

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: P163544

Luminaire Tested: **LDRL-SL3-F04-E-7060-HSS**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P163544
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (P33727)
Test Lab: INNOVATION CENTER-P3
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: LUMARK
Catalog Number: LDRL-SL3-F04-E-7060-HSS
Description: RL LED ROADWAY LARGE CUTOFF COBRAHEAD LUMINAIRE
(4) LIGHTBARS WITH AccuLED OPTICS - TYPE 3 W/ SPILL LIGHT CONTROL AND HOUSE SIDE SHIELD
Light Source: (28) 5700K CCT, 70 CRI LEDs
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 5698.4 lumens
Efficiency: N/A
Efficacy: 55.8 lumens/watt
Luminous Opening: Rectangular w/ Sides (W: 0.67' x L: 1' x H: 0.1')
IES Classification: Type III - Short - Non-Cutoff
BUG Rating: B0 - U0 - G2

Input Watts (W): 102.2
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

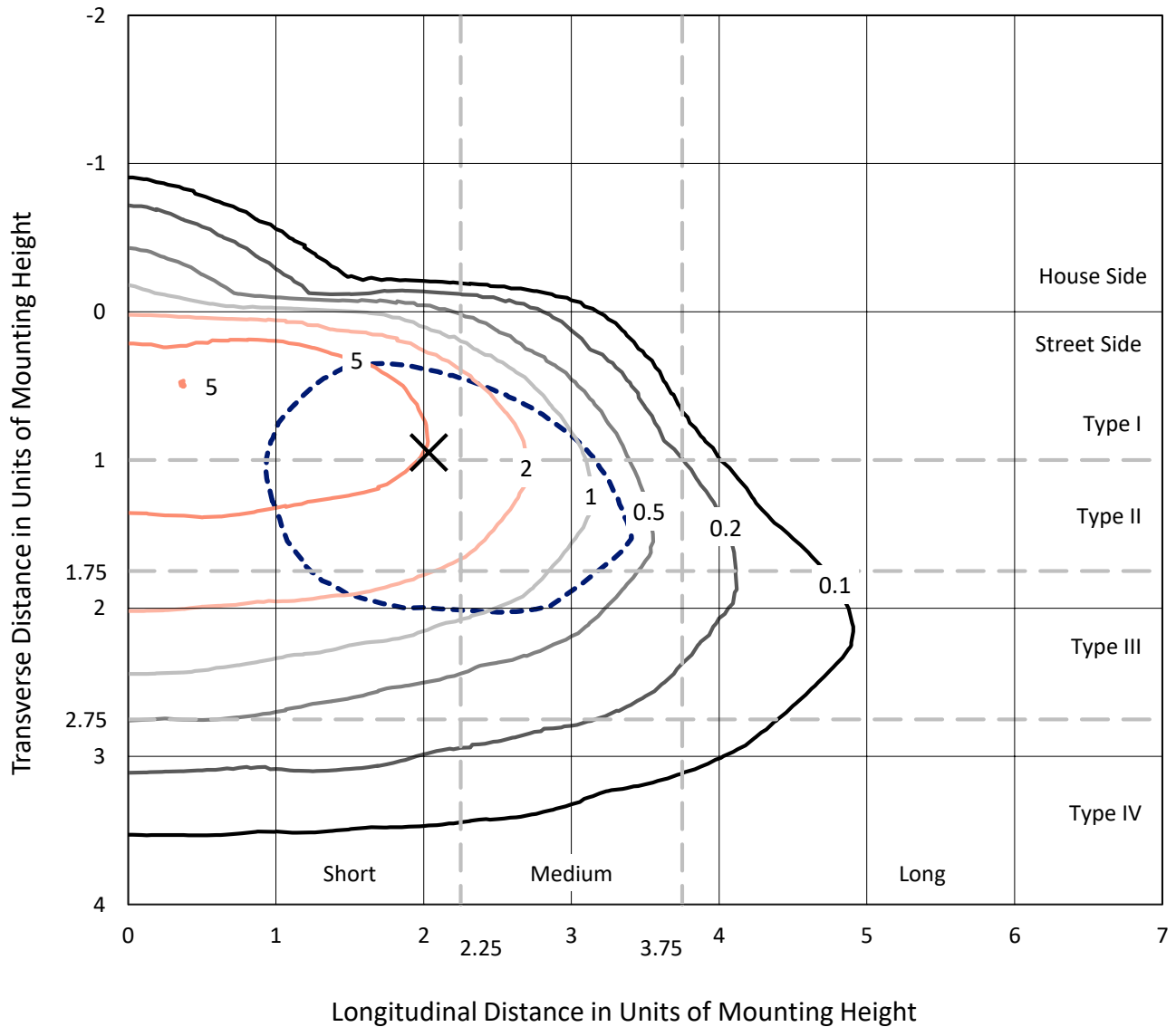


REPORT NUMBER: P163544

CATALOG NUMBER: LDRL-SL3-F04-E-7060-HSS

Iso-Footcandle Lines of Horizontal Illumination

× Max cd
 - - - 1/2 Max cd

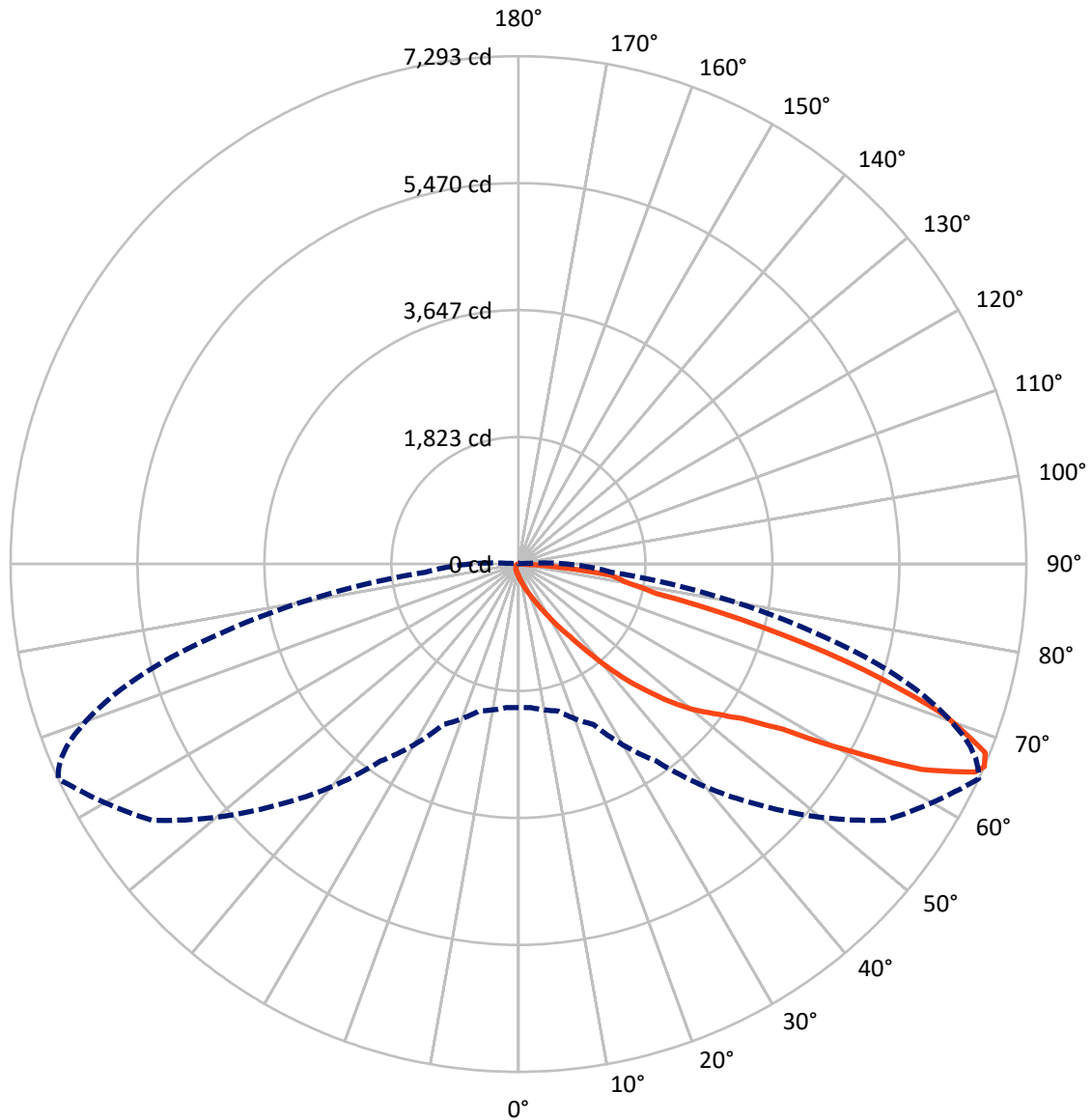


Based on 10 foot mounting height. Maximum calculated value = 9.4 fc
 Type III - Short - Non-Cutoff

