

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: P163507

Luminaire Tested: **LDRL-SL3-E01-E-HSS**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P163507
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-E01-E-HSS
Description: RL LED ROADWAY LARGE CUTOFF COBRAHEAD LUMINAIRE
(1) LIGHTBARS WITH AccuLED OPTICS - TYPE 3 W/ SPILL LIGHT CONTROL AND HOUSE SIDE SHIELD
Light Source: (21) 4000K CCT, 70 CRI LEDs
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 1681.8 lumens
Efficiency: N/A
Efficacy: 68.1 lumens/watt
Luminous Opening: Rectangular w/ Sides (W: 0.17' x L: 1' x H: 0.1')
IES Classification: Type III - Short - Non-Cutoff
BUG Rating: B0 - U0 - G1

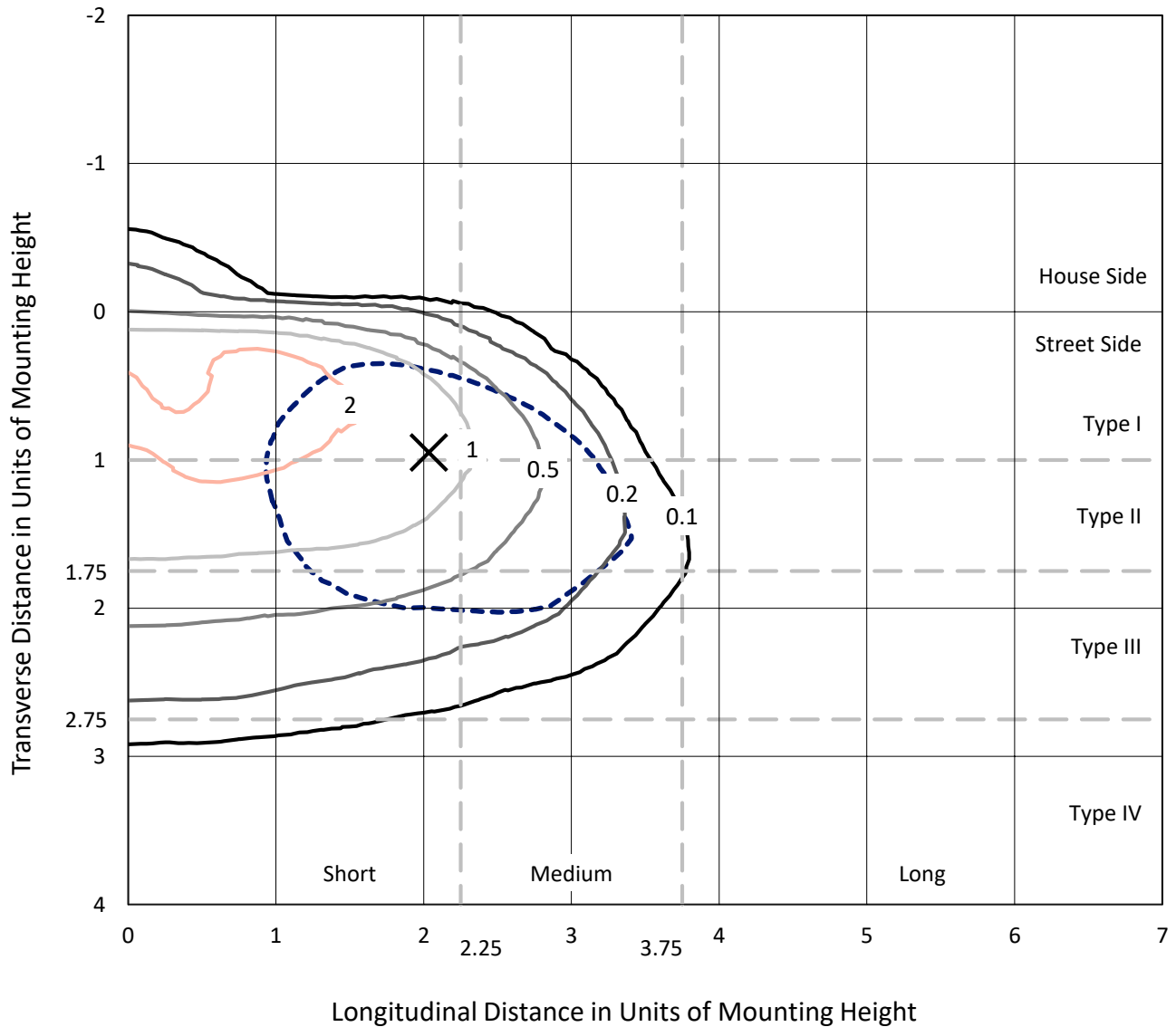
Input Watts (W): 24.7
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



