

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: P163842

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

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P163842
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (P33728)
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-HSS
Description: RL LED ROADWAY LARGE CUTOFF COBRAHEAD LUMINAIRE
(6) LIGHTBARS WITH AccuLED OPTICS - TYPE 4 W/ SPILL LIGHT CONTROL AND HOUSE SIDE SHIELD
Light Source: (42) 4000K CCT, 70 CRI LEDs
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 9776.2 lumens
Efficiency: N/A
Efficacy: 62.5 lumens/watt
Luminous Opening: Rectangular w/ Sides (W: 1' x L: 1' x H: 0.1')
IES Classification: Type IV - Short - Semi-Cutoff
BUG Rating: B1 - U0 - G3

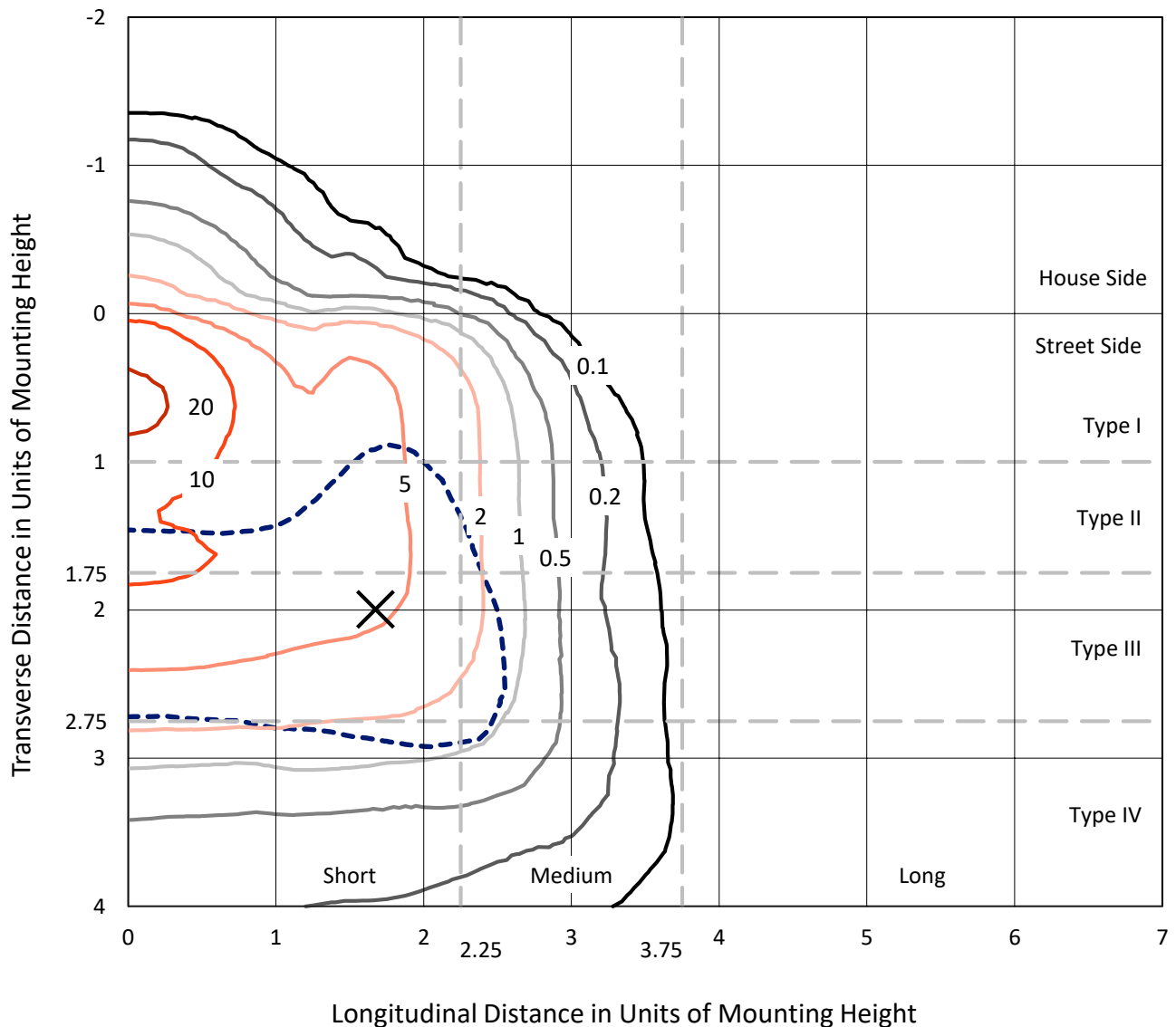
Input Watts (W): 156.5
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