REPORT NUMBER: P163544

CATALOG NUMBER: LDRL-SL3-F04-E-7060-HSS

Luminous Intensity Polar Plot



— Vertical Plane Through 65-Deg Lateral - - - Horizontal Cone Through 66-Deg Vertical

REPORT NUMBER: P163544

CATALOG NUMBER: LDRL-SL3-F04-E-7060-HSS

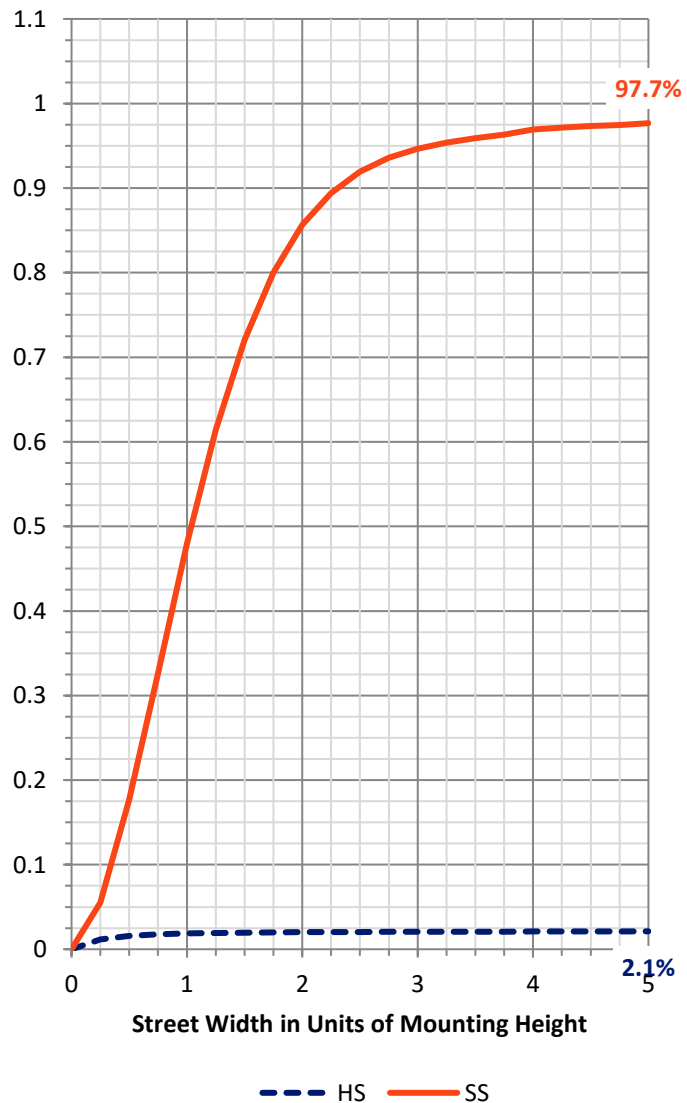
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	123.5	0.0	123.5
	% Fixture	2.2	0.0	2.2
Street Side	Lumens	5574.9	0.0	5574.9
	% Fixture	97.8	0.0	97.8
Total	Lumens	5698.4	0.0	5698.4
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	19.3	0.3
10°-20°	81.6	1.4
20°-30°	176.1	3.1
30°-40°	376.0	6.6
40°-50°	831.6	14.6
50°-60°	1409.3	24.7
60°-70°	1880.6	33.0
70°-80°	828.4	14.5
80°-90°	95.4	1.7
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°	5698.4	100.0
0°-180°	5698.4	100.0