REPORT NUMBER: P163507
 CATALOG NUMBER: LDRL-SL3-E01-E-HSS

Iso-Footcandle Lines of Horizontal Illumination

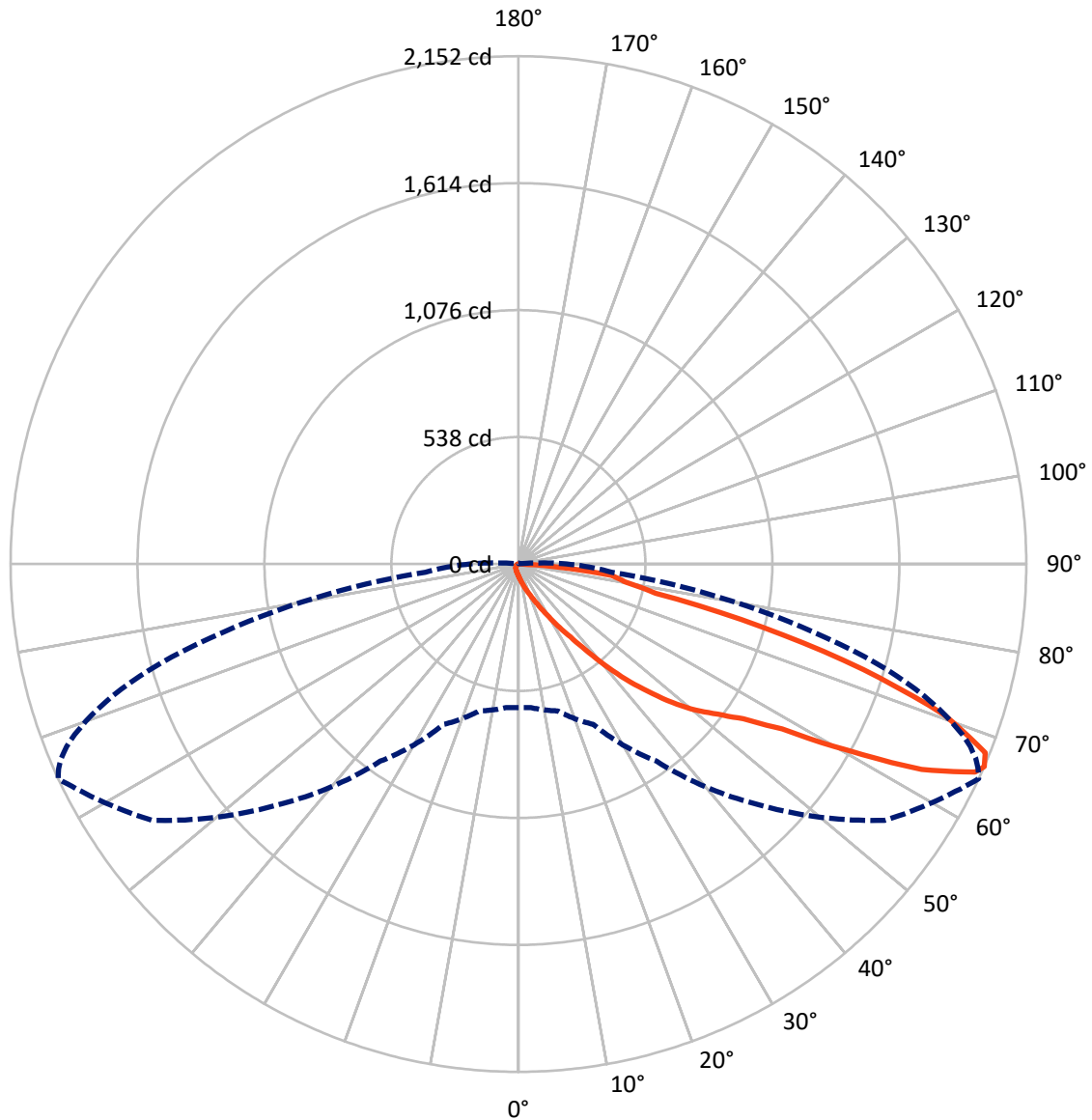
× Max cd
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 2.8 fc
 Type III - Short - Non-Cutoff