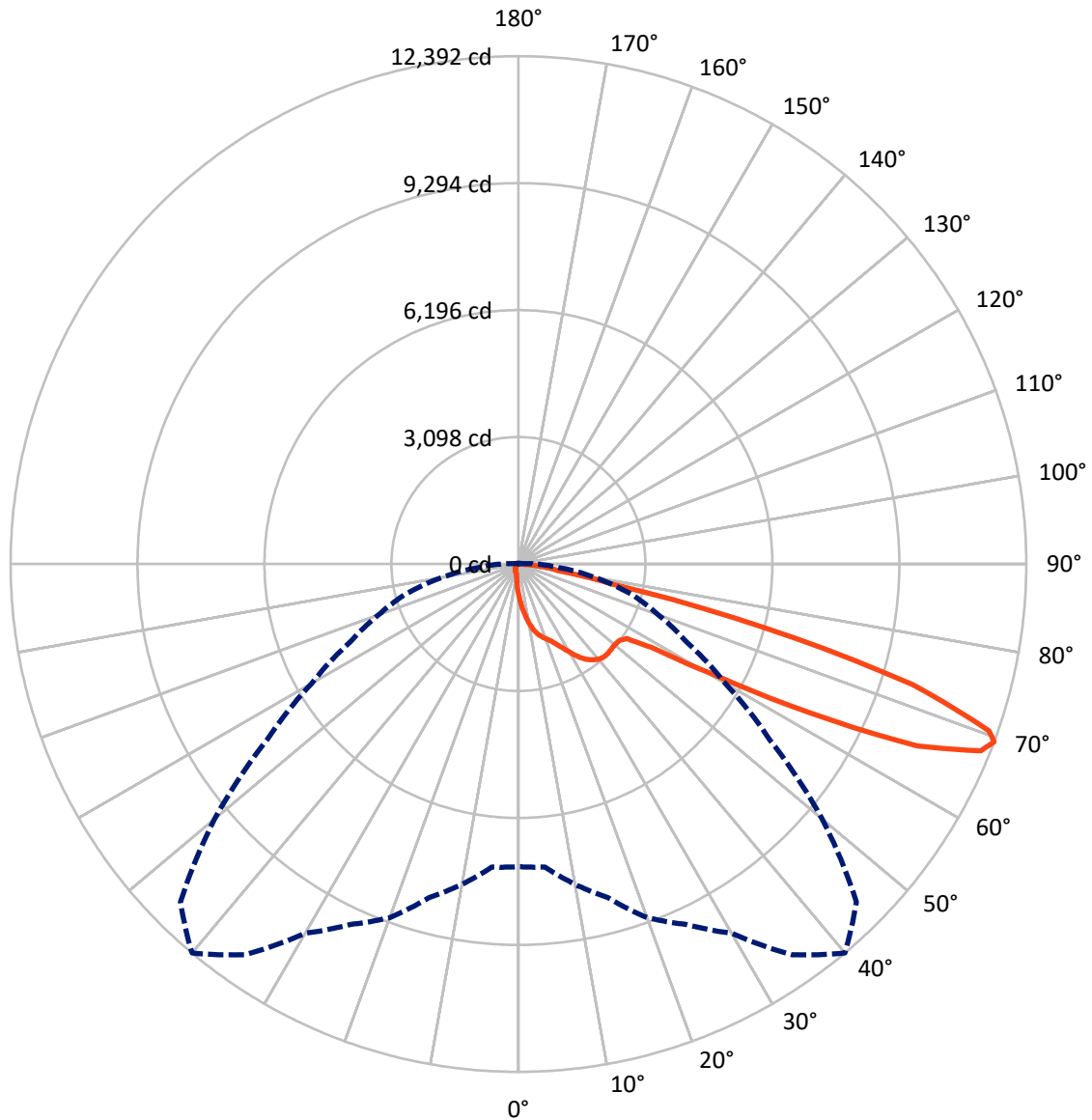
✕ Max cd
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 21.9 fc
 Type IV - Short - Semi-Cutoff

