

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: P146859

Luminaire Tested: **LDRL-T4-E03-E-7030**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P146859  
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (P33696)  
Test Lab: INNOVATION CENTER-P3  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: LUMARK  
Catalog Number: LDRL-T4-E03-E-7030  
Description: RL LED ROADWAY LARGE CUTOFF COBRAHEAD LUMINAIRE  
(3) LIGHTBARS WITH AccuLED OPTICS - TYPE 4 SHORT  
Light Source: (63) 3000K CCT, 70 CRI LEDs  
Ballast/Driver: -

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 8051.9 lumens  
Efficiency: N/A  
Efficacy: 107.1 lumens/watt  
Luminous Opening: Rectangular (W 0.5' x L: 1' x H: 0')  
IES Classification: Type IV - Short - Semi-Cutoff  
BUG Rating: B1 - U0 - G2

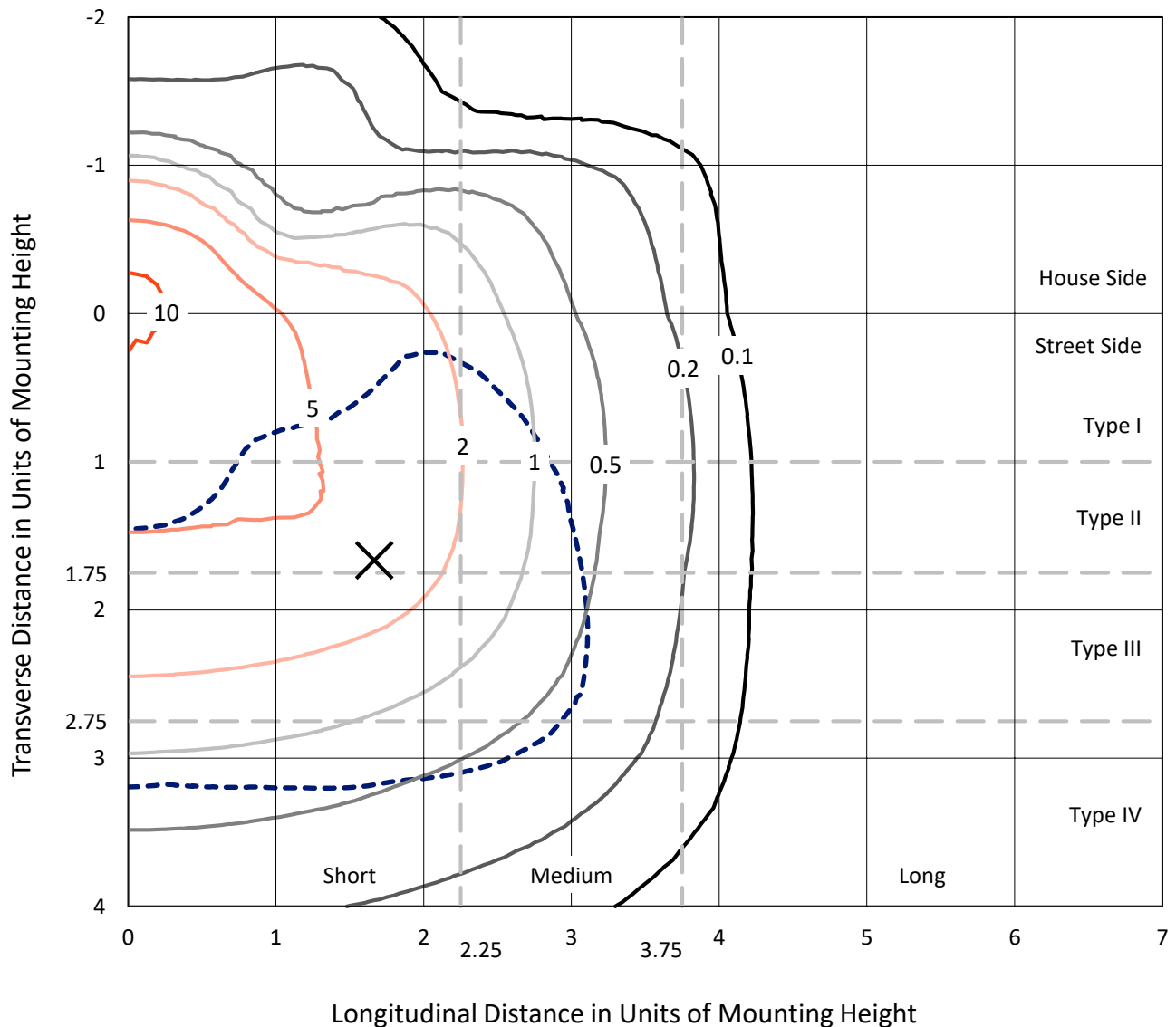
Input Watts (W): 75.2  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