REPORT NUMBER: P163507
CATALOG NUMBER: LDRL-SL3-E01-E-HSS

Luminous Intensity Polar Plot



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

REPORT NUMBER: P163507

CATALOG NUMBER: LDRL-SL3-E01-E-HSS

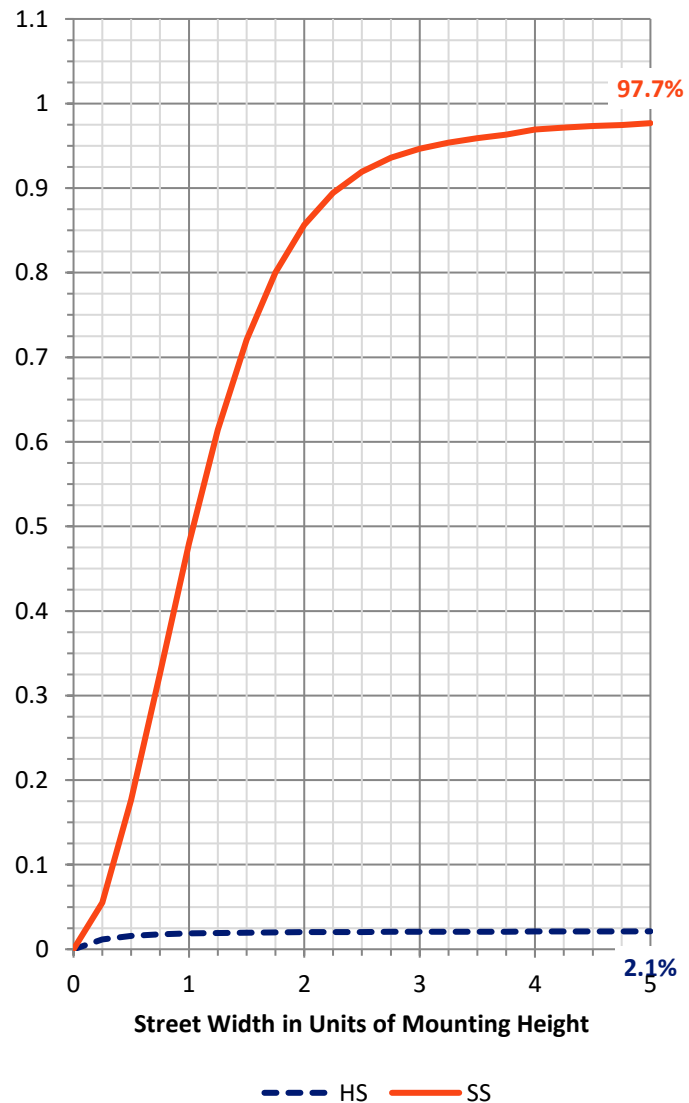
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	36.4	0.0	36.4
	% Fixture	2.2	0.0	2.2
Street Side	Lumens	1645.3	0.0	1645.3
	% Fixture	97.8	0.0	97.8
Total	Lumens	1681.8	0.0	1681.8
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	5.7	0.3
10°-20°	24.1	1.4
20°-30°	52.0	3.1
30°-40°	111.0	6.6
40°-50°	245.4	14.6
50°-60°	415.9	24.7
60°-70°	555.0	33.0
70°-80°	244.5	14.5
80°-90°	28.2	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°	1681.8	100.0
0°-180°	1681.8	100.0



