

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: P163228

Luminaire Tested: **LDRL-SL2-E01-E-7050-HSS**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P163228
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (P33726)
Test Lab: INNOVATION CENTER-P3
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: LUMARK
Catalog Number: LDRL-SL2-E01-E-7050-HSS
Description: RL LED ROADWAY LARGE CUTOFF COBRAHEAD LUMINAIRE
(1) LIGHTBARS WITH AccuLED OPTICS - TYPE 2 W/ SPILL LIGHT CONTROL AND HOUSE SIDE SHIELD
Light Source: (21) 5000K CCT, 70 CRI LEDs
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 1825 lumens
Efficiency: N/A
Efficacy: 73.9 lumens/watt
Luminous Opening: Rectangular w/ Sides (W: 0.17' x L: 1' x H: 0.1')
IES Classification: Type II - 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

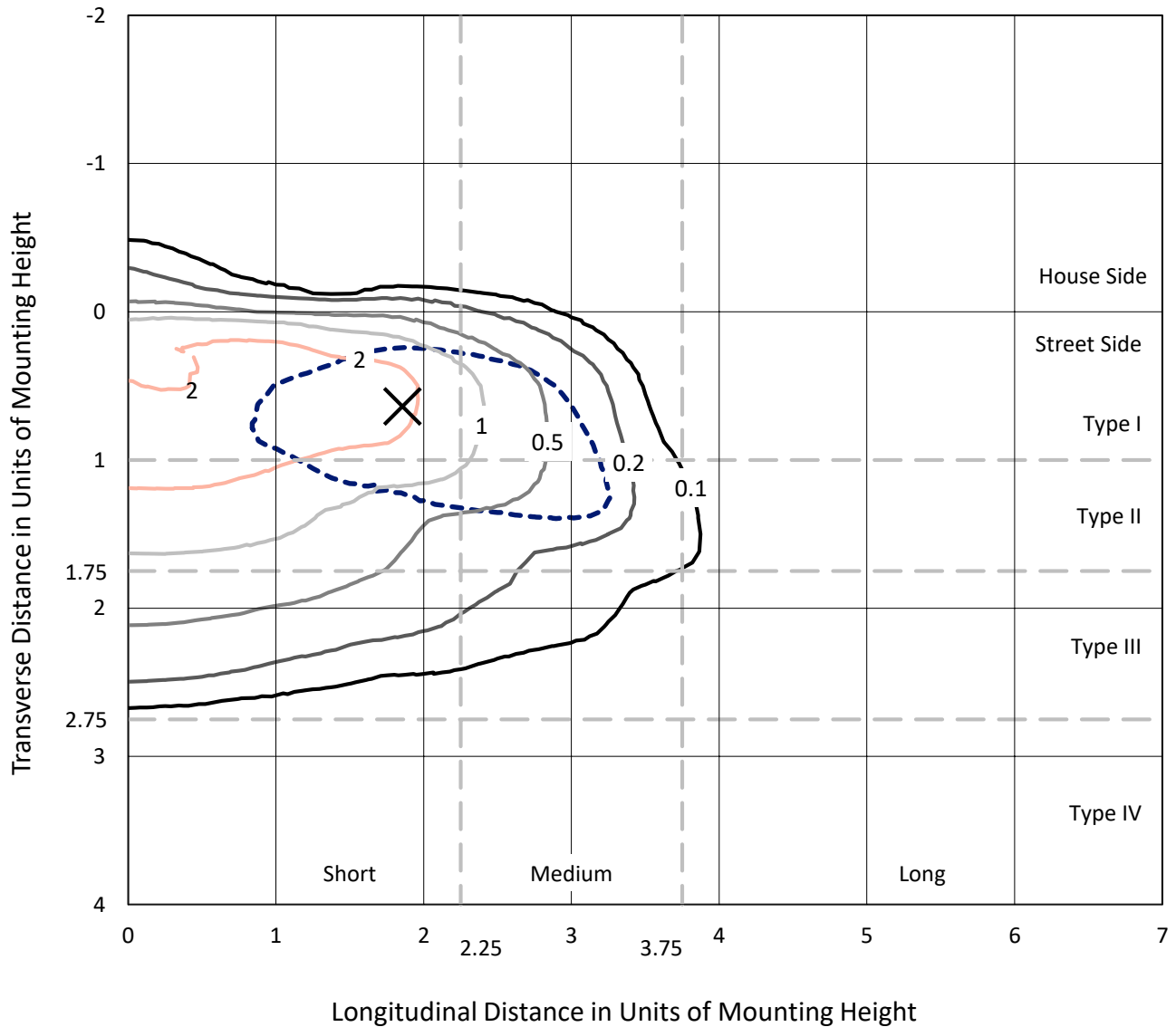


REPORT NUMBER: P163228

CATALOG NUMBER: LDRL-SL2-E01-E-7050-HSS

Iso-Footcandle Lines of Horizontal Illumination

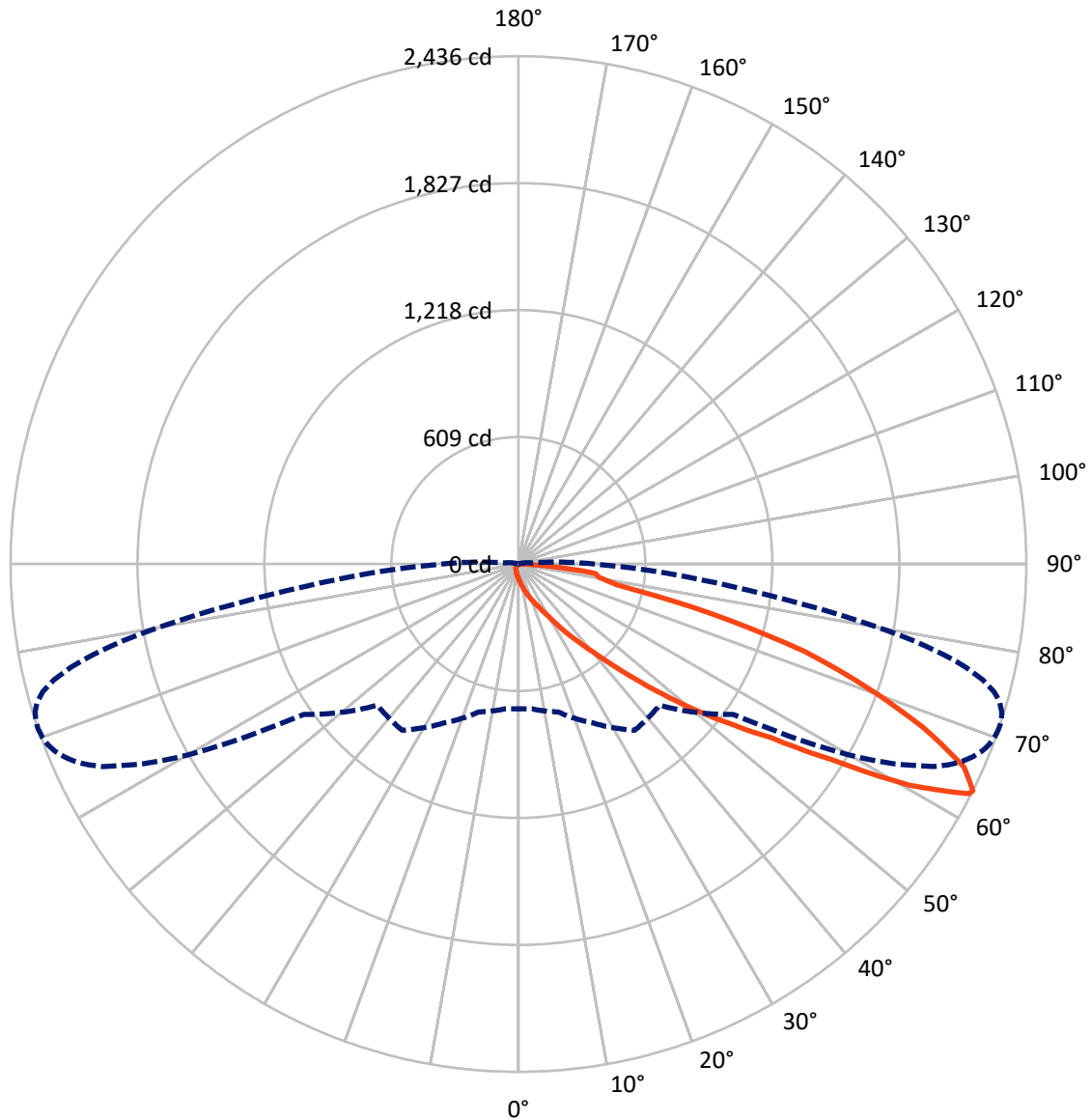
× Max cd
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 3.8 fc
 Type II - Short - Non-Cutoff

