576.0	3576.0	3576.0	3576.0	3576.0	3576.0	3576.0	3576.0	3576.0	3576.0
2.5°	3554.4	3552.0	3553.2	3550.8	3550.8	3554.4	3549.6	3546.0	3552.0	3552.0	3555.6
5°	3499.2	3501.6	3501.6	3500.4	3502.8	3508.8	3507.6	3507.6	3517.2	3520.8	3525.6
7.5°	3411.6	3415.2	3416.4	3420.0	3421.2	3429.6	3435.6	3442.8	3457.2	3460.8	3471.6
10°	3292.8	3290.4	3298.8	3297.6	3308.4	3315.6	3320.4	3336.0	3357.6	3369.6	3380.4
12.5°	3152.4	3152.4	3157.2	3158.4	3168.0	3177.6	3183.6	3202.8	3220.8	3236.4	3260.4
15°	3003.6	2998.8	2988.0	2986.8	2990.4	3000.0	3013.2	3027.6	3055.2	3078.0	3098.4
17.5°	2847.6	2833.2	2820.0	2803.2	2802.0	2800.8	2808.0	2818.8	2862.0	2884.8	2913.6
20°	2709.6	2678.4	2647.2	2612.4	2592.0	2582.4	2586.0	2600.4	2641.2	2671.2	2701.2
22.5°	2586.0	2539.2	2490.0	2434.8	2401.2	2380.8	2383.2	2389.2	2419.2	2437.2	2452.8
25°	2480.4	2415.6	2347.2	2276.4	2229.6	2198.4	2197.2	2197.2	2184.0	2186.4	2178.0
27.5°	2408.4	2318.4	2230.8	2148.0	2086.8	2055.6	2013.6	1983.6	1957.2	1921.2	1905.6
30°	2338.8	2246.4	2146.8	2055.6	1982.4	1921.2	1843.2	1778.4	1726.8	1677.6	1635.6
32.5°	2276.4	2180.4	2085.6	1986.0	1885.2	1779.6	1677.6	1603.2	1530.0	1454.4	1404.0
35°	2221.2	2131.2	2036.4	1923.6	1782.0	1644.0	1528.8	1428.0	1341.6	1250.4	1177.2
37.5°	2190.0	2108.4	2010.0	1856.4	1678.8	1521.6	1393.2	1280.4	1165.2	1056.0	966.0
40°	2174.4	2102.4	1982.4	1788.0	1586.4	1418.4	1275.6	1140.0	1004.4	876.0	782.4
42.5°	2172.0	2102.4	1941.6	1718.4	1507.2	1327.2	1167.6	1004.4	840.0	715.2	632.4
45°	2193.6	2100.0	1898.4	1656.0	1436.4	1245.6	1053.6	861.6	692.4	583.2	537.6
47.5°	2256.0	2108.4	1864.8	1603.2	1369.2	1155.6	924.0	703.2	559.2	510.0	508.8
50°	2356.8	2146.8	1857.6	1564.8	1303.2	1042.8	771.6	562.8	493.2	490.8	504.0
52.5°	2516.4	2218.8	1875.6	1538.4	1224.0	896.4	610.8	486.0	472.8	486.0	502.8
55°	2868.0	2347.2	1899.6	1491.6	1095.6	710.4	502.8	460.8	466.8	482.4	498.0
57.5°	3507.6	2613.6	1924.8	1386.0	888.0	546.0	452.4	451.2	462.0	475.2	489.6
60°	3913.2	2942.4	1986.0	1230.0	670.8	451.2	433.2	445.2	458.4	468.0	480.0
62.5°	3926.4	3028.8	2018.4	1063.2	499.2	412.8	416.4	439.2	454.8	458.4	464.4
65°	3673.2	2865.6	1872.0	865.2	414.0	391.2	404.4	424.8	440.4	442.8	447.6
67.5°	3208.8	2527.2	1586.4	652.8	376.8	374.4	388.8	404.4	415.2	424.8	432.0
70°	2416.8	2085.6	1275.6	506.4	354.0	351.6	366.0	379.2	388.8	400.8	412.8
72.5°	1225.2	1443.6	967.2	414.0	322.8	325.2	340.8	352.8	360.0	370.8	382.8
75°	417.6	630.0	612.0	334.8	288.0	297.6	304.8	318.0	328.8	336.0	342.0
77.5°	261.6	273.6	315.6	270.0	254.4	256.8	268.8	280.8	292.8	297.6	300.0
80°	218.4	219.6	220.8	216.0	217.2	224.4	231.6	244.8	256.8	259.2	260.4
82.5°	172.8	184.8	183.6	182.4	188.4	195.6	200.4	205.2	210.0	212.4	216.0
85°	152.4	150.0	151.2	154.8	150.0	145.2	144.0	144.0	151.2	159.6	163.2
87.5°	139.2	118.8	88.8	84.0	84.0	81.6	76.8	76.8	84.0	91.2	94.8
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: P145470

CATALOG NUMBER: LDRL-SL4-E06-E

CANDELA DISTRIBUTION (continued):

	160°	165°	170°	175°	180°
0°	3576.0	3576.0	3576.0	3576.0	3576.0
2.5°	3554.4	3555.6	3554.4	3554.4	3560.4
5°	3528.0	3532.8	3530.4	3534.0	3537.6
7.5°	3474.0	3486.0	3488.4	3498.0	3494.4
10°	3396.0	3404.4	3416.4	3426.0	3422.4
12.5°	3272.4	3292.8	3310.8	3321.6	3319.2
15°	3115.2	3144.0	3168.0	3176.4	3166.8
17.5°	2947.2	2965.2	2994.0	3000.0	3009.6
20°	2734.8	2733.6	2758.8	2758.8	2754.0
22.5°	2457.6	2475.6	2475.6	2458.8	2450.4
25°	2174.4	2180.4	2162.4	2166.0	2143.2
27.5°	1890.0	1874.4	1860.0	1866.0	1849.2
30°	1618.8	1585.2	1570.8	1573.2	1555.2
32.5°	1358.4	1318.8	1304.4	1285.2	1269.6
35°	1122.0	1059.6	1022.4	1012.8	1023.6
37.5°	890.4	846.0	801.6	769.2	772.8
40°	704.4	658.8	630.0	616.8	614.4
42.5°	582.0	555.6	549.6	550.8	550.8
45°	528.0	529.2	534.0	538.8	540.0
47.5°	517.2	524.4	532.8	538.8	540.0
50°	516.0	523.2	529.2	536.4	538.8
52.5°	514.8	519.6	523.2	526.8	530.4
55°	510.0	512.4	511.2	513.6	517.2
57.5°	498.0	499.2	496.8	498.0	505.2
60°	487.2	488.4	483.6	489.6	490.8
62.5°	474.0	472.8	470.4	474.0	474.0
65°	454.8	447.6	450.0	453.6	454.8
67.5°	432.0	424.8	424.8	427.2	430.8
70°	403.2	399.6	399.6	404.4	409.2
72.5°	370.8	373.2	380.4	387.6	394.8
75°	344.4	350.4	357.6	375.6	386.4
77.5°	310.8	312.0	318.0	336.0	355.2
80°	264.0	262.8	264.0	266.4	270.0
82.5°	208.8	206.4	199.2	201.6	196.8
85°	153.6	150.0	141.6	135.6	134.4
87.5°	88.8	88.8	85.2	80.4	75.6
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)