REPORT NUMBER: P163507

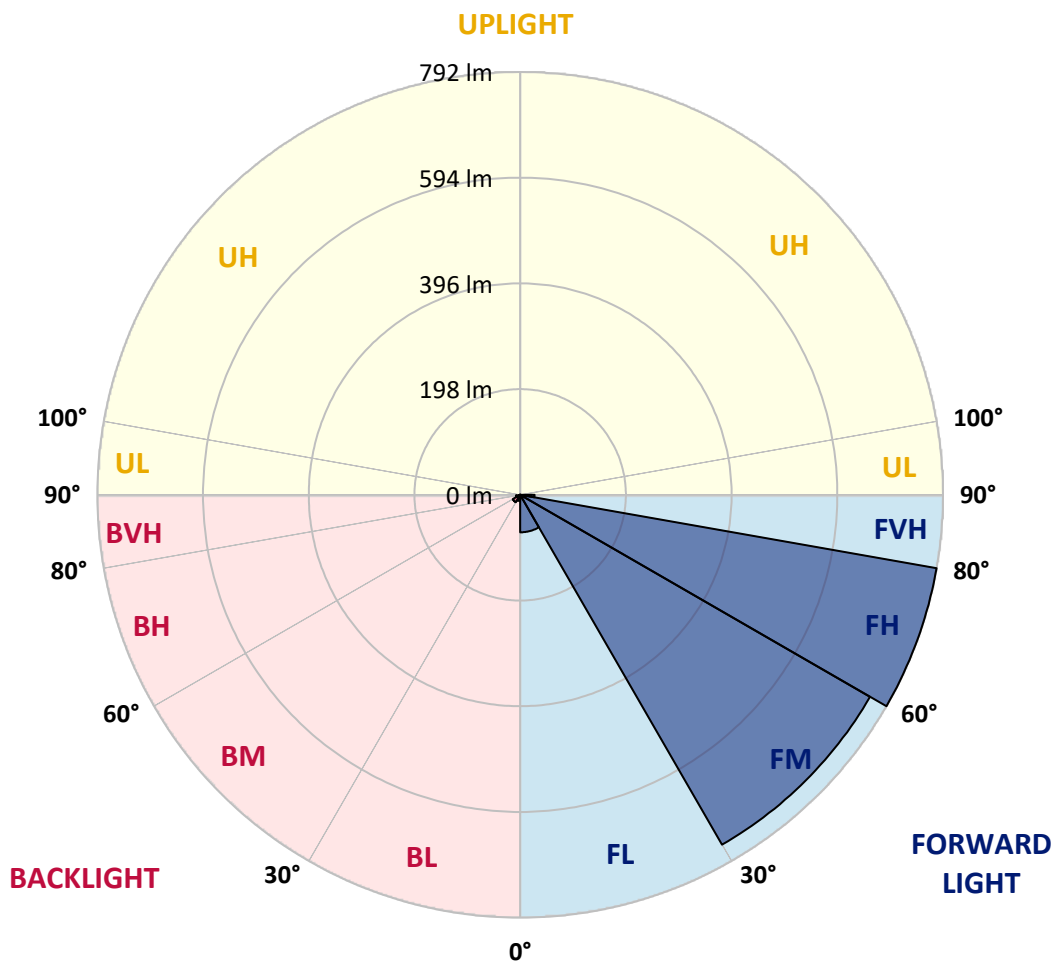
CATALOG NUMBER: LDRL-SL3-E01-E-HSS

LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	70.2	4.2			
FM	(30°-60°)	756.4	45.0			
FH	(60°-80°)	791.7	47.1			G1/1800
FVH	(80°-90°)	27.0	1.6			G1/100
BL	(0°-30°)	11.5	0.7	B0/110		
BM	(30°-60°)	16.0	1.0	B0/220		
BH	(60°-80°)	7.8	0.5	B0/110		G0/110
BVH	(80°-90°)	1.1	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-G1

