

Scaled data based on original data using

LM-41-14 Approved Method for Photometric Testing Of Indoor Fluorescent Luminaires

Test Report Prepared for

Cooper Lighting Solutions

(formerly Eaton)

Brand: McGRAW-EDISON

Report Number: P156625

Luminaire Tested: **TLM-F02-LED-E1-T4**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-41-14  
Report Number: P156625  
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (P33673)  
Test Lab: INNOVATION CENTER-P3  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: MCGRAW-EDISON  
Catalog Number: TLM-F02-LED-E1-T4  
Description: TALON MEDIUM LED SITE LUMINAIRE  
(2) LIGHTBARS WITH AccuLED OPTICS - TYPE 4  
Light Source: (14) 4000K CCT, 70 CRI LEDs  
Ballast/Driver: -

**Summary**

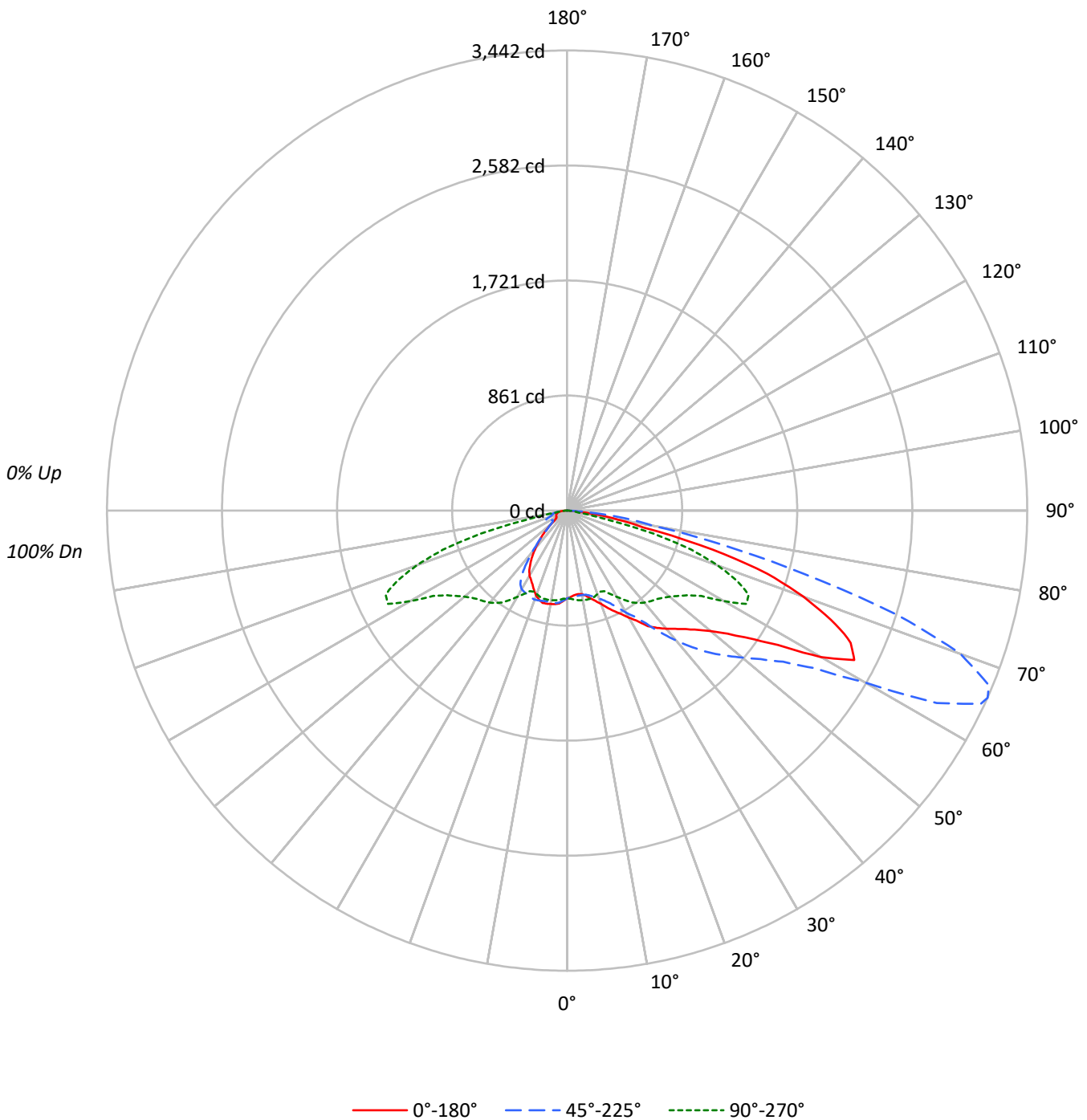
Lumens per Lamp: N/A  
Luminaire Lumens: 4989.5 lumens  
Efficiency: N/A  
Efficacy: 90.7 lumens/watt  
Spacing Criteria (0/90/45): 1.73 / 2.02 / 2.64  
Luminous Opening: Rectangular (W 0.33' x L: 1' x H: 0')  
CIE Type: Direct