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Luminous Intensity Polar Plot



— Vertical Plane Through 40-Deg Lateral - - - Horizontal Cone Through 69-Deg Vertical

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FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	291.1	0.0	291.1
	% Fixture	3.0	0.0	3.0
Street Side	Lumens	9485.1	0.0	9485.1
	% Fixture	97.0	0.0	97.0
Total	Lumens	9776.2	0.0	9776.2
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	75.9	0.8
10°-20°	261.6	2.7
20°-30°	500.7	5.1
30°-40°	832.8	8.5
40°-50°	1126.9	11.5
50°-60°	1762.3	18.0
60°-70°	3623.2	37.1
70°-80°	1457.9	14.9
80°-90°	134.9	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°	9776.2	100.0
0°-180°	9776.2	100.0



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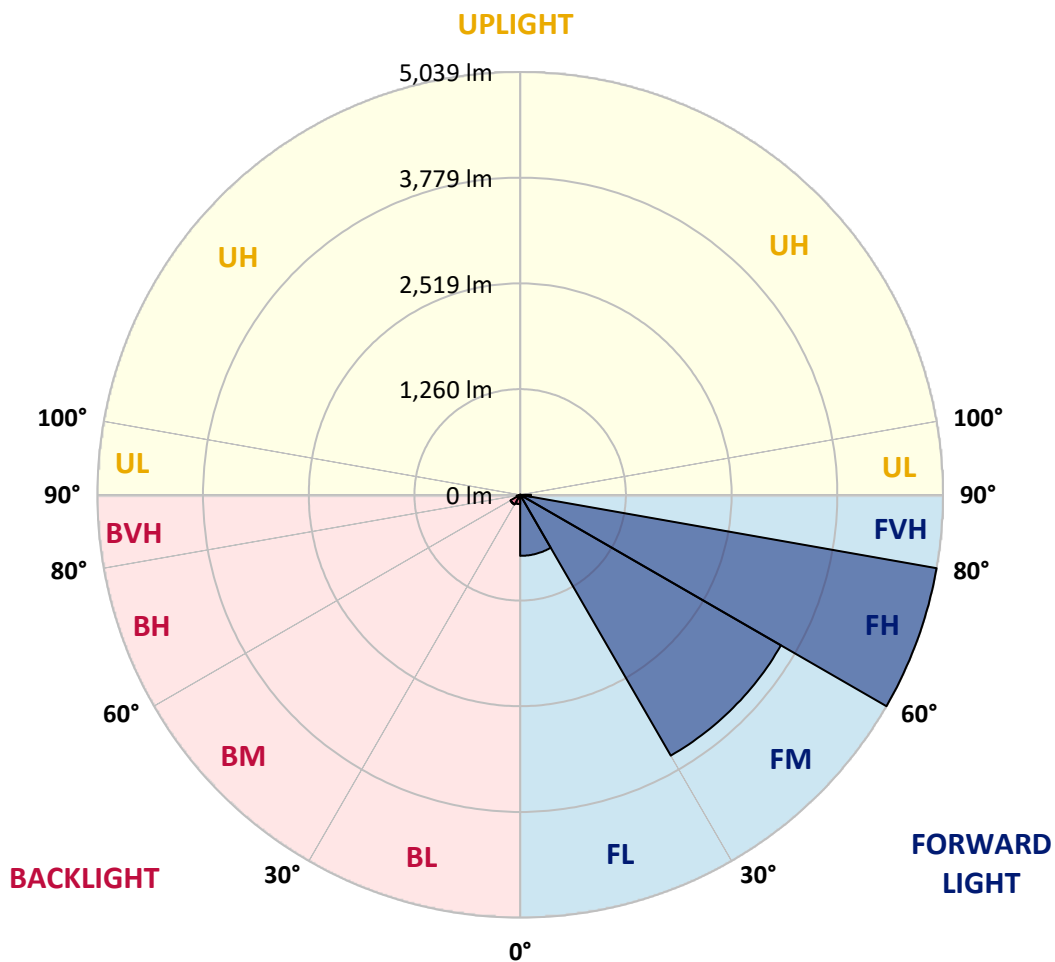
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	727.5	7.4			
FM (30°-60°)	3589.0	36.7			
FH (60°-80°)	5038.7	51.5			G3/7500
FVH (80°-90°)	129.8	1.3			G2/225
BL (0°-30°)	110.7	1.1	B1/500		
BM (30°-60°)	132.9	1.4	B0/220		
BH (60°-80°)	42.4	0.4	B0/110		G0/110
BVH (80°-90°)	5.0	0.1			G0/10
UL (90°-100°)	0.0	0.0		U0/0	
UH (100°-180°)	0.0	0.0		U0/0	