REPORT NUMBER: P146859  
 CATALOG NUMBER: LDRL-T4-E03-E-7030

### Iso-Footcandle Lines of Horizontal Illumination

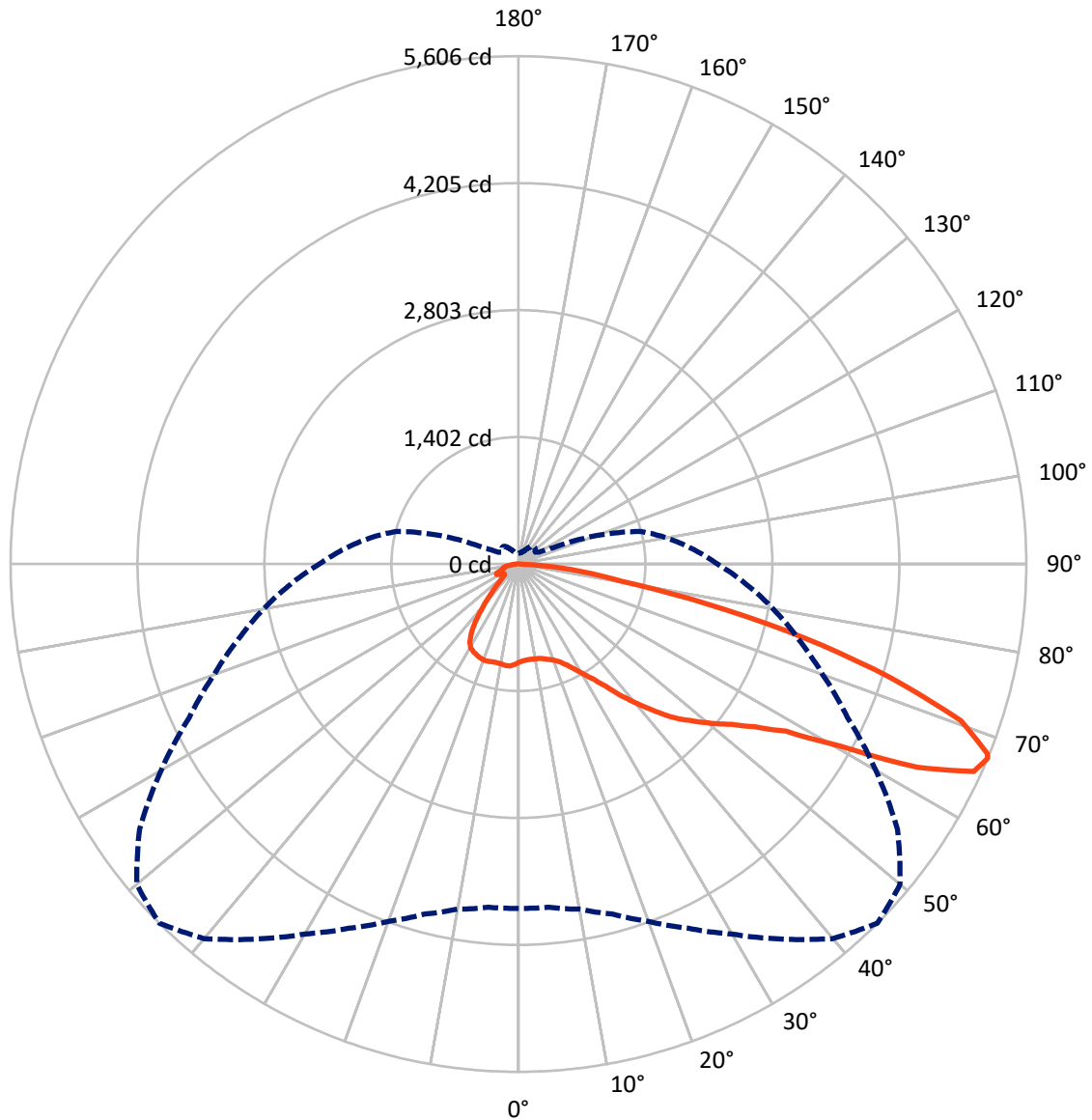
× Max cd  
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 11 fc  
 Type IV - Short - Semi-Cutoff