Type III Short





REPORT NUMBER: P163507

CATALOG NUMBER: LDRL-SL3-E01-E-HSS

CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	65°	66°	67°	68°
0°	50.8	50.8	50.8	50.8	50.8	50.8	50.8	50.8	50.8	50.8	50.8
2.5°	64.0	63.7	62.4	62.4	60.5	59.2	57.6	55.9	55.9	55.6	55.3
5°	84.7	82.8	82.4	78.9	76.0	71.8	67.9	62.7	62.1	61.4	61.1
7.5°	107.7	107.3	104.4	100.2	94.4	86.7	78.9	70.5	69.2	68.5	67.3
10°	137.4	135.8	131.9	124.8	116.1	105.7	93.1	79.9	78.2	77.0	76.3
12.5°	165.9	163.0	160.7	151.6	140.6	125.5	110.3	91.2	89.9	88.3	85.7
15°	192.4	189.8	185.9	178.2	165.9	146.8	129.0	105.7	102.5	100.2	98.3
17.5°	213.1	211.5	206.9	198.2	184.9	168.1	146.8	120.6	118.0	115.1	111.5
20°	232.8	230.5	223.4	211.5	197.2	184.3	167.8	140.0	136.4	132.9	129.0
22.5°	251.6	249.3	237.6	217.9	202.7	197.2	191.4	162.0	156.5	153.6	149.7
25°	277.7	272.9	254.8	223.4	203.1	207.3	217.3	190.4	185.3	181.1	174.9
27.5°	313.0	306.5	278.1	231.5	204.3	218.2	247.0	225.0	219.5	214.7	207.9
30°	352.8	348.5	314.6	250.9	213.7	234.4	280.3	269.0	262.5	256.7	248.6
32.5°	392.8	387.0	353.4	287.8	238.9	265.8	322.0	320.1	311.7	306.2	297.5
35°	428.1	425.2	400.3	348.2	296.5	320.7	377.6	379.9	372.5	366.7	357.0
37.5°	452.0	452.0	447.2	413.2	388.0	406.1	459.5	459.8	452.3	439.1	434.2
40°	464.3	467.9	485.3	491.8	490.5	513.8	566.8	561.0	554.8	548.0	531.9
42.5°	489.5	492.8	529.9	574.6	603.7	634.4	670.9	669.0	661.5	649.2	634.4
45°	532.2	536.4	580.7	651.5	711.3	755.0	778.3	769.2	761.8	750.1	742.4
47.5°	586.5	594.6	644.7	732.3	804.4	876.5	900.8	876.9	870.4	861.4	848.7
50°	644.4	652.2	705.5	805.7	887.2	973.2	1013.6	973.2	963.8	960.9	946.7
52.5°	694.5	701.0	752.4	862.3	950.6	1051.5	1110.3	1057.0	1050.2	1040.5	1030.1
55°	724.3	729.4	777.6	889.5	993.6	1122.0	1203.8	1156.9	1146.9	1143.0	1128.1
57.5°	734.3	739.5	782.8	893.0	1016.9	1186.3	1317.2	1318.9	1306.9	1293.0	1288.5
60°	734.3	740.1	776.6	884.3	1039.5	1254.8	1468.6	1603.4	1577.5	1574.9	1558.5
62.5°	703.9	709.4	746.2	857.5	1069.9	1347.3	1679.4	1917.3	1909.9	1893.1	1865.9
65°	637.9	641.2	677.4	788.9	1058.3	1432.4	1862.1	2126.2	2114.3	2081.3	2046.4
66°	608.2	610.8	644.7	749.8	1020.1	1444.0	1894.4	2152.4	2132.7	2104.9	2065.4
67.5°	565.2	569.7	593.6	677.1	928.6	1403.6	1874.0	2134.0	2116.8	2083.2	2043.8
70°	377.3	374.1	458.5	519.6	707.4	1143.6	1681.3	1916.1	1916.4	1900.5	1884.7
72.5°	179.1	181.1	205.6	319.8	463.0	764.0	1338.3	1529.4	1551.3	1522.9	1503.2
75°	128.7	131.6	146.5	195.6	276.1	458.5	867.5	1069.6	1070.2	1019.8	974.8
77.5°	37.5	39.1	55.0	120.6	206.9	309.4	498.3	594.6	580.7	544.5	510.5
80°	15.5	15.5	16.2	38.5	83.1	210.2	348.5	457.8	456.2	442.3	422.3
82.5°	5.8	6.1	7.8	15.8	19.7	51.7	232.5	397.4	396.4	376.7	362.5
85°	0.6	0.6	1.9	6.8	7.4	9.7	46.6	175.2	174.3	175.2	153.6
87.5°	0.0	0.0	0.3	0.6	1.0	1.3	1.9	6.8	7.4	7.1	6.5
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: P163507