REPORT NUMBER: P163228
CATALOG NUMBER: LDRL-SL2-E01-E-7050-HSS

Luminous Intensity Polar Plot



— Vertical Plane Through 71-Deg Lateral - - - Horizontal Cone Through 63-Deg Vertical

REPORT NUMBER: P163228

CATALOG NUMBER: LDRL-SL2-E01-E-7050-HSS

FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	38.7	0.0	38.7
	% Fixture	2.1	0.0	2.1
Street Side	Lumens	1786.2	0.0	1786.2
	% Fixture	97.9	0.0	97.9
Total	Lumens	1825.0	0.0	1825.0
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	7.7	0.4
10°-20°	30.0	1.6
20°-30°	60.9	3.3
30°-40°	148.9	8.2
40°-50°	333.0	18.2
50°-60°	468.3	25.7
60°-70°	550.7	30.2
70°-80°	198.8	10.9
80°-90°	26.6	1.5
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°	1825.0	100.0
0°-180°	1825.0	100.0



REPORT NUMBER: P163228

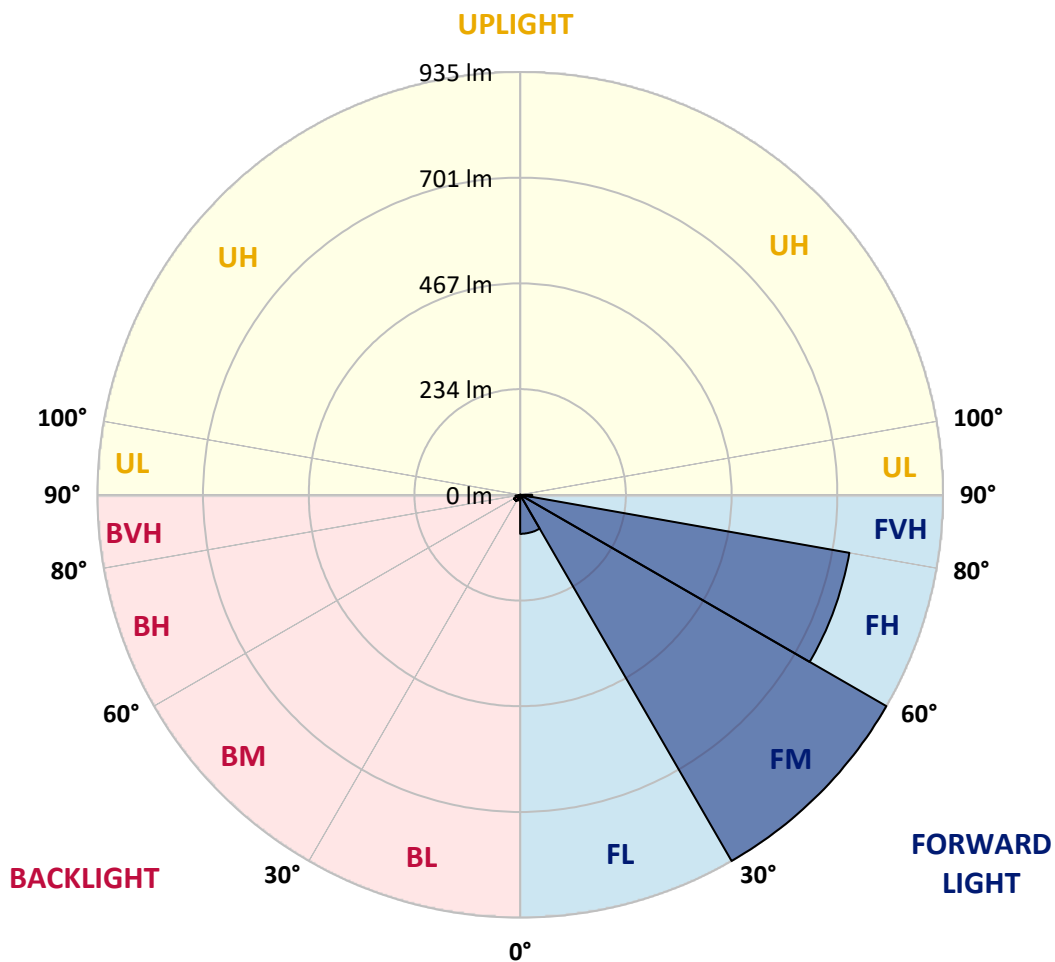
CATALOG NUMBER: LDRL-SL2-E01-E-7050-HSS

LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	86.2	4.7			
FM (30°-60°)	934.6	51.2			
FH (60°-80°)	738.9	40.5			G1/1800
FVH (80°-90°)	26.5	1.5			G1/100
BL (0°-30°)	12.5	0.7	B0/110		
BM (30°-60°)	15.6	0.9	B0/220		
BH (60°-80°)	10.6	0.6	B0/110		G0/110
BVH (80°-90°)	0.1	0.0			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 II Short