REPORT NUMBER: P146859  
CATALOG NUMBER: LDRL-T4-E03-E-7030

### Luminous Intensity Polar Plot



— Vertical Plane Through 45-Deg Lateral    - - - Horizontal Cone Through 67-Deg Vertical

REPORT NUMBER: P146859

CATALOG NUMBER: LDRL-T4-E03-E-7030

**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	1631.5	0.0	1631.5
	% Fixture	20.3	0.0	20.3
<b>Street Side</b>	Lumens	6420.4	0.0	6420.4
	% Fixture	79.7	0.0	79.7
<b>Total</b>	Lumens	8051.9	0.0	8051.9
	% Fixture	100.0	0.0	100.0

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	104.5	1.3
10°-20°	313.7	3.9
20°-30°	533.2	6.6
30°-40°	801.3	10.0
40°-50°	1041.9	12.9
50°-60°	1430.5	17.8
60°-70°	2256.7	28.0
70°-80°	1363.5	16.9
80°-90°	206.6	2.6
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°	8051.9	100.0
0°-180°	8051.9	100.0

**Coefficient of Utilization**



REPORT NUMBER: P146859

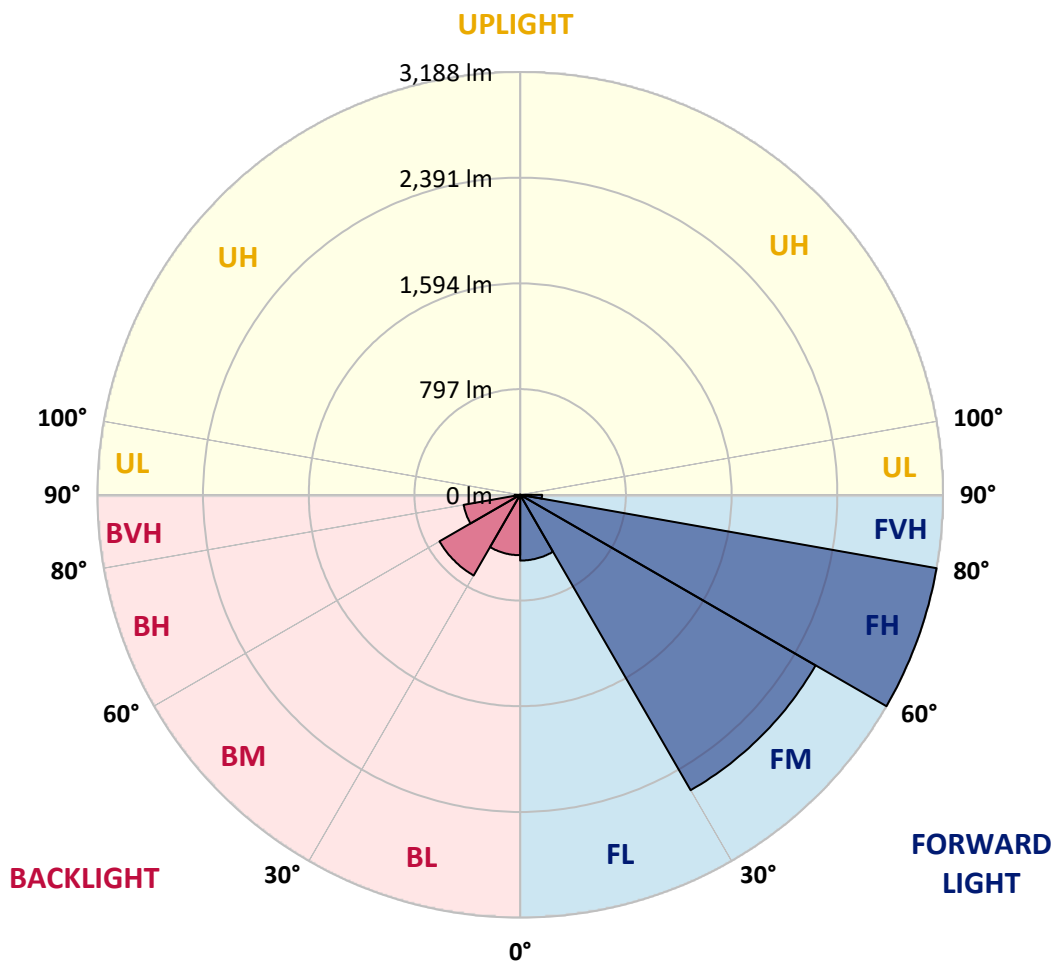
CATALOG NUMBER: LDRL-T4-E03-E-7030

**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	495.8	6.2			
FM	(30°-60°)	2571.7	31.9			
FH	(60°-80°)	3187.9	39.6			G2/5000
FVH	(80°-90°)	164.9	2.0			G2/225
BL	(0°-30°)	455.5	5.7	B1/500		
BM	(30°-60°)	702.1	8.7	B1/1000		
BH	(60°-80°)	432.3	5.4	B1/500		G1/500
BVH	(80°-90°)	41.6	0.5			G1/100
UL	(90°-100°)	0.0	0.0		U0/0	
UH	(100°-180°)	0.0	0.0		U0/0	