CATALOG NUMBER: LDRL-SL3-E01-E-HSS

CANDELA DISTRIBUTION (continued):

	69°	70°	71°	72°	73°	74°	75°	76°	77°	78°	79°
0°	50.8	50.8	50.8	50.8	50.8	50.8	50.8	50.8	50.8	50.8	50.8
2.5°	55.3	54.6	54.6	54.3	54.3	54.3	54.0	53.7	53.7	53.3	53.0
5°	60.5	59.8	59.5	58.8	58.5	58.2	57.6	57.2	56.6	56.3	55.9
7.5°	66.6	65.3	65.0	64.0	63.0	62.4	61.8	60.8	60.1	58.8	58.5
10°	74.4	72.7	71.5	70.2	69.2	67.6	66.6	65.3	64.0	63.0	62.1
12.5°	84.4	82.1	80.2	78.9	76.6	74.7	72.7	71.8	69.2	67.9	66.3
15°	95.4	92.8	90.5	87.9	86.3	83.1	80.5	77.6	76.3	74.0	71.5
17.5°	109.6	105.4	101.8	99.3	96.0	92.8	89.9	87.0	83.1	80.5	77.3
20°	124.8	121.2	116.4	111.9	108.0	104.1	99.9	96.0	92.5	88.3	84.4
22.5°	144.2	139.0	133.2	128.7	123.5	119.3	113.5	108.3	102.5	97.0	92.5
25°	168.8	162.0	156.5	150.0	143.9	137.4	130.3	123.8	116.4	111.2	103.5
27.5°	199.2	192.7	185.3	176.9	170.7	161.0	151.6	143.6	134.8	126.7	118.0
30°	238.0	228.6	220.8	212.8	200.5	191.1	180.1	169.1	157.1	149.1	135.8
32.5°	284.5	274.5	262.9	251.2	239.9	226.7	213.1	199.5	186.2	171.4	157.8
35°	341.4	329.5	316.2	303.6	286.1	271.9	254.8	236.0	221.2	204.0	186.9
37.5°	416.8	397.0	385.4	372.2	348.5	329.1	310.1	291.3	265.1	247.0	222.8
40°	511.2	499.5	480.5	459.1	437.8	412.2	386.4	361.5	331.1	305.9	277.7
42.5°	622.1	605.0	585.6	554.8	533.2	503.1	473.7	440.7	403.5	371.2	338.2
45°	726.2	705.8	691.0	660.2	637.6	602.0	566.5	531.6	488.6	446.8	408.7
47.5°	838.7	821.9	797.3	772.4	749.5	709.4	670.9	628.6	583.3	533.8	484.3
50°	937.7	924.4	907.6	877.5	852.0	818.3	773.1	726.8	669.6	620.5	564.2
52.5°	1021.7	1011.4	987.8	966.4	943.5	911.8	871.4	827.1	765.3	711.3	647.3
55°	1121.0	1113.5	1092.9	1079.6	1059.2	1028.8	991.0	949.9	884.6	825.8	753.4
57.5°	1283.6	1277.8	1259.7	1254.2	1234.2	1207.6	1161.1	1117.1	1040.8	967.7	885.0
60°	1553.0	1541.3	1514.8	1501.2	1458.9	1423.3	1362.8	1302.4	1210.2	1117.1	1017.5
62.5°	1841.4	1808.7	1758.3	1714.9	1654.8	1593.0	1512.2	1419.7	1311.7	1201.2	1086.7
65°	1996.9	1941.3	1877.6	1808.7	1730.8	1639.9	1538.1	1427.2	1311.1	1194.4	1073.5
66°	2014.7	1951.9	1884.4	1807.7	1721.1	1624.4	1520.9	1404.5	1283.9	1170.1	1049.2
67.5°	1992.4	1926.7	1855.3	1770.2	1676.5	1576.2	1467.6	1346.7	1230.6	1115.2	997.5
70°	1836.2	1770.9	1707.2	1617.6	1517.7	1416.8	1314.0	1178.9	1068.9	962.9	858.1
72.5°	1466.3	1422.0	1359.0	1282.3	1185.0	1066.7	981.0	860.1	764.7	661.9	580.7
75°	916.3	853.9	776.0	678.3	604.0	508.0	457.8	366.0	311.7	264.2	218.2
77.5°	468.5	421.6	367.0	312.0	259.3	206.9	160.0	113.2	76.3	53.0	39.4
80°	387.0	345.6	300.4	250.3	203.7	158.1	113.8	77.6	49.5	32.3	25.2
82.5°	319.8	284.9	244.4	197.9	157.5	124.2	86.3	56.3	34.9	22.6	17.8
85°	136.1	123.5	95.4	75.7	56.9	42.0	29.4	19.7	13.9	11.3	10.3
87.5°	5.8	6.5	6.1	4.8	3.6	3.6	3.2	2.6	2.6	2.6	2.6
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: P163507