Input Watts (W): 55  
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



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### Luminous Intensity Polar Plot





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**COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:**

RF	20				20				20				20				20			
RC	80				70				50				30				10	0		
RW	70	50	30	10	70	50	30	10	50	30	10		50	30	10		50	30	10	0
RCR																				
0	119	119	119	119	116	116	116	116	111	111	111		106	106	106		102	102	102	100
1	105	99	93	88	102	96	91	87	92	88	84		88	84	81		84	81	79	76
2	92	81	72	65	89	79	71	64	76	69	62		72	66	61		69	64	59	57
3	82	68	58	49	79	66	57	49	63	55	48		60	53	47		57	51	46	43
4	73	58	47	39	70	57	46	38	54	45	38		51	43	37		49	42	36	34
5	66	50	39	31	64	49	39	31	47	38	31		45	36	30		42	35	30	27
6	60	44	34	26	58	43	33	26	41	32	25		39	31	25		38	30	25	22
7	55	39	29	22	53	38	29	22	37	28	22		35	27	21		34	27	21	19
8	51	35	26	19	49	35	25	19	33	25	19		32	24	18		31	23	18	16
9	47	32	23	16	46	31	23	16	30	22	16		29	22	16		28	21	16	14
10	44	29	21	15	43	29	20	15	28	20	14		27	19	14		26	19	14	12

**AVERAGE LUMINANCE (cd/sqm):**

	0°	90°	180°
0°	21453	21453	21453
5°	20759	21911	22848
10°	20999	22565	23496
15°	23007	23027	24104
20°	25790	23076	23496
25°	29850	23987	22004
30°	34824	28086	21163
35°	42009	33353	19045
40°	49094	38292	15725
45°	57855	43333	11957
50°	71129	50826	7652
55°	94611	62719	5727
60°	142853	88395	6034
65°	180649	115539	6969
70°	179188	114156	8297
75°	142120	84551	10196
80°	72055	17788	12717
85°	10516	14633	16280