**BUG Rating: B1-U0-G2**

Type IV Short





REPORT NUMBER: P146859

CATALOG NUMBER: LDRL-T4-E03-E-7030

**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1084.0	1084.0	1084.0	1084.0	1084.0	1084.0	1084.0	1084.0	1084.0	1084.0	1084.0
2.5°	1059.9	1062.0	1060.4	1060.4	1060.9	1061.5	1062.6	1064.8	1065.3	1068.6	1069.2
5°	1038.5	1039.0	1039.0	1039.6	1042.9	1045.6	1048.3	1052.2	1055.5	1061.5	1065.3
7.5°	1030.8	1033.0	1032.5	1033.5	1036.8	1039.6	1042.9	1048.3	1056.6	1061.5	1067.0
10°	1043.4	1045.1	1043.4	1044.0	1044.5	1047.2	1048.3	1052.2	1058.8	1063.1	1068.1
12.5°	1072.5	1072.5	1070.8	1069.7	1068.1	1068.6	1066.4	1065.9	1069.2	1069.7	1070.3
15°	1110.8	1115.2	1109.7	1105.3	1103.1	1101.0	1093.8	1091.1	1090.5	1085.6	1080.7
17.5°	1149.7	1150.8	1147.5	1142.6	1139.3	1134.4	1128.4	1122.9	1116.3	1108.6	1098.8
20°	1193.0	1193.6	1189.2	1182.1	1178.2	1172.2	1164.5	1155.2	1147.0	1134.9	1124.0
22.5°	1253.3	1252.8	1244.0	1238.0	1232.5	1225.4	1214.4	1201.8	1188.6	1174.4	1159.0
25°	1322.3	1322.3	1316.3	1306.5	1303.7	1293.3	1281.2	1266.5	1252.8	1232.5	1213.8
27.5°	1401.3	1401.8	1390.8	1385.4	1379.3	1368.4	1360.2	1348.7	1330.0	1309.7	1290.6
30°	1495.0	1492.2	1483.5	1472.0	1469.8	1461.0	1449.5	1441.3	1418.3	1404.0	1382.6
32.5°	1583.7	1588.1	1585.9	1572.8	1575.0	1566.2	1556.3	1550.3	1526.2	1512.5	1492.8
35°	1716.4	1720.2	1723.5	1718.6	1721.3	1716.4	1708.1	1692.3	1672.5	1654.4	1627.0
37.5°	1819.4	1823.2	1825.4	1837.5	1855.0	1872.0	1879.7	1871.5	1872.6	1845.2	1808.4
40°	1903.8	1913.1	1926.3	1949.3	1984.3	2016.7	2034.2	2047.9	2055.0	2029.3	1981.6
42.5°	1988.2	1998.0	2016.1	2052.8	2101.1	2147.7	2184.4	2226.6	2234.2	2227.7	2187.1