REPORT NUMBER: P163228

CATALOG NUMBER: LDRL-SL2-E01-E-7050-HSS

CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	56°	57°	58°	59°
0°	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0
2.5°	91.6	92.6	91.9	90.2	88.2	85.6	83.3	83.3	83.0	81.9	82.3
5°	120.1	120.4	119.1	115.1	111.5	105.8	99.5	98.9	98.2	97.2	96.9
7.5°	148.0	149.3	148.0	143.7	136.3	127.7	117.8	116.8	114.8	114.8	113.5
10°	176.5	176.5	175.2	170.2	163.6	151.3	138.7	137.0	134.7	134.0	132.0
12.5°	196.7	196.7	196.1	193.4	188.1	177.2	161.9	160.2	157.3	156.3	153.9
15°	204.7	204.7	205.0	207.4	207.7	202.7	186.8	185.5	182.5	179.8	178.8
17.5°	209.7	209.3	209.3	212.7	218.6	221.9	211.7	210.4	207.0	205.7	202.4
20°	220.6	220.0	218.0	218.0	223.6	235.2	235.2	234.9	231.2	230.3	228.6
22.5°	236.9	236.2	230.3	225.3	227.9	242.5	256.1	255.5	254.1	252.8	251.8
25°	263.4	261.1	250.8	236.2	233.9	249.5	272.1	273.7	274.7	274.7	275.4
27.5°	303.6	300.6	282.3	255.1	244.8	260.8	289.6	293.0	295.9	296.6	299.6
30°	359.3	354.0	327.8	288.0	264.4	277.4	315.5	319.2	323.5	324.8	329.4
32.5°	450.9	447.9	422.7	363.0	312.5	309.9	351.7	356.3	362.0	364.3	369.9
35°	590.2	590.9	570.3	516.6	446.9	410.4	416.4	420.4	422.3	429.3	432.3
37.5°	684.8	686.4	691.1	669.8	620.1	582.9	536.1	540.4	530.2	531.2	531.5
40°	736.5	741.8	769.0	789.6	785.6	764.1	726.6	728.9	709.7	705.3	684.4
42.5°	771.0	778.0	821.5	885.2	917.7	937.2	928.6	927.6	912.7	907.1	889.5
45°	792.6	798.9	853.6	947.5	1022.5	1079.6	1103.1	1105.8	1093.2	1087.5	1072.9
47.5°	791.6	798.9	857.6	970.8	1081.2	1172.5	1238.8	1242.1	1249.8	1244.8	1245.8
50°	747.8	754.8	813.8	931.3	1064.0	1214.9	1336.4	1347.0	1359.3	1367.6	1371.5
52.5°	694.7	699.7	752.1	863.6	990.3	1197.4	1394.1	1412.4	1430.6	1446.2	1457.1
55°	675.2	680.8	721.9	814.5	931.3	1123.7	1421.0	1447.9	1473.7	1499.3	1520.2
57.5°	685.4	690.8	720.3	791.3	896.1	1046.1	1428.6	1470.4	1512.9	1554.3	1595.5
60°	723.3	728.9	754.1	812.8	886.8	1001.3	1398.7	1468.1	1538.7	1611.1	1679.1
62.5°	708.3	710.7	747.8	850.7	953.2	963.1	1290.3	1387.1	1495.0	1606.4	1716.2
63°	694.1	696.7	734.5	840.4	973.4	957.5	1256.8	1358.9	1472.7	1592.8	1712.3
65°	629.4	629.7	658.6	742.2	950.9	967.5	1107.5	1205.0	1335.7	1479.7	1630.6
67.5°	469.8	467.5	495.3	559.0	746.5	967.8	950.5	1005.3	1096.2	1223.9	1359.3
70°	166.6	162.9	208.0	296.3	465.1	791.6	816.8	820.5	845.7	914.7	999.6
72.5°	54.1	55.1	66.3	108.5	214.3	532.8	739.5	728.2	721.6	721.3	732.6
75°	21.6	21.9	26.5	48.1	96.2	256.8	647.6	653.9	656.2	659.6	663.2
77.5°	10.3	11.3	14.9	26.9	47.8	127.1	463.5	516.9	547.4	571.0	585.2
80°	3.7	4.3	8.3	16.6	22.2	58.4	244.2	294.6	339.4	397.1	446.9
82.5°	0.0	0.0	1.7	11.6	12.3	23.6	100.2	117.4	134.4	174.2	223.6
85°	0.0	0.0	0.0	3.3	3.7	4.0	33.8	40.8	45.8	53.4	61.7
87.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.3	1.0	2.0	5.0	7.6
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: P163228