BUG Rating: B1-U0-G3

Type IV Short





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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	738.3	738.3	738.3	738.3	738.3	738.3	738.3	738.3	738.3	738.3	738.3
2.5°	984.9	973.7	960.9	960.9	944.9	944.9	935.3	909.7	906.4	892.1	877.6
5°	1257.2	1247.6	1231.6	1217.2	1204.3	1181.9	1165.9	1135.5	1101.9	1069.8	1041.0
7.5°	1523.0	1518.2	1489.4	1484.6	1463.8	1426.9	1394.9	1350.0	1292.4	1247.6	1194.7
10°	1769.7	1758.5	1752.0	1724.8	1694.4	1654.4	1604.7	1550.2	1483.0	1412.5	1337.3
12.5°	1965.0	1958.7	1929.8	1918.6	1886.6	1846.5	1784.0	1713.6	1646.3	1555.1	1467.0
15°	2110.7	2099.5	2080.3	2062.7	2024.3	1989.1	1931.4	1854.6	1772.8	1673.6	1567.9
17.5°	2232.5	2211.7	2206.8	2179.7	2139.6	2098.0	2033.9	1963.4	1867.3	1768.1	1652.8
20°	2395.8	2367.0	2357.4	2317.4	2270.9	2213.3	2139.6	2051.5	1950.6	1841.7	1723.2
22.5°	2588.0	2567.2	2546.4	2511.1	2451.9	2370.2	2262.9	2166.8	2038.7	1918.6	1790.5
25°	2860.2	2842.7	2809.0	2761.0	2687.3	2589.6	2459.9	2319.0	2168.4	2014.6	1864.2
27.5°	3124.5	3108.5	3084.5	3047.7	2964.4	2857.1	2696.9	2517.6	2327.0	2141.2	1974.6
30°	3372.8	3358.3	3334.4	3297.5	3223.8	3118.1	2937.1	2744.9	2508.0	2291.7	2091.5
32.5°	3640.2	3635.4	3608.2	3555.4	3491.3	3348.7	3151.8	2945.1	2704.9	2455.1	2221.3
35°	3942.9	3906.1	3880.4	3827.6	3718.7	3566.6	3335.9	3110.1	2857.1	2600.8	2339.8
37.5°	4199.2	4163.9	4131.9	4064.7	3931.7	3737.9	3476.8	3228.7	2967.6	2706.5	2440.7
40°	4386.5	4368.9	4330.4	4242.4	4093.5	3862.9	3580.9	3310.3	3047.7	2785.1	2522.3
42.5°	4525.9	4498.6	4455.4	4364.1	4187.9	3925.3	3622.6	3344.0	3084.5	2833.1	2575.2
45°	4577.1	4554.7	4514.6	4415.3	4224.7	3942.9	3621.0	3334.4	3086.1	2847.5	2610.4
47.5°	4546.7	4524.2	4489.0	4396.1	4208.8	3922.1	3592.1	3307.1	3070.1	2852.3	2642.5
50°	4445.7	4433.0	4405.7	4327.3	4159.1	3882.1	3566.6	3292.7	3066.9	2876.3	2687.3
52.5°	4436.1	4428.1	4394.5	4316.1	4144.7	3869.2	3563.3	3300.7	3094.1	2906.7	2719.4
55°	5421.1	5307.4	5052.7	4836.6	4481.0	4058.2	3725.1	3430.5	3209.4	3026.9	2895.5
57.5°	7704.8	7535.0	7200.4	6788.8	5972.0	5169.6	4527.5	4063.0	3834.0	3750.7	3800.4
60°	8774.6	8744.2	8691.4	8495.9	8078.0	7387.7	6619.0	5787.9	5454.7	5425.9	5526.8
62.5°	9282.3	9263.1	9279.1	9255.1	9125.4	8923.6	8702.6	8343.8	8013.9	7800.9	7349.3
65°	9516.1	9529.0	9620.2	9692.3	9708.3	9761.2	9922.9	10369.7	10696.4	10147.1	8893.2
67.5°	8922.0	8997.2	9207.0	9469.7	9777.1	10075.0	10555.5	11497.2	12168.2	11522.8	9742.0
69°	7386.1	7423.0	7935.4	8430.3	9181.5	9706.7	10403.4	11638.1	12392.4	11663.8	9674.7
70°	5815.1	5848.7	6398.0	7070.6	8340.6	9016.4	9927.7	11399.5	12182.7	11476.3	9328.8
72.5°	2623.3	2575.2	2769.0	3129.3	4509.8	5582.8	7176.3	9235.8	10051.0	9194.2	6979.4
75°	1832.1	1811.3	1832.1	1833.8	2048.3	2642.5	3334.4	5006.2	6191.4	5342.6	3334.4
77.5°	1419.0	1404.5	1390.2	1374.1	1399.8	1567.9	1635.1	1776.1	2306.2	2181.3	1271.6
80°	1122.7	1109.8	1145.1	1133.9	1133.9	1153.1	1140.3	1087.4	988.2	916.0	819.9
82.5°	522.1	525.3	525.3	570.1	687.0	802.3	839.2	786.4	698.3	594.2	478.9