Coefficient of Utilization



REPORT NUMBER: P163544

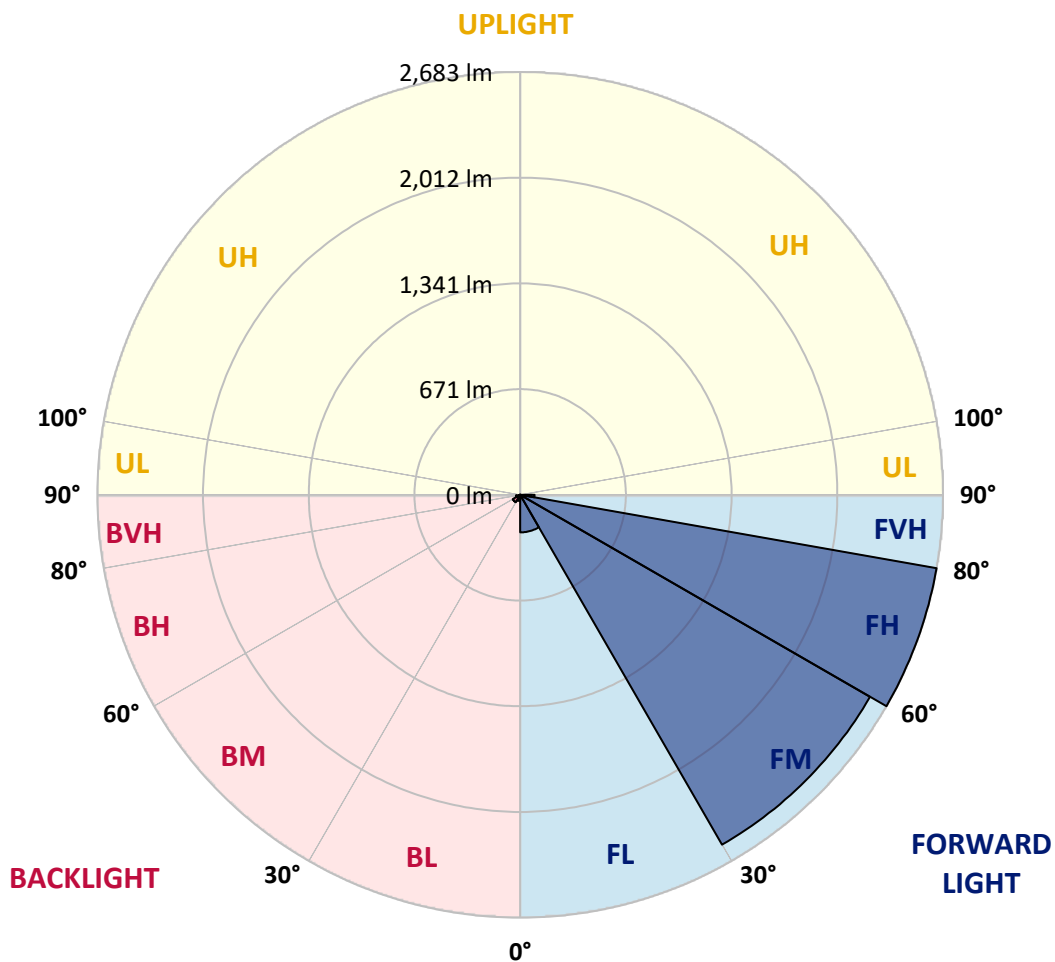
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	238.0	4.2			
FM	(30°-60°)	2562.8	45.0			
FH	(60°-80°)	2682.5	47.1			G2/5000
FVH	(80°-90°)	91.6	1.6			G1/100
BL	(0°-30°)	39.0	0.7	B0/110		
BM	(30°-60°)	54.2	1.0	B0/220		
BH	(60°-80°)	26.5	0.5	B0/110		G0/110
BVH	(80°-90°)	3.8	0.1			G0/10
UL	(90°-100°)	0.0	0.0		U0/0	
UH	(100°-180°)	0.0	0.0		U0/0	