CATALOG NUMBER: LDRL-SL2-E01-E-7050-HSS

CANDELA DISTRIBUTION (continued):

	60°	61°	62°	64°	65°	66°	67°	68°	69°	70°	71°
0°	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0
2.5°	81.6	81.3	81.3	80.6	80.3	79.6	79.3	78.3	78.0	78.0	78.0
5°	96.5	95.2	94.5	92.9	91.9	91.6	89.9	89.3	88.2	88.6	86.9
7.5°	113.1	110.8	109.8	107.5	106.8	104.5	103.8	102.2	101.2	99.2	98.5
10°	131.4	128.4	126.7	123.1	122.1	120.4	118.4	116.4	114.8	112.8	111.8
12.5°	152.3	149.6	148.3	143.3	141.0	138.7	136.0	133.4	130.7	129.1	126.7
15°	176.8	172.5	171.2	166.6	162.6	159.6	155.9	152.6	150.6	147.3	145.0
17.5°	201.1	196.7	195.7	188.8	184.5	182.5	178.5	174.2	170.5	167.2	163.6
20°	225.3	222.3	219.6	213.0	208.4	205.0	199.7	195.4	192.4	187.8	183.1
22.5°	249.5	246.5	244.5	237.5	233.2	228.6	223.9	219.3	215.0	209.3	204.0
25°	274.4	272.4	271.4	265.1	261.1	256.8	252.2	246.8	241.5	235.2	229.6
27.5°	300.3	300.9	298.9	297.6	293.3	290.3	283.0	279.3	275.4	267.7	260.8
30°	333.1	335.1	334.4	335.4	332.8	330.8	325.1	320.5	315.9	308.5	300.6
32.5°	374.6	377.2	378.6	382.2	380.9	380.2	378.6	371.9	368.6	356.0	352.7
35°	438.6	437.3	442.9	445.9	444.6	443.9	441.9	438.3	434.3	425.3	417.0
37.5°	521.9	523.2	525.2	519.2	515.2	514.9	508.9	505.3	499.7	489.7	479.7
40°	674.5	666.2	656.9	631.7	620.8	614.4	596.9	591.9	582.3	568.6	558.4
42.5°	872.9	864.6	836.7	794.6	772.0	740.8	726.6	709.0	695.4	673.2	661.2
45°	1070.0	1046.1	1042.7	993.7	965.8	924.6	899.1	869.6	838.7	809.5	788.3
47.5°	1236.2	1230.9	1214.6	1184.8	1158.9	1124.4	1091.5	1046.1	1014.2	972.7	934.6
50°	1369.2	1368.9	1362.9	1345.7	1324.1	1296.2	1267.4	1228.9	1192.7	1142.0	1101.2
52.5°	1468.7	1474.1	1476.1	1470.7	1462.4	1437.9	1423.3	1391.1	1360.6	1317.5	1273.3
55°	1541.7	1561.3	1571.3	1582.5	1580.2	1571.6	1570.9	1550.0	1536.1	1501.9	1470.7
57.5°	1632.0	1664.2	1695.0	1749.8	1751.7	1771.0	1780.9	1790.9	1793.6	1779.9	1769.7
60°	1746.8	1812.5	1870.9	1985.3	2015.2	2062.3	2092.8	2126.0	2154.2	2156.5	2155.8
62.5°	1827.7	1928.9	2023.1	2193.0	2251.1	2305.5	2346.3	2378.5	2398.0	2417.9	2427.2
63°	1830.0	1940.9	2041.0	2216.2	2277.3	2329.0	2367.8	2397.7	2418.3	2430.2	2436.2
65°	1774.0	1908.4	2027.8	2202.3	2259.7	2311.8	2332.0	2351.6	2361.5	2366.2	2348.6
67.5°	1503.6	1635.0	1774.3	1969.4	2018.5	2080.9	2097.5	2107.4	2112.1	2111.0	2096.1
70°	1124.4	1234.5	1389.4	1612.4	1677.4	1738.5	1776.3	1792.6	1797.9	1796.2	1774.0
72.5°	785.0	849.7	977.4	1225.6	1314.2	1392.4	1439.2	1463.4	1468.4	1458.5	1437.9
75°	659.2	662.6	691.4	827.1	910.1	993.7	1046.4	1061.7	1051.7	1021.5	969.1
77.5°	588.6	595.9	595.9	616.1	632.3	655.6	660.6	623.4	580.3	524.5	479.4
80°	493.7	519.2	537.1	552.1	553.7	549.1	536.8	515.9	482.7	440.3	393.1
82.5°	299.9	350.4	370.9	447.9	485.7	511.3	509.3	481.4	456.2	412.1	371.9
85°	75.6	81.6	88.6	115.1	129.1	157.6	175.5	183.8	186.8	171.5	155.3
87.5°	7.3	5.0	8.3	6.3	8.9	6.6	8.9	8.3	10.3	10.9	11.9
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: P163228