45°	2076.4	2087.9	2110.4	2152.0	2208.5	2269.3	2328.5	2388.2	2418.4	2423.3	2374.0
47.5°	2182.7	2199.2	2220.0	2267.1	2321.9	2390.4	2464.4	2541.1	2588.3	2588.3	2531.3
50°	2315.3	2334.0	2351.5	2398.6	2453.4	2524.1	2609.6	2695.1	2759.2	2763.1	2694.0
52.5°	2501.1	2503.9	2514.3	2557.6	2605.2	2684.2	2765.3	2864.4	2938.4	2941.7	2862.3
55°	2726.9	2726.9	2739.0	2775.1	2819.5	2884.7	2968.6	3078.7	3156.5	3173.5	3071.6
57.5°	3023.9	3034.9	3040.9	3083.1	3113.2	3182.3	3252.4	3372.5	3471.6	3482.6	3379.0
60°	3507.3	3486.4	3519.9	3557.1	3627.8	3678.2	3797.7	3918.3	4044.9	4075.0	3963.8
62.5°	3983.5	4006.0	4047.1	4114.5	4235.6	4348.5	4519.4	4702.5	4899.2	4939.8	4854.8
65°	4013.1	4026.8	4083.8	4200.0	4365.4	4566.6	4802.2	5077.9	5371.0	5522.8	5380.4
67°	3800.5	3804.3	3869.0	4001.0	4199.4	4437.8	4716.7	5053.2	5397.4	5606.1	5499.8
67.5°	3733.0	3740.2	3803.7	3938.5	4139.1	4383.0	4667.4	5013.2	5365.6	5583.7	5487.8
70°	3337.4	3337.4	3405.9	3541.8	3729.8	3967.6	4265.2	4614.2	4997.3	5180.9	5099.2
72.5°	2840.9	2822.8	2900.1	3003.1	3156.5	3364.2	3603.7	3879.4	4167.6	4301.3	4269.0
75°	2064.9	2098.9	2138.9	2215.1	2348.2	2512.1	2652.4	2898.4	3124.8	3272.7	3233.8
77.5°	1126.7	1139.9	1250.6	1296.0	1412.8	1534.4	1688.4	1861.0	2039.1	2132.3	2094.5
80°	669.7	695.4	761.2	815.4	878.5	971.1	1082.9	1120.7	1155.8	1153.6	1085.1
82.5°	423.1	454.3	525.5	572.1	605.0	658.7	719.5	767.2	777.6	726.1	646.7
85°	68.5	113.4	296.5	348.5	369.4	398.4	443.3	463.6	432.9	378.1	391.8
87.5°	26.9	32.3	90.4	114.5	121.1	63.6	110.2	129.3	65.8	33.4	75.6
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: P146859