85°	49.6	56.1	94.5	145.7	289.9	326.7	328.3	272.2	272.2	214.6	173.0
87.5°	0.0	1.6	1.6	1.6	14.4	40.0	33.6	9.6	4.8	4.8	8.0
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°	105°
0°	738.3	738.3	738.3	738.3	738.3	738.3	738.3	738.3	738.3	738.3	738.3
2.5°	852.0	847.2	828.0	808.8	791.1	771.9	754.3	736.7	717.5	703.1	685.4
5°	996.2	960.9	920.9	882.5	844.0	804.0	762.3	725.4	687.0	651.8	618.2
7.5°	1141.9	1073.1	1018.6	949.7	887.2	824.8	767.1	707.9	653.4	602.2	554.2
10°	1265.2	1181.9	1097.0	1009.0	919.3	836.0	755.9	685.4	613.4	550.9	491.6
12.5°	1366.1	1260.4	1156.3	1045.8	944.9	839.2	739.9	655.0	570.1	499.7	438.8
15°	1457.4	1335.7	1210.7	1082.7	954.5	834.4	723.9	618.2	531.7	451.6	382.8
17.5°	1531.0	1391.7	1250.8	1106.6	968.9	828.0	703.1	592.6	491.6	408.3	341.1
20°	1595.1	1449.4	1297.2	1135.5	978.5	826.4	685.4	560.5	456.4	368.3	302.6
22.5°	1654.4	1508.6	1345.3	1172.3	992.9	824.8	669.5	536.5	426.0	337.9	272.2
25°	1721.6	1567.9	1396.5	1210.7	1018.6	831.1	659.9	517.3	398.7	309.1	248.3
27.5°	1796.9	1635.1	1457.4	1258.8	1052.1	844.0	656.6	496.5	374.8	281.8	229.0
30°	1902.6	1715.2	1518.2	1306.8	1082.7	858.4	653.4	483.6	350.7	261.0	209.8
32.5°	1995.4	1793.6	1585.5	1356.5	1116.2	872.8	651.8	466.0	328.3	240.2	195.4
35°	2093.2	1865.8	1643.2	1404.5	1145.1	888.8	650.2	453.2	307.5	219.4	181.0
37.5°	2178.0	1926.6	1687.9	1446.1	1177.1	903.3	651.8	442.0	288.3	201.8	168.1
40°	2250.1	1989.1	1737.7	1484.6	1210.7	925.6	653.4	430.8	269.1	185.7	156.9
42.5°	2314.2	2048.3	1790.5	1527.8	1249.2	951.3	663.0	421.2	253.0	171.4	145.7
45°	2363.8	2102.8	1848.1	1588.7	1311.6	992.9	680.7	414.8	237.1	158.5	136.1
47.5°	2415.1	2182.9	1945.8	1684.8	1402.9	1058.6	711.1	413.2	224.2	148.9	128.1
50°	2485.5	2262.9	2032.3	1782.4	1486.2	1125.9	747.9	414.8	208.2	139.3	120.1
52.5°	2536.8	2344.6	2144.4	1952.2	1684.8	1330.8	890.5	443.6	200.2	131.4	110.5
55°	2839.4	2805.9	2810.6	2842.7	2636.1	2264.5	1489.4	640.6	235.4	148.9	108.9
57.5°	4003.7	4122.3	4191.2	4189.6	3848.4	3191.8	2000.3	823.2	262.6	173.0	129.7
60°	5534.7	5445.1	5318.6	5006.2	4553.0	3643.4	2237.3	885.6	227.4	137.7	118.5
62.5°	6888.0	6362.8	5896.7	5390.6	4796.5	3800.4	2285.4	880.9	198.6	104.1	83.3
65°	7732.1	6787.2	6034.4	5400.2	4700.4	3669.0	2162.0	808.8	168.1	84.9	68.8
67.5°	7933.9	6558.2	5493.1	4684.4	3926.9	2855.5	1587.1	608.5	131.4	70.4	60.8
69°	7493.4	5829.5	4551.4	3633.8	2857.1	1894.6	981.7	384.4	100.8	64.1	56.1
70°	6892.9	5070.3	3707.4	2916.3	2115.6	1330.8	687.0	270.6	81.6	59.2	51.2
72.5°	4434.6	2663.3	1822.5	1268.4	872.8	530.1	269.1	121.7	62.4	49.6	41.6
75°	1720.0	984.9	714.2	542.9	424.4	294.7	163.4	78.5	52.8	41.6	32.0
77.5°	847.2	648.6	530.1	363.6	211.4	131.4	88.1	60.8	43.2	30.4	20.8
80°	669.5	445.2	265.9	164.9	124.9	94.5	67.3	49.6	32.0	19.2	14.4
82.5°	342.8	187.3	137.7	112.1	92.9	73.7	54.5	35.3	20.8	12.8	11.2
85°	107.3	78.5	70.4	68.8	64.1	52.8	38.4	22.4	12.8	8.0	8.0
87.5°	8.0	11.2	14.4	11.2	12.8	11.2	14.4	9.6	6.4	6.4	4.8
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