CATALOG NUMBER: LDRL-SL3-E01-E-HSS

CANDELA DISTRIBUTION (continued):

	80°	81°	82°	83°	84°	85°	95°	105°	115°	125°	135°
0°	50.8	50.8	50.8	50.8	50.8	50.8	50.8	50.8	50.8	50.8	50.8
2.5°	53.0	52.7	52.4	52.4	52.1	51.7	49.8	48.2	46.2	44.9	43.6
5°	55.3	55.0	54.3	54.0	53.3	53.0	48.8	45.3	42.4	40.1	38.5
7.5°	57.6	57.2	56.3	55.3	55.0	54.3	47.5	43.0	39.1	36.5	34.9
10°	60.5	59.5	58.5	57.2	56.3	55.3	46.2	40.4	36.2	33.9	32.3
12.5°	64.7	63.0	61.4	59.8	58.5	56.9	45.6	38.2	33.9	31.4	29.7
15°	69.5	67.3	65.3	63.4	61.1	59.5	44.3	36.2	32.0	29.4	27.5
17.5°	74.0	71.5	68.5	65.6	63.4	61.1	43.0	34.3	30.1	27.5	25.5
20°	80.5	76.6	73.1	69.5	66.3	63.4	41.1	32.3	28.5	25.5	23.6
22.5°	87.6	83.1	78.6	73.7	69.5	65.6	39.4	30.7	26.8	23.9	21.7
25°	96.7	91.2	85.0	78.9	74.0	68.9	37.8	29.1	25.2	22.3	20.0
27.5°	109.3	101.5	94.7	87.0	79.5	73.7	36.5	27.8	23.6	20.7	18.4
30°	126.4	115.1	104.4	96.0	87.3	78.9	35.2	26.2	22.3	19.1	16.5
32.5°	145.5	132.2	120.0	107.3	96.4	86.7	33.9	24.9	20.7	17.5	15.2
35°	169.1	152.3	135.8	121.2	108.0	95.1	32.7	23.6	19.4	15.8	13.6
37.5°	203.1	182.0	160.4	141.6	124.5	107.3	31.7	22.3	17.8	14.2	12.0
40°	249.6	222.5	195.9	170.4	148.1	126.7	30.4	21.0	16.5	12.9	10.7
42.5°	300.1	267.1	232.2	203.4	172.7	145.8	29.1	19.7	15.2	11.6	9.4
45°	362.8	321.7	279.4	240.2	202.7	168.1	27.8	18.4	13.6	10.3	8.1
47.5°	431.3	378.9	331.1	281.9	237.3	195.9	26.2	17.5	12.3	9.1	7.1
50°	501.8	446.5	386.1	330.1	277.1	223.7	24.6	15.8	11.0	8.1	5.8
52.5°	577.8	512.5	450.7	381.2	319.5	260.3	23.0	14.5	10.0	7.1	4.8
55°	674.5	601.4	529.0	451.0	376.7	302.6	21.3	12.9	8.7	6.1	3.9
57.5°	796.0	709.4	620.5	532.5	442.3	358.2	20.0	11.3	7.4	5.2	3.2
60°	910.8	809.6	701.9	600.7	498.9	400.9	18.1	10.0	6.5	4.2	3.2
62.5°	970.3	854.9	738.8	627.3	518.6	416.1	16.2	8.4	5.5	3.6	2.9
65°	955.8	838.1	725.6	613.0	506.7	406.4	14.2	7.4	4.8	3.2	2.9
66°	934.7	818.3	705.2	598.2	496.6	396.1	13.3	7.1	4.5	3.2	2.6
67.5°	888.8	776.3	668.3	568.7	469.2	376.4	12.0	6.5	4.2	2.9	2.6
70°	759.2	657.0	570.7	482.1	400.9	317.2	9.7	5.5	3.6	2.6	2.6
72.5°	502.5	432.9	375.4	323.0	270.0	209.5	8.1	4.5	2.9	2.6	2.3
75°	189.5	171.4	147.1	132.2	115.4	101.2	6.5	2.9	2.3	2.3	2.3
77.5°	33.6	31.0	27.5	25.2	23.3	21.3	5.2	1.9	1.9	2.3	2.3
80°	22.6	21.0	19.1	17.5	16.2	14.5	3.6	1.6	1.9	1.9	2.3
82.5°	16.2	15.2	14.2	12.9	12.0	10.7	2.3	1.6	1.9	1.9	1.9
85°	9.7	9.1	8.4	7.8	6.8	6.5	1.6	1.6	1.6	1.9	1.9
87.5°	2.6	2.3	2.6	2.6	1.9	2.3	1.3	1.3	1.3	1.6	1.6
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: P163507