CATALOG NUMBER: LDRL-T4-E03-E-7030

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°	105°
0°	1084.0	1084.0	1084.0	1084.0	1084.0	1084.0	1084.0	1084.0	1084.0	1084.0	1084.0
2.5°	1072.5	1075.2	1077.9	1081.2	1082.3	1085.1	1090.0	1089.4	1093.3	1094.9	1097.7
5°	1070.3	1076.3	1080.7	1086.7	1088.9	1094.9	1101.5	1103.7	1108.6	1112.5	1115.7
7.5°	1074.6	1081.2	1086.7	1093.8	1098.8	1103.7	1108.6	1114.7	1119.0	1121.8	1124.0
10°	1076.3	1083.4	1090.0	1096.0	1101.5	1105.3	1110.8	1115.7	1120.1	1121.8	1122.3
12.5°	1076.8	1081.8	1088.3	1094.9	1099.9	1104.8	1108.6	1114.1	1117.4	1117.9	1116.8
15°	1081.2	1081.8	1086.2	1093.8	1098.8	1103.7	1106.4	1109.2	1111.4	1109.7	1108.1
17.5°	1094.4	1090.5	1090.5	1094.4	1097.1	1099.3	1099.9	1099.3	1097.1	1093.8	1091.1
20°	1115.7	1108.1	1102.0	1099.9	1095.5	1090.0	1082.9	1076.3	1068.1	1064.2	1063.7
22.5°	1149.2	1137.7	1126.7	1115.7	1101.5	1085.6	1069.2	1054.9	1043.4	1037.4	1037.9
25°	1206.2	1189.2	1176.6	1157.4	1134.4	1111.9	1090.5	1071.4	1057.7	1046.7	1048.9
27.5°	1282.9	1263.7	1252.8	1230.8	1204.5	1176.0	1150.8	1124.5	1104.8	1091.1	1093.8
30°	1372.8	1367.3	1349.2	1327.3	1302.6	1270.3	1232.5	1193.0	1157.4	1134.9	1130.5
32.5°	1481.3	1475.2	1455.5	1436.9	1405.1	1369.5	1320.2	1257.7	1201.8	1159.0	1140.4
35°	1615.0	1600.2	1576.1	1558.0	1522.4	1476.3	1412.8	1328.4	1243.4	1179.3	1132.7
37.5°	1781.6	1744.9	1704.9	1657.7	1605.1	1549.2	1475.8	1377.1	1271.9	1181.0	1098.2
40°	1940.5	1881.3	1815.0	1740.5	1676.4	1609.0	1532.8	1419.9	1291.1	1169.5	1046.2
42.5°	2117.5	2025.4	1935.6	1833.1	1748.7	1668.7	1581.6	1450.0	1294.9	1138.2	978.7
45°	2287.9	2169.6	2049.0	1922.4	1815.0	1726.2	1627.0	1475.8	1293.9	1105.3	911.9
47.5°	2439.7	2298.4	2149.3	2006.8	1881.9	1784.3	1675.8	1510.9	1308.6	1096.0	867.5
50°	2581.7	2418.4	2243.6	2085.2	1949.3	1849.5	1737.7	1566.2	1354.1	1117.4	860.9
52.5°	2728.0	2550.4	2350.4	2180.0	2038.0	1922.4	1809.5	1636.9	1417.7	1161.2	875.7
55°	2918.7	2714.8	2501.7	2312.6	2149.8	2025.4	1895.0	1722.4	1486.2	1212.2	903.7
57.5°	3202.6	2964.2	2722.0	2518.7	2330.7	2175.6	2032.6	1834.7	1599.6	1288.9	965.0
60°	3712.2	3448.1	3167.5	2901.7	2685.2	2503.9	2321.9	2076.4	1809.0	1463.2	1105.9
62.5°	4544.6	4179.1	3791.1	3441.5	3143.9	2898.4	2642.0	2347.1	2035.3	1674.7	1319.1
65°	5045.0	4540.8	4047.1	3641.5	3289.7	2975.1	2665.0	2348.2	2046.3	1731.2	1415.0
67°	5106.9	4554.0	4007.6	3575.8	3198.7	2856.2	2519.8	2195.9	1925.7	1661.6	1388.7
67.5°	5088.3	4527.7	3970.3	3534.1	3153.3	2821.7	2490.7	2159.2	1896.1	1632.0	1368.9
70°	4721.1	4172.5	3621.3	3197.1	2832.1	2492.9	2180.0	1847.9	1644.6	1455.5	1228.1
72.5°	3918.3	3490.3	3028.3	2674.8	2359.7	2066.0	1790.9	1513.1	1349.7	1216.0	1056.0
75°	2905.6	2513.2	2122.4	1909.8	1665.4	1430.3	1217.7	1012.2	949.2	917.4	823.1
77.5°	1794.2	1441.8	1147.5	955.2	759.5	595.1	473.5	385.3	401.7	467.5	497.6
80°	893.3	659.8	510.7	406.1	328.3	265.2	194.5	142.5	170.4	202.2	229.1
82.5°	537.6	424.7	335.9	284.4	231.3	178.7	126.6	96.4	106.9	143.6	157.8
85°	333.7	267.4	213.7	178.7	148.0	109.6	71.8	71.2	75.6	95.4	109.1
87.5°	98.1	66.3	52.6	54.8	60.8	50.4	37.8	32.3	40.0	54.8	61.4
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: P146859