CATALOG NUMBER: LDRL-SL2-E01-E-7050-HSS

CANDELA DISTRIBUTION (continued):

	72°	73°	74°	75°	76°	77°	78°	79°	80°	81°	82°
0°	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0
2.5°	77.3	77.0	76.6	76.3	76.0	75.6	75.0	75.0	74.3	74.0	73.7
5°	85.9	85.3	84.9	84.3	83.3	82.6	81.6	80.3	79.3	79.0	78.3
7.5°	96.9	95.2	94.5	93.6	92.2	90.2	88.9	87.9	86.3	85.3	83.3
10°	109.2	107.5	105.5	103.5	101.5	99.2	97.5	96.2	93.6	92.2	89.9
12.5°	124.8	121.8	119.4	116.8	114.1	111.5	109.5	105.5	103.2	100.2	98.2
15°	140.7	138.0	135.4	132.0	128.1	123.7	121.8	118.1	115.1	110.5	107.8
17.5°	159.9	154.9	151.0	147.0	143.3	139.3	135.4	129.7	125.4	121.4	116.1
20°	178.8	172.9	168.5	163.2	157.9	151.6	147.0	143.0	137.0	131.7	126.1
22.5°	199.1	193.1	186.1	180.8	173.5	168.5	162.2	155.6	149.6	142.7	135.7
25°	223.6	217.3	209.3	202.4	194.1	187.1	179.5	171.9	164.6	156.6	147.6
27.5°	253.8	247.2	238.5	230.3	219.3	210.7	203.4	193.1	183.8	173.8	163.6
30°	292.0	284.7	274.1	262.1	251.1	241.5	231.2	217.6	207.4	195.4	182.1
32.5°	341.7	333.1	318.8	307.5	294.0	281.3	267.1	253.5	238.9	223.3	208.0
35°	404.4	396.5	379.9	363.3	348.4	333.4	315.5	299.9	279.3	260.4	240.9
37.5°	469.5	455.2	439.9	422.0	403.4	385.5	363.6	342.1	318.5	297.9	273.4
40°	543.8	526.5	513.9	494.7	468.5	442.9	422.7	395.8	366.3	338.7	309.9
42.5°	645.6	626.4	603.8	574.6	555.7	525.9	499.7	467.8	429.0	398.1	363.3
45°	763.4	737.2	715.3	687.1	664.2	627.1	596.5	554.1	515.2	474.8	432.3
47.5°	897.8	865.3	833.4	805.5	769.0	732.6	693.7	648.6	598.9	554.4	504.0
50°	1052.0	1005.9	961.8	926.0	875.9	833.7	791.6	740.8	685.8	634.7	577.3
52.5°	1223.6	1170.2	1111.8	1056.7	998.6	944.6	893.8	835.4	774.0	711.6	647.6
55°	1430.6	1390.5	1321.8	1251.8	1174.1	1101.8	1036.4	964.1	889.5	807.5	740.2
57.5°	1754.7	1735.2	1677.8	1607.8	1506.6	1418.7	1307.8	1219.3	1111.1	998.3	911.4
60°	2194.0	2169.8	2137.6	2080.9	2000.6	1881.1	1759.1	1621.4	1456.8	1300.5	1152.2
62.5°	2428.2	2419.6	2393.4	2354.2	2279.3	2185.1	2062.0	1910.7	1724.9	1535.1	1346.0
63°	2435.2	2424.3	2401.7	2361.9	2295.8	2204.6	2083.9	1936.9	1755.1	1561.7	1368.6
65°	2341.0	2336.7	2313.8	2270.3	2225.2	2155.5	2062.0	1935.5	1782.9	1600.1	1408.0
67.5°	2076.2	2063.3	2028.1	2014.8	1983.3	1934.9	1863.6	1776.6	1667.5	1523.8	1357.9
70°	1756.1	1736.8	1692.7	1669.1	1630.6	1600.1	1556.7	1494.6	1427.3	1327.1	1203.3
72.5°	1416.7	1376.8	1336.4	1275.0	1221.3	1166.8	1118.7	1074.9	1000.9	960.5	866.6
75°	920.0	847.7	778.3	685.4	601.8	527.8	455.9	419.3	343.4	312.5	268.4
77.5°	436.6	396.1	341.7	299.6	245.8	200.7	163.9	123.1	96.5	75.6	57.7
80°	352.3	318.2	285.3	247.2	206.7	164.9	126.4	94.5	67.0	46.4	32.8
82.5°	314.2	277.0	236.6	210.4	182.8	149.6	122.8	100.2	74.0	54.1	36.8
85°	122.1	102.9	79.3	64.7	50.4	41.5	37.5	25.9	20.2	15.9	12.3
87.5°	10.6	8.6	7.0	4.6	5.0	2.6	3.0	2.0	1.7	1.7	1.3
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: P163228