BUG Rating: B0-U0-G2

Type III Short





REPORT NUMBER: P163544

CATALOG NUMBER: LDRL-SL3-F04-E-7060-HSS

CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	65°	66°	67°	68°
0°	172.0	172.0	172.0	172.0	172.0	172.0	172.0	172.0	172.0	172.0	172.0
2.5°	216.9	215.8	211.4	211.4	204.9	200.5	195.0	189.5	189.5	188.5	187.3
5°	287.1	280.5	279.3	267.3	257.4	243.2	230.1	212.5	210.3	208.2	207.0
7.5°	364.8	363.7	353.9	339.6	319.9	293.6	267.3	238.8	234.5	232.2	227.9
10°	465.6	460.1	447.0	422.9	393.3	358.2	315.5	270.6	265.1	260.8	258.5
12.5°	562.0	552.2	544.5	513.8	476.5	425.1	373.6	308.9	304.5	299.1	290.3
15°	651.8	643.1	630.0	603.7	562.0	497.4	437.1	358.2	347.3	339.6	333.1
17.5°	722.0	716.5	701.2	671.6	626.6	569.7	497.4	408.6	399.9	390.0	377.9
20°	788.8	781.1	757.0	716.5	668.3	624.5	568.6	474.4	462.3	450.2	437.1
22.5°	852.4	844.6	805.2	738.4	686.9	668.3	648.6	548.8	530.3	520.4	507.2
25°	941.1	924.7	863.3	757.0	688.0	702.3	736.2	645.3	627.7	613.5	592.7
27.5°	1060.5	1038.6	942.2	784.4	692.4	739.5	837.0	762.5	743.9	727.5	704.4
30°	1195.3	1181.0	1066.0	850.1	724.1	794.3	949.8	911.5	889.6	869.8	842.5
32.5°	1331.1	1311.3	1197.4	975.0	809.6	900.5	1091.2	1084.6	1056.1	1037.5	1007.9
35°	1450.5	1440.6	1356.3	1179.9	1004.6	1086.8	1279.6	1287.3	1262.1	1242.4	1209.5
37.5°	1531.6	1531.6	1515.1	1400.1	1314.7	1376.0	1556.8	1557.9	1532.7	1487.7	1471.3
40°	1573.2	1585.3	1644.4	1666.3	1662.0	1740.8	1920.5	1900.8	1880.0	1856.9	1802.2
42.5°	1658.6	1669.6	1795.6	1946.8	2045.4	2149.5	2273.2	2266.6	2241.5	2199.8	2149.5
45°	1803.3	1817.5	1967.6	2207.5	2410.2	2558.1	2637.0	2606.3	2581.1	2541.6	2515.3
47.5°	1987.3	2014.7	2184.5	2481.4	2725.7	2970.0	3052.2	2971.1	2949.2	2918.5	2875.8
50°	2183.4	2209.7	2390.4	2730.1	3006.2	3297.6	3434.5	3297.6	3265.8	3256.0	3207.8
52.5°	2353.2	2375.1	2549.3	2921.8	3220.9	3562.7	3762.1	3581.3	3558.3	3525.5	3490.4
55°	2454.0	2471.6	2634.7	3013.8	3366.6	3801.5	4078.7	3919.9	3885.9	3872.8	3822.3
57.5°	2488.0	2505.5	2652.3	3025.9	3445.5	4019.5	4463.2	4468.7	4428.2	4381.1	4365.8
60°	2488.0	2507.7	2631.5	2996.3	3522.1	4251.8	4975.9	5432.8	5345.1	5336.4	5280.5
62.5°	2385.0	2403.6	2528.5	2905.4	3625.1	4565.1	5690.2	6496.5	6471.4	6414.4	6322.4
65°	2161.5	2172.4	2295.2	2673.1	3585.7	4853.3	6309.2	7204.3	7163.8	7052.0	6933.7
66°	2060.7	2069.5	2184.5	2540.5	3456.4	4892.7	6418.8	7293.0	7226.2	7132.0	6998.3
67.5°	1915.0	1930.3	2011.4	2294.1	3146.4	4755.8	6349.7	7230.6	7172.5	7058.6	6924.9
70°	1278.5	1267.6	1553.5	1760.6	2397.0	3874.9	5696.8	6492.2	6493.3	6439.6	6385.9
72.5°	606.9	613.5	696.8	1083.5	1568.8	2588.7	4534.4	5181.9	5256.4	5160.0	5093.2
75°	436.0	445.9	496.3	662.8	935.6	1553.5	2939.4	3624.1	3626.2	3455.3	3303.1
77.5°	127.1	132.6	186.2	408.6	701.2	1048.4	1688.3	2014.7	1967.6	1844.9	1729.9
80°	52.6	52.6	54.8	130.4	281.6	712.1	1181.0	1551.3	1545.8	1498.7	1430.7
82.5°	19.7	20.8	26.3	53.7	66.8	175.3	787.7	1346.4	1343.1	1276.3	1228.1
85°	2.2	2.2	6.6	23.0	25.2	32.9	157.8	593.8	590.5	593.8	520.4
87.5°	0.0	0.0	1.1	2.2	3.3	4.4	6.6	23.0	25.2	24.1	21.9
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: P163544