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	63.9	1.3
10°-20°	193.9	3.9
20°-30°	334.0	6.7
30°-40°	505.3	10.1
40°-50°	654.9	13.1
50°-60°	902.9	18.1
60°-70°	1402.9	28.1
70°-80°	815.8	16.3
80°-90°	116.0	2.3
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°-30°	591.7	11.9
0°-40°	1097.0	22.0
0°-60°	2654.9	53.2
0°-90°	4989.5	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4989.5	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	658	658	658	658	658	
5°	634	643	669	691	698	61
15°	681	658	682	700	714	195
25°	829	767	666	697	611	387
35°	1055	1031	838	591	478	659
45°	1254	1501	939	248	259	980
55°	1664	1971	1103	128	101	1541
65°	2341	3417	1497	180	90	2215
75°	1128	1837	671	113	81	1161
85°	28	192	39	46	44	121
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	47.5°
0°	657.7	657.7	657.7	657.7	657.7	657.7	657.7	657.7	657.7	657.7	657.7
2.5°	645.6	647.8	646.1	646.7	646.7	647.2	647.2	647.8	647.2	648.9	650.0
5°	634.0	635.1	634.6	635.7	636.8	639.0	638.4	641.2	641.7	643.4	646.1
7.5°	629.6	628.5	629.0	630.7	631.8	632.9	634.0	636.2	637.9	641.7	643.9
10°	634.0	633.5	634.0	635.1	635.1	635.7	634.6	636.8	637.9	641.2	643.4
12.5°	652.2	652.2	651.1	651.1	650.0	648.9	646.1	644.5	643.9	644.5	645.6
15°	681.3	680.2	678.0	676.4	674.2	670.3	666.5	663.2	661.0	657.7	656.6
17.5°	710.0	708.3	706.1	703.9	701.1	697.3	691.2	687.4	681.3	677.5	675.3
20°	743.0	739.7	736.9	734.2	728.7	727.6	721.5	714.9	707.8	698.9	697.8
22.5°	785.9	780.4	777.1	775.4	769.9	768.3	758.4	749.0	740.2	728.7	725.9
25°	829.4	823.9	822.2	820.0	816.2	814.0	804.6	794.2	782.6	766.6	763.3
27.5°	871.8	872.3	867.9	869.6	868.5	864.6	855.2	844.8	836.0	817.3	813.4
30°	924.6	921.3	919.1	922.4	918.5	919.1	910.8	905.3	891.0	880.0	872.3
32.5°	979.6	979.1	982.4	984.6	984.0	982.9	976.3	970.8	958.2	942.2	938.9
35°	1055.0	1058.3	1061.1	1071.0	1071.0	1078.1	1071.5	1064.9	1050.1	1030.8	1024.2
37.5°	1106.2	1107.3	1118.3	1131.5	1148.0	1163.4	1167.8	1169.5	1163.4	1149.1	1139.2
40°	1153.0	1155.2	1172.8	1193.2	1217.4	1247.6	1265.8	1274.1	1275.7	1269.1	1247.6
42.5°	1199.8	1203.1	1221.2	1250.9	1284.5	1323.0	1355.0	1375.3	1386.9	1386.9	1374.2
45°	1254.2	1258.7	1278.5	1310.9	1350.0	1398.4	1442.5	1481.5	1500.3	1501.4	1489.2
47.5°	1318.6	1322.5	1345.6	1378.6	1418.8	1467.8	1523.4	1567.9	1602.6	1604.8	1594.9
50°	1401.7	1407.2	1426.5	1456.2	1497.5	1547.0	1602.6	1664.8	1701.1	1709.9	1699.5
52.5°	1511.8	1512.9	1528.9	1556.4	1596.6	1643.9	1702.8	1770.5	1818.4	1825.5	1808.4
55°	1663.7	1662.1	1672.5	1702.2	1732.5	1769.4	1830.5	1906.4	1959.8	1970.8	1953.2
57.5°	1870.1	1868.4	1877.2	1884.4	1941.1	1976.9	2036.8	2109.5	2161.2	2193.1	2162.9
60°	2189.8	2188.2	2202.5	2244.3	2286.7	2339.0	2397.3	2484.3	2556.9	2566.3	2536.6
62.5°	2421.5	2429.8	2461.2	2510.1	2596.0	2698.4	2805.1	2919.6	3068.8	3116.1	3101.8
65°	2340.6	2357.1	2400.6	2474.9	2589.4	2730.8	2898.1	3105.6	3305.4	3417.1	3413.8
66°	2268.0	2286.2	2339.5	2411.1	2532.2	2686.8	2869.5	3095.7	3319.2	3442.4	3450.1
67.5°	2135.9	2156.3	2208.6	2293.3	2411.1	2575.6	2772.1	3018.1	3270.7	3414.4	3434.7
70°	1878.9	1902.0	1940.0	2009.9	2126.0	2272.9	2479.9	2700.0	2964.7	3129.3	3154.1
72.5°	1570.7	1591.1	1633.4	1690.7	1785.9	1878.3	2040.7	2203.1	2392.4	2580.0	2561.9
75°	1127.7	1136.5	1161.8	1224.0	1275.2	1358.3	1488.7	1621.9	1751.2	1837.1	1849.2
77.5°	586.1	609.2	645.0	713.8	769.4	844.2	929.0	1029.2	1123.8	1202.5	1181.1
80°	383.6	393.5	425.4	460.6	501.4	549.2	605.9	643.4	655.5	650.5	655.5
82.5°	221.2	239.4	281.8	308.7	339.0	355.5	400.7	443.6	467.8	437.5	426.5
85°	28.1	36.3	114.5	144.2	165.1	189.9	203.6	229.5	214.1	191.5	233.3
87.5°	6.1	5.5	7.7	16.5	17.1	14.3	27.0	28.6	17.6	8.8	11.0
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):**