CATALOG NUMBER: LDRL-SL2-E01-E-7050-HSS

CANDELA DISTRIBUTION (continued):

	83°	84°	85°	86°	87°	88°	89°	90°	95°	105°	115°
0°	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0
2.5°	73.3	73.0	72.6	72.0	72.0	71.3	71.0	70.7	69.0	65.4	62.4
5°	77.0	76.3	75.6	74.6	74.0	73.0	72.3	71.3	67.7	60.7	54.7
7.5°	82.3	81.0	80.0	78.0	77.0	75.6	74.6	73.0	67.0	56.4	48.1
10°	88.6	86.3	84.6	82.3	80.3	78.6	77.0	74.6	66.3	51.8	42.1
12.5°	96.2	93.6	90.2	87.6	84.9	82.6	80.3	77.3	65.4	47.8	37.5
15°	103.8	99.9	97.5	93.9	90.2	86.9	83.6	81.0	65.7	43.5	33.5
17.5°	112.5	108.5	103.5	99.5	95.6	91.2	87.3	81.9	64.0	40.1	30.5
20°	120.8	115.1	110.5	105.5	99.9	94.5	89.6	84.9	62.7	36.8	27.9
22.5°	129.7	123.1	117.1	110.8	103.8	97.9	91.9	85.9	60.4	33.8	25.6
25°	140.7	133.0	124.4	116.8	109.5	102.2	94.5	87.3	58.1	31.2	23.9
27.5°	153.9	144.0	135.4	125.7	115.5	106.2	97.9	89.9	55.7	29.2	22.2
30°	170.9	159.3	147.0	134.7	123.7	113.1	101.5	91.6	53.4	27.2	20.6
32.5°	193.4	178.8	163.9	149.6	135.0	121.4	109.2	96.2	52.1	25.6	18.9
35°	223.3	204.4	186.1	168.2	150.6	134.0	118.1	103.5	52.1	23.6	16.9
37.5°	251.5	229.6	206.4	184.1	163.2	144.0	125.1	107.5	49.4	21.9	15.3
40°	282.0	255.8	228.6	202.4	177.2	153.3	131.7	111.5	47.1	19.9	13.6
42.5°	328.8	295.6	260.1	229.6	199.4	169.9	143.0	119.1	44.1	17.9	11.9
45°	390.2	348.0	306.2	269.1	230.6	194.4	162.6	133.0	43.5	16.3	10.3
47.5°	455.9	406.1	357.0	309.5	264.4	222.3	184.1	148.6	43.5	14.6	8.9
50°	521.2	458.8	406.4	351.3	300.6	250.8	205.4	164.9	43.8	13.3	7.3
52.5°	580.3	513.6	454.9	391.2	335.1	277.4	227.9	180.8	43.1	11.6	6.0
55°	662.2	583.9	515.9	445.6	379.9	314.9	258.8	204.7	43.5	10.3	5.0
57.5°	813.2	721.3	639.3	547.1	471.5	387.5	319.5	253.8	47.4	8.6	3.7
60°	1029.8	910.4	795.3	682.8	586.6	486.7	398.5	321.2	55.7	7.0	2.6
62.5°	1175.5	1019.2	881.9	757.8	646.0	541.5	445.2	357.3	61.4	5.6	1.7
63°	1190.4	1028.8	890.8	762.7	648.6	544.1	447.2	360.0	61.7	5.3	1.7
65°	1218.6	1045.4	895.8	763.7	646.0	540.4	445.9	359.6	62.4	4.3	1.3
67.5°	1186.4	1019.9	866.9	735.2	622.7	518.9	429.3	346.4	62.0	3.0	1.0
70°	1061.0	923.0	788.6	665.9	563.7	469.8	390.8	315.9	57.1	2.0	0.7
72.5°	779.0	685.1	580.9	492.3	424.7	352.7	300.9	237.2	44.1	1.3	0.3
75°	230.9	210.4	176.8	155.9	137.7	113.8	101.2	79.0	22.6	0.7	0.0
77.5°	46.1	41.8	37.5	34.2	32.2	27.5	26.2	21.6	9.3	0.3	0.0
80°	24.2	19.9	16.9	14.9	12.9	10.6	8.9	7.3	1.7	0.0	0.0
82.5°	23.2	15.6	11.3	9.3	8.0	6.3	5.0	3.7	1.0	0.0	0.0
85°	8.6	6.6	5.0	4.0	3.3	3.0	2.3	2.0	0.0	0.0	0.0
87.5°	1.3	1.0	1.0	0.7	0.7	0.3	0.3	0.3	0.0	0.0	0.0
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: P163228