CATALOG NUMBER: LDRL-SL3-E01-E-HSS

CANDELA DISTRIBUTION (continued):

	145°	155°	165°	175°	180°
0°	50.8	50.8	50.8	50.8	50.8
2.5°	43.0	43.0	42.4	43.3	43.3
5°	37.2	37.2	36.9	37.2	37.2
7.5°	33.9	33.6	33.6	33.6	33.9
10°	31.0	30.7	30.7	30.7	30.7
12.5°	28.5	28.1	27.8	28.1	28.1
15°	26.2	25.5	25.5	25.5	25.5
17.5°	24.2	23.6	23.3	23.3	23.3
20°	22.3	21.3	21.3	21.3	21.3
22.5°	20.4	19.4	19.4	19.4	19.4
25°	18.4	17.5	17.5	17.5	17.5
27.5°	16.8	15.8	15.8	15.8	15.8
30°	14.9	14.2	14.2	14.5	14.2
32.5°	13.6	12.6	12.6	12.9	12.9
35°	12.0	11.3	11.3	11.3	11.3
37.5°	10.3	9.7	9.7	9.7	9.7
40°	9.1	8.4	8.1	8.4	8.4
42.5°	7.8	7.1	6.8	6.8	6.8
45°	6.8	5.8	5.5	5.8	5.8
47.5°	5.5	4.8	4.8	5.2	5.2
50°	4.2	4.2	4.5	5.2	5.2
52.5°	3.9	3.9	4.5	5.2	5.2
55°	3.6	3.9	4.5	4.8	5.2
57.5°	3.2	3.9	4.5	4.8	4.8
60°	3.2	3.6	4.2	4.8	4.8
62.5°	2.9	3.2	3.9	4.5	4.5
65°	2.9	3.2	3.9	4.5	4.5
66°	2.9	3.2	3.9	4.5	4.5
67.5°	2.9	3.2	3.9	4.5	4.5
70°	2.9	3.2	3.9	4.2	4.2
72.5°	2.6	2.9	3.6	4.2	4.2
75°	2.6	2.9	3.6	4.2	4.2
77.5°	2.6	2.9	3.6	4.2	4.2
80°	2.6	2.9	3.6	3.9	4.2
82.5°	2.3	2.9	3.2	3.9	3.9
85°	2.3	2.6	3.2	3.6	3.9
87.5°	1.9	2.3	2.6	3.2	3.2
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)