CATALOG NUMBER: LDRL-SL3-F04-E-7060-HSS

CANDELA DISTRIBUTION (continued):

	69°	70°	71°	72°	73°	74°	75°	76°	77°	78°	79°
0°	172.0	172.0	172.0	172.0	172.0	172.0	172.0	172.0	172.0	172.0	172.0
2.5°	187.3	185.1	185.1	184.1	184.1	184.1	183.0	181.9	181.9	180.7	179.6
5°	204.9	202.7	201.6	199.4	198.3	197.2	195.0	193.9	191.7	190.6	189.5
7.5°	225.7	221.3	220.2	216.9	213.6	211.4	209.3	205.9	203.8	199.4	198.3
10°	252.0	246.5	242.1	237.7	234.5	229.0	225.7	221.3	216.9	213.6	210.3
12.5°	285.9	278.2	271.7	267.3	259.6	253.0	246.5	243.2	234.5	230.1	224.6
15°	323.2	314.4	306.8	298.0	292.5	281.6	272.8	262.9	258.5	250.9	242.1
17.5°	371.4	357.1	345.1	336.3	325.3	314.4	304.5	294.7	281.6	272.8	261.8
20°	422.9	410.8	394.4	379.1	365.9	352.8	338.5	325.3	313.4	299.1	285.9
22.5°	488.6	471.1	451.4	436.0	418.5	404.2	384.5	367.0	347.3	328.7	313.4
25°	571.9	548.8	530.3	508.3	487.5	465.6	441.5	419.6	394.4	376.8	350.6
27.5°	674.9	652.9	627.7	599.3	578.5	545.6	513.8	486.4	456.8	429.4	399.9
30°	806.3	774.6	748.3	720.9	679.2	647.4	610.2	573.0	532.4	505.1	460.1
32.5°	964.1	930.1	890.6	851.2	812.9	768.0	722.0	676.0	631.0	580.6	534.6
35°	1156.9	1116.4	1071.4	1028.7	969.5	921.3	863.3	799.8	749.4	691.3	633.2
37.5°	1412.2	1345.3	1305.9	1261.0	1181.0	1115.2	1050.6	987.1	898.4	837.0	754.8
40°	1732.0	1692.6	1627.9	1555.6	1483.3	1396.8	1309.2	1224.8	1121.8	1036.4	941.1
42.5°	2107.8	2049.8	1984.1	1880.0	1806.6	1704.7	1605.0	1493.2	1367.2	1257.7	1145.9
45°	2460.6	2391.5	2341.2	2237.1	2160.4	2039.9	1919.4	1801.1	1655.4	1514.0	1384.7
47.5°	2841.8	2784.8	2701.6	2617.3	2539.5	2403.6	2273.2	2129.8	1976.3	1808.7	1641.1
50°	3177.1	3132.1	3075.2	2973.3	2886.8	2772.8	2619.4	2462.8	2268.9	2102.4	1911.7
52.5°	3461.9	3426.9	3346.9	3274.6	3196.8	3089.5	2952.5	2802.4	2593.1	2410.2	2193.2
55°	3798.2	3773.0	3702.9	3658.0	3589.0	3486.0	3357.8	3218.7	2997.4	2798.0	2552.6
57.5°	4349.3	4329.6	4268.2	4249.6	4181.7	4091.8	3934.1	3785.1	3526.5	3278.9	2998.5
60°	5261.9	5222.5	5132.6	5086.6	4943.1	4822.6	4617.7	4412.9	4100.6	3785.1	3447.7
62.5°	6239.1	6128.4	5957.5	5810.7	5607.0	5397.7	5123.9	4810.5	4444.6	4070.0	3682.1
65°	6766.0	6577.6	6361.8	6128.4	5864.4	5556.5	5211.5	4835.7	4442.4	4046.9	3637.2
66°	6826.3	6613.8	6384.8	6125.2	5831.5	5504.0	5153.4	4759.0	4350.4	3964.8	3555.0
67.5°	6750.7	6528.3	6286.2	5998.1	5680.4	5340.8	4972.7	4562.9	4169.6	3778.5	3379.8
70°	6221.6	6000.3	5784.4	5481.0	5142.5	4800.7	4452.3	3994.3	3621.8	3262.5	2907.6
72.5°	4968.3	4818.2	4604.6	4344.9	4015.1	3614.2	3323.9	2914.1	2591.0	2242.6	1967.6
75°	3104.8	2893.3	2629.3	2298.4	2046.5	1721.1	1551.3	1240.1	1056.1	895.1	739.5
77.5°	1587.4	1428.6	1243.4	1057.2	878.7	701.2	542.3	383.4	258.5	179.6	133.6
80°	1311.3	1171.1	1017.8	848.0	690.2	535.7	385.7	262.9	167.6	109.6	85.5
82.5°	1083.5	965.2	828.2	670.5	533.5	420.7	292.5	190.6	118.3	76.7	60.2
85°	461.2	418.5	323.2	256.4	192.8	142.4	99.7	66.8	47.1	38.4	35.0
87.5°	19.7	21.9	20.8	16.4	12.1	12.1	11.0	8.7	8.7	8.7	8.7
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: P163544