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CANDELA DISTRIBUTION (continued):

	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°	160°
0°	738.3	738.3	738.3	738.3	738.3	738.3	738.3	738.3	738.3	738.3	738.3
2.5°	672.6	653.4	635.8	624.6	603.8	595.8	587.7	584.6	570.1	573.4	560.5
5°	587.7	554.2	528.5	502.8	478.9	461.2	446.8	429.2	414.8	408.3	395.6
7.5°	510.9	467.7	434.0	406.8	377.9	355.5	336.3	323.5	310.7	297.9	291.4
10°	443.6	397.1	358.7	331.5	304.3	285.1	270.6	261.0	253.0	248.3	246.7
12.5°	381.2	336.3	301.1	277.1	256.3	246.7	240.2	235.4	233.8	232.2	232.2
15°	333.1	288.3	261.0	243.4	233.8	229.0	227.4	224.2	221.0	219.4	219.4
17.5°	288.3	254.6	235.4	225.8	221.0	217.8	214.6	211.4	208.2	206.5	206.5
20°	257.9	230.6	221.0	214.6	209.8	206.5	201.8	198.6	196.9	195.4	193.8
22.5°	233.8	216.2	209.8	205.0	198.6	193.8	190.6	187.3	184.2	182.6	181.0
25°	216.2	205.0	200.2	193.8	187.3	182.6	177.7	173.0	169.8	168.1	164.9
27.5°	203.4	195.4	189.0	181.0	174.5	169.8	164.9	160.2	156.9	153.7	152.2
30°	192.2	184.2	176.1	169.8	161.8	156.9	150.6	145.7	144.1	141.0	137.7
32.5°	181.0	173.0	164.9	156.9	148.9	142.6	139.3	132.9	129.7	128.1	124.9
35°	168.1	160.2	150.6	144.1	136.1	129.7	124.9	120.1	116.9	113.7	112.1
37.5°	156.9	147.3	137.7	129.7	123.3	116.9	112.1	107.3	104.1	100.8	99.3
40°	144.1	134.5	124.9	116.9	110.5	105.7	100.8	96.1	92.9	91.2	91.2
42.5°	132.9	121.7	112.1	105.7	100.8	94.5	89.7	84.9	83.3	81.6	83.3
45°	121.7	110.5	102.5	96.1	91.2	84.9	80.0	76.9	75.3	76.9	78.5
47.5°	112.1	100.8	92.9	88.1	83.3	78.5	73.7	70.4	70.4	73.7	76.9
50°	102.5	91.2	84.9	81.6	76.9	72.0	65.7	64.1	65.7	68.8	72.0
52.5°	92.9	80.0	75.3	73.7	68.8	64.1	59.2	57.7	59.2	62.4	60.8
55°	83.3	70.4	68.8	67.3	62.4	56.1	51.2	51.2	51.2	49.6	46.5
57.5°	80.0	62.4	60.8	59.2	54.5	48.0	44.9	41.6	40.0	35.3	33.6
60°	83.3	56.1	56.1	52.8	48.0	41.6	36.9	32.0	28.8	25.7	25.7