CATALOG NUMBER: LDRL-T4-E03-E-7030

**CANDELA DISTRIBUTION (continued):**

	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°	160°
0°	1084.0	1084.0	1084.0	1084.0	1084.0	1084.0	1084.0	1084.0	1084.0	1084.0	1084.0
2.5°	1098.2	1102.0	1103.7	1104.2	1104.8	1108.1	1108.1	1111.4	1112.5	1112.5	1113.6
5°	1119.0	1122.9	1124.5	1125.1	1126.2	1127.8	1127.3	1129.4	1130.5	1130.0	1130.0
7.5°	1126.7	1127.8	1127.8	1129.4	1131.1	1129.4	1128.4	1129.4	1128.9	1129.4	1129.4
10°	1124.0	1122.9	1122.9	1121.8	1123.4	1120.1	1120.1	1121.2	1120.7	1121.8	1123.4
12.5°	1117.4	1116.8	1115.2	1114.7	1116.8	1114.7	1115.2	1116.8	1117.9	1120.1	1122.9
15°	1108.1	1106.4	1106.4	1108.6	1114.1	1115.7	1117.9	1120.7	1121.2	1122.3	1123.4
17.5°	1092.2	1094.9	1101.5	1109.2	1119.6	1123.4	1124.5	1122.9	1117.4	1113.0	1108.6
20°	1070.3	1082.3	1099.3	1115.7	1128.4	1127.8	1120.7	1110.3	1097.1	1087.8	1081.8
22.5°	1051.6	1075.2	1101.5	1121.2	1129.4	1119.0	1102.6	1086.7	1071.4	1057.7	1045.6
25°	1064.8	1087.3	1109.7	1121.8	1121.2	1103.1	1081.2	1063.7	1042.9	1023.7	1003.4
27.5°	1107.5	1121.2	1127.8	1124.0	1112.5	1088.3	1064.2	1039.6	1012.7	989.7	966.1
30°	1136.6	1136.6	1130.0	1114.7	1094.4	1067.5	1037.9	1006.1	974.4	947.5	920.7
32.5°	1127.3	1105.9	1086.7	1065.9	1042.9	1013.8	979.8	945.3	909.1	877.9	854.9
35°	1086.7	1040.7	1000.7	971.1	947.0	912.4	873.0	833.5	803.9	782.6	769.4
37.5°	1014.4	940.9	882.8	846.7	809.4	773.8	728.3	710.2	683.9	670.8	665.8
40°	926.7	819.3	746.4	699.8	660.4	616.0	585.3	573.8	563.9	561.2	559.0
42.5°	825.9	691.6	605.0	556.8	509.1	476.8	463.1	455.9	454.3	454.3	457.0
45°	721.2	561.7	462.0	423.1	383.6	366.6	363.3	360.0	360.6	358.9	360.0
47.5°	640.1	451.0	348.5	312.9	292.6	287.2	283.3	282.2	282.2	279.5	276.2
50°	597.9	377.0	273.5	245.5	234.0	230.2	230.2	228.0	223.6	220.8	213.7
52.5°	586.9	338.7	236.7	212.6	202.8	199.5	196.2	192.9	186.3	180.3	172.1
55°	595.7	326.6	225.2	202.8	191.8	188.0	185.2	179.7	170.4	161.7	152.3
57.5°	632.4	334.3	229.6	205.5	195.6	192.9	190.2	181.9	170.4	157.8	147.4
60°	732.7	370.5	248.2	220.3	212.1	212.6	208.8	198.4	181.9	163.9	148.5
62.5°	862.0	420.9	272.4	241.1	240.0	245.5	245.5	227.4	200.6	173.2	152.3
65°	936.0	436.8	275.6	243.9	253.2	269.1	268.0	243.9	207.1	173.2	150.7
67°	917.4	419.8	261.9	228.0	238.9	257.0	254.8	231.8	197.3	166.0	146.3
67.5°	902.6	414.3	258.7	224.1	235.1	249.9	249.9	226.9	192.9	163.9	144.7
70°	794.6	366.1	242.2	209.3	209.3	213.2	210.4	194.0	171.0	150.7	138.1
72.5°	662.5	320.0	229.1	198.9	188.5	186.3	182.5	171.0	156.2	141.9	131.0
75°	513.5	283.3	218.7	188.0	174.3	169.3	165.5	156.7	145.2	133.2	123.9
77.5°	359.5	242.8	205.0	178.7	163.9	160.0	154.0	144.1	134.8	124.4	115.6
80°	223.0	200.6	178.7	161.1	145.8	140.3	132.6	123.9	116.2	110.2	103.6
82.5°	158.9	147.4	133.2	123.9	108.0	91.5	98.1	98.6	93.7	89.9	88.2
85°	106.3	95.9	88.8	80.6	71.2	64.1	65.8	70.7	71.2	69.6	69.6
87.5°	58.1	49.3	47.7	49.3	42.7	40.6	41.1	45.5	46.0	46.0	46.6
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: P146859