CATALOG NUMBER: LDRL-SL3-F04-E-7060-HSS

CANDELA DISTRIBUTION (continued):

	80°	81°	82°	83°	84°	85°	95°	105°	115°	125°	135°
0°	172.0	172.0	172.0	172.0	172.0	172.0	172.0	172.0	172.0	172.0	172.0
2.5°	179.6	178.6	177.5	177.5	176.4	175.3	168.7	163.2	156.7	152.3	147.9
5°	187.3	186.2	184.1	183.0	180.7	179.6	165.4	153.4	143.5	135.9	130.4
7.5°	195.0	193.9	190.6	187.3	186.2	184.1	161.0	145.7	132.6	123.8	118.3
10°	204.9	201.6	198.3	193.9	190.6	187.3	156.7	137.0	122.7	115.0	109.6
12.5°	219.1	213.6	208.2	202.7	198.3	192.8	154.4	129.3	115.0	106.3	100.8
15°	235.6	227.9	221.3	214.8	207.0	201.6	150.1	122.7	108.4	99.7	93.1
17.5°	250.9	242.1	232.2	222.4	214.8	207.0	145.7	116.2	101.9	93.1	86.5
20°	272.8	259.6	247.6	235.6	224.6	214.8	139.1	109.6	96.4	86.5	80.0
22.5°	296.9	281.6	266.2	249.8	235.6	222.4	133.6	104.1	90.9	81.0	73.4
25°	327.6	308.9	288.1	267.3	250.9	233.3	128.1	98.6	85.5	75.6	67.9
27.5°	370.3	344.0	321.0	294.7	269.5	249.8	123.8	94.2	80.0	70.1	62.4
30°	428.3	390.0	353.9	325.3	295.8	267.3	119.4	88.7	75.6	64.6	55.8
32.5°	493.0	448.1	406.5	363.7	326.5	293.6	115.0	84.4	70.1	59.2	51.5
35°	573.0	516.0	460.1	410.8	365.9	322.1	110.7	80.0	65.7	53.7	46.0
37.5°	688.0	616.8	543.4	479.9	421.8	363.7	107.3	75.6	60.2	48.2	40.5
40°	845.8	753.8	663.9	577.4	501.7	429.4	103.0	71.2	55.8	43.8	36.1
42.5°	1016.7	904.9	786.6	689.1	585.0	494.1	98.6	66.8	51.5	39.4	31.8
45°	1229.2	1090.1	946.6	814.0	686.9	569.7	94.2	62.4	46.0	35.0	27.4
47.5°	1461.4	1284.0	1121.8	955.3	804.1	663.9	88.7	59.2	41.6	30.7	24.1
50°	1700.3	1512.9	1308.1	1118.5	938.9	758.1	83.3	53.7	37.3	27.4	19.7
52.5°	1957.8	1736.4	1527.2	1291.6	1082.4	881.9	77.8	49.3	34.0	24.1	16.4
55°	2285.3	2037.7	1792.3	1528.3	1276.3	1025.4	72.3	43.8	29.5	20.8	13.1
57.5°	2697.2	2403.6	2102.4	1804.3	1498.7	1213.8	67.9	38.4	25.2	17.6	11.0
60°	3086.1	2743.2	2378.4	2035.5	1690.4	1358.4	61.3	34.0	21.9	14.2	11.0
62.5°	3287.7	2896.6	2503.3	2125.3	1757.2	1409.9	54.8	28.5	18.6	12.1	9.8
65°	3238.4	2839.7	2458.4	2077.2	1716.7	1377.1	48.2	25.2	16.4	11.0	9.8
66°	3167.2	2772.8	2389.4	2026.7	1682.8	1342.0	44.9	24.1	15.3	11.0	8.7
67.5°	3011.7	2630.4	2264.5	1927.1	1589.7	1275.2	40.5	21.9	14.2	9.8	8.7
70°	2572.3	2226.1	1933.6	1633.4	1358.4	1074.7	32.9	18.6	12.1	8.7	8.7
72.5°	1702.5	1466.9	1271.9	1094.4	914.8	709.9	27.4	15.3	9.8	8.7	7.7
75°	642.0	580.6	498.5	448.1	391.1	342.9	21.9	9.8	7.7	7.7	7.7
77.5°	113.9	105.2	93.1	85.5	78.9	72.3	17.6	6.6	6.6	7.7	7.7
80°	76.7	71.2	64.6	59.2	54.8	49.3	12.1	5.5	6.6	6.6	7.7
82.5°	54.8	51.5	48.2	43.8	40.5	36.1	7.7	5.5	6.6	6.6	6.6
85°	32.9	30.7	28.5	26.3	23.0	21.9	5.5	5.5	5.5	6.6	6.6
87.5°	8.7	7.7	8.7	8.7	6.6	7.7	4.4	4.4	4.4	5.5	5.5
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: P163544