CATALOG NUMBER: LDRL-SL2-E01-E-7050-HSS

CANDELA DISTRIBUTION (continued):

	125°	135°	145°	155°	165°	175°	180°
0°	70.0	70.0	70.0	70.0	70.0	70.0	70.0
2.5°	59.4	56.7	55.4	53.7	53.7	53.4	54.1
5°	49.4	45.8	43.1	41.1	41.5	40.5	40.8
7.5°	41.8	38.2	35.8	34.5	34.2	33.8	33.8
10°	36.2	32.8	30.8	29.9	29.5	29.5	29.5
12.5°	32.2	28.9	27.2	26.5	26.5	26.2	26.2
15°	28.9	26.2	24.5	23.9	23.9	23.6	23.9
17.5°	26.2	23.6	22.2	21.6	21.6	21.2	21.2
20°	23.9	21.6	20.2	19.2	19.2	18.9	19.2
22.5°	21.9	19.6	17.9	17.3	16.9	16.6	16.9
25°	19.9	17.6	15.9	14.9	14.6	14.6	14.3
27.5°	18.2	15.9	13.9	12.9	12.6	12.6	12.3
30°	16.6	13.9	11.9	10.9	10.6	10.6	10.6
32.5°	14.9	11.9	10.3	9.3	8.9	8.9	8.9
35°	13.3	10.3	8.6	7.6	7.3	7.3	7.3
37.5°	11.3	8.6	6.6	6.0	5.6	5.3	5.3
40°	9.6	6.6	5.0	4.3	3.7	3.7	3.7
42.5°	8.0	5.3	3.7	2.6	2.3	2.0	2.3
45°	6.6	4.0	2.3	1.3	1.0	1.0	1.0
47.5°	5.3	2.6	1.0	0.3	0.3	0.3	0.3
50°	4.0	1.7	0.3	0.0	0.0	0.3	0.3
52.5°	3.0	1.0	0.0	0.0	0.0	0.0	0.0
55°	1.7	0.3	0.0	0.0	0.0	0.0	0.0
57.5°	1.0	0.0	0.0	0.0	0.0	0.0	0.0
60°	0.7	0.0	0.0	0.0	0.0	0.0	0.0
62.5°	0.3	0.0	0.0	0.0	0.0	0.0	0.0
63°	0.3	0.0	0.0	0.0	0.0	0.0	0.0
65°	0.3	0.0	0.0	0.0	0.0	0.0	0.0
67.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0
70°	0.0	0.0	0.0	0.0	0.0	0.0	0.0
72.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0
75°	0.0	0.0	0.0	0.0	0.0	0.0	0.0
77.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0
80°	0.0	0.0	0.0	0.0	0.0	0.0	0.0
82.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0
85°	0.0	0.0	0.0	0.0	0.0	0.0	0.0
87.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)