	50°	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°
0°	657.7	657.7	657.7	657.7	657.7	657.7	657.7	657.7	657.7	657.7	657.7
2.5°	651.1	651.6	652.7	654.4	655.5	656.6	657.7	659.3	660.4	661.5	663.7
5°	648.3	650.5	652.7	654.9	657.7	662.1	664.8	667.0	669.2	673.6	675.3
7.5°	646.7	650.5	653.8	657.7	662.1	665.9	670.9	673.6	676.9	679.7	683.0
10°	645.6	651.1	654.4	659.9	664.8	668.7	674.2	677.5	681.3	684.6	686.3
12.5°	647.8	650.5	653.8	659.3	665.4	670.9	676.9	679.7	683.0	685.7	686.3
15°	657.1	657.1	657.7	662.1	668.1	672.5	677.5	680.2	681.9	683.5	683.5
17.5°	674.2	670.3	667.6	668.1	672.0	674.7	677.5	677.5	676.4	675.8	674.7
20°	694.0	689.0	683.5	679.7	678.6	676.4	674.7	669.2	664.8	661.0	658.2
22.5°	722.6	714.9	707.2	700.0	693.4	685.2	675.8	664.8	654.4	647.2	642.8
25°	757.8	751.8	742.4	731.4	723.2	707.8	695.6	679.7	666.5	657.1	649.4
27.5°	807.9	800.8	792.0	782.0	769.9	752.9	738.0	719.3	703.3	689.6	679.7
30°	870.1	860.7	854.1	842.0	833.8	814.5	799.7	776.5	745.7	723.7	710.0
32.5°	933.9	923.5	918.0	908.6	899.3	887.7	865.2	829.4	789.8	754.0	730.3
35°	1019.2	1008.2	998.3	990.1	976.3	954.9	935.0	892.1	837.6	787.6	747.9
37.5°	1126.6	1108.4	1083.6	1062.7	1038.5	1007.7	977.4	933.4	871.2	806.3	753.4
40°	1241.0	1209.1	1173.9	1134.8	1093.0	1048.4	1013.7	969.2	899.3	822.2	749.6
42.5°	1360.5	1309.8	1260.9	1205.8	1147.5	1094.6	1049.5	1000.5	920.2	826.6	734.2
45°	1478.8	1422.1	1347.8	1275.7	1202.0	1136.5	1085.8	1030.8	939.4	828.3	713.8
47.5°	1576.8	1518.4	1433.7	1343.4	1255.9	1181.6	1122.2	1062.7	965.3	839.8	708.9
50°	1680.2	1609.2	1515.1	1408.3	1309.3	1226.2	1162.9	1101.3	1001.6	869.6	724.8
52.5°	1793.0	1711.6	1601.5	1482.1	1373.7	1280.7	1211.9	1148.6	1047.9	911.4	755.1
55°	1930.6	1831.0	1711.6	1576.8	1460.6	1357.7	1281.8	1206.9	1102.9	960.9	793.1
57.5°	2140.9	2018.7	1884.4	1730.9	1602.1	1480.4	1389.6	1303.2	1188.2	1034.7	844.8
60°	2521.2	2390.7	2216.3	2030.2	1878.9	1736.9	1603.7	1496.4	1355.0	1180.0	959.3
62.5°	3066.0	2892.6	2659.8	2399.5	2201.4	1996.7	1846.4	1686.8	1511.3	1322.5	1094.1
65°	3368.7	3158.5	2847.0	2544.8	2290.0	2067.7	1876.7	1691.8	1497.0	1316.4	1125.5
66°	3406.1	3187.1	2863.5	2545.4	2277.9	2049.5	1848.6	1657.1	1457.9	1285.6	1112.3
67.5°	3390.7	3166.7	2833.2	2497.5	2225.6	1980.2	1772.7	1574.0	1375.3	1214.6	1068.2
70°	3138.1	2925.7	2598.2	2272.9	2014.8	1772.7	1574.6	1379.2	1197.0	1059.4	951.6
72.5°	2605.9	2424.3	2139.8	1884.4	1681.9	1482.1	1314.2	1127.7	973.6	871.8	807.9
75°	1881.1	1771.0	1511.8	1365.4	1187.7	1055.0	892.1	781.5	670.9	621.3	610.3
77.5°	1188.2	1040.2	875.6	721.0	592.7	491.5	382.5	324.7	270.8	265.3	320.3
80°	601.5	541.5	417.2	332.4	279.6	226.2	178.9	135.4	94.7	113.9	136.5
82.5°	394.1	328.6	257.6	211.9	184.4	153.0	118.9	82.6	60.5	68.2	93.6
85°	213.0	181.6	146.4	115.6	93.6	83.7	56.1	39.6	39.1	41.8	53.4
87.5°	15.4	15.4	12.1	11.0	13.2	11.0	9.9	9.9	9.4	9.9	13.2
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):**