62.5°	67.3	51.2	49.6	46.5	40.0	33.6	28.8	24.0	22.4	20.8	20.8
65°	54.5	46.5	43.2	38.4	33.6	27.2	22.4	19.2	17.6	17.6	19.2
67.5°	49.6	41.6	36.9	32.0	27.2	20.8	17.6	16.0	16.0	17.6	17.6
69°	46.5	38.4	33.6	28.8	24.0	19.2	16.0	16.0	16.0	16.0	17.6
70°	43.2	36.9	32.0	27.2	20.8	16.0	14.4	14.4	16.0	16.0	17.6
72.5°	33.6	28.8	27.2	22.4	16.0	14.4	12.8	14.4	14.4	16.0	16.0
75°	25.7	20.8	20.8	17.6	12.8	11.2	11.2	12.8	12.8	14.4	14.4
77.5°	17.6	14.4	14.4	12.8	11.2	9.6	9.6	11.2	12.8	12.8	14.4
80°	12.8	11.2	9.6	11.2	9.6	8.0	9.6	11.2	11.2	12.8	12.8
82.5°	9.6	9.6	9.6	9.6	8.0	8.0	9.6	9.6	11.2	12.8	12.8
85°	8.0	8.0	8.0	8.0	8.0	8.0	8.0	9.6	9.6	11.2	11.2
87.5°	4.8	4.8	4.8	6.4	6.4	8.0	8.0	8.0	8.0	9.6	9.6
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: P163842

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

CANDELA DISTRIBUTION (continued):

	165°	170°	175°	180°
0°	738.3	738.3	738.3	738.3
2.5°	557.3	555.7	549.3	550.9
5°	390.8	381.2	387.5	385.9
7.5°	286.7	285.1	283.4	286.7
10°	245.0	245.0	243.4	245.0
12.5°	230.6	230.6	230.6	230.6
15°	219.4	219.4	217.8	217.8
17.5°	206.5	206.5	206.5	205.0
20°	193.8	192.2	192.2	192.2
22.5°	179.4	177.7	177.7	177.7
25°	164.9	163.4	163.4	163.4
27.5°	150.6	148.9	147.3	147.3
30°	136.1	134.5	132.9	132.9
32.5°	121.7	120.1	118.5	118.5
35°	108.9	108.9	107.3	105.7
37.5°	97.7	97.7	97.7	97.7
40°	89.7	91.2	91.2	91.2
42.5°	84.9	86.5	88.1	89.7
45°	81.6	84.9	86.5	86.5
47.5°	80.0	81.6	83.3	83.3
50°	73.7	72.0	72.0	72.0
52.5°	59.2	56.1	54.5	52.8
55°	43.2	41.6	38.4	38.4
57.5°	30.4	30.4	28.8	28.8
60°	24.0	24.0	22.4	24.0
62.5°	20.8	20.8	20.8	20.8
65°	19.2	19.2	19.2	19.2
67.5°	19.2	19.2	19.2	19.2
69°	17.6	17.6	17.6	17.6
70°	17.6	17.6	17.6	17.6
72.5°	16.0	16.0	16.0	16.0
75°	14.4	16.0	16.0	16.0
77.5°	14.4	14.4	14.4	14.4
80°	12.8	12.8	14.4	14.4
82.5°	12.8	12.8	12.8	12.8
85°	11.2	11.2	12.8	12.8
87.5°	9.6	9.6	11.2	11.2
90°	0.0	0.0	0.0	0.0

(END OF REPORT)