CATALOG NUMBER: LDRL-SL3-F04-E-7060-HSS

CANDELA DISTRIBUTION (continued):

	145°	155°	165°	175°	180°
0°	172.0	172.0	172.0	172.0	172.0
2.5°	145.7	145.7	143.5	146.8	146.8
5°	126.0	126.0	124.9	126.0	126.0
7.5°	115.0	113.9	113.9	113.9	115.0
10°	105.2	104.1	104.1	104.1	104.1
12.5°	96.4	95.3	94.2	95.3	95.3
15°	88.7	86.5	86.5	86.5	86.5
17.5°	82.1	80.0	78.9	78.9	78.9
20°	75.6	72.3	72.3	72.3	72.3
22.5°	69.0	65.7	65.7	65.7	65.7
25°	62.4	59.2	59.2	59.2	59.2
27.5°	57.0	53.7	53.7	53.7	53.7
30°	50.4	48.2	48.2	49.3	48.2
32.5°	46.0	42.7	42.7	43.8	43.8
35°	40.5	38.4	38.4	38.4	38.4
37.5°	35.0	32.9	32.9	32.9	32.9
40°	30.7	28.5	27.4	28.5	28.5
42.5°	26.3	24.1	23.0	23.0	23.0
45°	23.0	19.7	18.6	19.7	19.7
47.5°	18.6	16.4	16.4	17.6	17.6
50°	14.2	14.2	15.3	17.6	17.6
52.5°	13.1	13.1	15.3	17.6	17.6
55°	12.1	13.1	15.3	16.4	17.6
57.5°	11.0	13.1	15.3	16.4	16.4
60°	11.0	12.1	14.2	16.4	16.4
62.5°	9.8	11.0	13.1	15.3	15.3
65°	9.8	11.0	13.1	15.3	15.3
66°	9.8	11.0	13.1	15.3	15.3
67.5°	9.8	11.0	13.1	15.3	15.3
70°	9.8	11.0	13.1	14.2	14.2
72.5°	8.7	9.8	12.1	14.2	14.2
75°	8.7	9.8	12.1	14.2	14.2
77.5°	8.7	9.8	12.1	14.2	14.2
80°	8.7	9.8	12.1	13.1	14.2
82.5°	7.7	9.8	11.0	13.1	13.1
85°	7.7	8.7	11.0	12.1	13.1
87.5°	6.6	7.7	8.7	11.0	11.0
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)