CATALOG NUMBER: LDRL-T4-E03-E-7030

**CANDELA DISTRIBUTION (continued):**

	165°	170°	175°	180°
0°	1084.0	1084.0	1084.0	1084.0
2.5°	1114.1	1115.7	1115.2	1116.3
5°	1131.1	1132.2	1131.6	1132.2
7.5°	1128.4	1130.5	1131.6	1130.0
10°	1124.0	1127.3	1129.4	1129.4
12.5°	1125.1	1130.5	1133.8	1133.8
15°	1124.0	1128.4	1129.4	1129.4
17.5°	1107.0	1107.0	1107.5	1105.3
20°	1077.4	1074.1	1073.0	1069.2
22.5°	1035.2	1027.5	1022.6	1019.8
25°	987.0	974.9	967.2	962.9
27.5°	947.0	936.5	928.9	924.5
30°	902.6	890.5	886.1	882.8
32.5°	838.5	826.9	823.7	820.9
35°	755.2	751.3	742.6	736.5
37.5°	658.7	653.8	650.5	648.3
40°	557.9	558.4	555.7	550.8
42.5°	457.0	462.5	457.0	455.9
45°	358.9	365.0	365.0	366.6
47.5°	276.7	275.6	277.8	278.4
50°	209.3	206.1	205.0	203.3
52.5°	166.0	162.2	160.0	157.3
55°	146.3	141.9	139.7	139.2
57.5°	139.7	134.3	131.0	130.4
60°	138.1	130.4	126.0	124.9
62.5°	138.1	128.8	123.9	122.2
65°	136.5	127.1	122.8	121.1
67°	134.3	126.0	121.7	120.6
67.5°	133.2	125.5	121.7	120.0
70°	130.4	123.9	119.5	117.8
72.5°	124.4	118.9	114.5	113.4
75°	117.8	112.9	110.2	109.1
77.5°	110.2	105.8	102.5	99.7
80°	98.6	93.7	88.8	87.7
82.5°	83.8	78.4	74.5	74.0
85°	67.4	63.0	58.6	58.6
87.5°	47.1	44.4	41.6	38.9
90°	0.0	0.0	0.0	0.0

(END OF REPORT)