	105°	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°
0°	657.7	657.7	657.7	657.7	657.7	657.7	657.7	657.7	657.7	657.7	657.7
2.5°	664.8	666.5	667.0	669.8	671.4	672.5	673.6	673.6	674.2	675.8	676.4
5°	677.5	680.2	683.5	685.7	686.8	690.1	691.2	691.2	692.3	694.5	696.2
7.5°	685.2	689.0	692.3	693.4	695.6	696.7	698.4	699.5	699.5	701.7	702.8
10°	687.9	690.1	693.4	693.4	695.6	695.6	697.3	697.8	697.8	700.0	701.7
12.5°	687.9	689.0	691.8	691.8	693.4	694.0	696.2	697.8	698.4	701.1	703.3
15°	684.6	685.7	687.9	688.5	692.3	694.5	699.5	702.8	702.8	705.5	706.6
17.5°	675.3	678.0	682.4	686.8	694.0	698.9	705.0	707.8	705.5	703.9	702.2
20°	659.9	664.8	675.3	686.3	698.9	705.5	708.9	706.1	698.4	690.7	685.7
22.5°	644.5	654.4	672.0	688.5	702.8	707.2	705.5	695.6	683.0	673.6	667.0
25°	651.6	663.2	680.2	695.1	704.4	703.3	696.7	683.0	669.2	657.1	646.1
27.5°	681.3	694.0	703.3	708.3	707.2	699.5	689.0	673.6	657.1	641.2	625.7
30°	709.4	716.0	718.2	714.4	705.5	692.9	679.7	662.1	640.1	620.2	602.6
32.5°	722.1	715.5	705.0	694.5	680.2	669.2	651.1	631.8	604.3	580.6	563.0
35°	722.1	695.6	669.2	647.2	625.7	612.0	591.1	565.2	539.9	520.1	506.3
37.5°	706.1	655.5	612.0	576.2	549.2	534.4	503.0	479.9	458.4	451.8	443.0
40°	676.9	602.1	539.3	492.6	458.4	436.4	405.1	389.1	380.8	377.5	375.9
42.5°	637.9	542.6	459.0	401.2	364.3	339.6	318.7	308.7	308.2	307.6	307.6
45°	596.0	478.8	380.8	312.0	279.6	257.6	247.7	243.8	247.1	246.6	247.1
47.5°	570.2	430.4	309.3	236.1	211.3	197.0	192.1	193.7	196.5	195.4	195.4
50°	566.9	405.6	261.4	183.8	165.1	158.0	156.8	156.8	158.5	157.4	156.8
52.5°	579.0	401.8	236.7	158.0	143.1	137.0	135.9	135.4	134.8	131.5	128.8
55°	599.9	410.6	229.5	151.3	135.9	129.3	127.7	126.6	124.4	120.0	115.0
57.5°	641.7	438.1	236.1	154.6	138.1	132.6	131.0	131.0	126.6	119.4	112.3
60°	742.4	508.0	263.1	167.3	148.6	143.1	144.2	143.6	137.0	126.6	115.6
62.5°	872.3	599.3	298.3	184.9	161.8	160.7	166.2	165.1	154.1	138.1	122.2
65°	932.3	642.3	308.2	188.8	164.6	169.5	180.5	179.4	165.7	143.6	123.3
66°	933.4	642.3	303.8	185.5	160.7	166.8	177.8	177.2	163.5	141.4	121.1
67.5°	910.8	624.6	291.1	178.9	153.0	157.4	167.3	166.8	154.1	135.9	116.7
70°	826.1	559.2	258.7	167.3	142.5	140.3	143.6	141.4	133.2	120.5	107.3
72.5°	707.8	469.4	225.6	158.5	135.4	126.6	124.4	122.7	116.1	109.0	100.7
75°	557.5	371.5	198.1	151.9	128.8	117.2	113.4	111.2	106.8	101.8	95.2
77.5°	344.0	265.8	172.8	143.1	123.8	112.3	109.5	106.2	99.6	93.6	88.6
80°	153.5	164.6	142.0	124.9	110.6	100.2	95.8	90.8	84.2	80.4	77.6
82.5°	102.4	106.2	102.9	93.6	83.7	75.4	68.8	68.8	67.7	64.4	63.3
85°	65.5	66.0	63.8	57.8	53.9	49.0	46.2	46.8	49.0	48.4	47.9
87.5°	14.9	14.9	17.6	16.5	19.3	20.4	22.0	23.7	27.0	27.0	28.6
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0





TEST NUMBER: P156625

CATALOG NUMBER: TLM-F02-LED-E1-T4

**CANDELA DISTRIBUTION (continued):**

	160°	165°	170°	175°	180°
0°	657.7	657.7	657.7	657.7	657.7
2.5°	676.9	678.0	679.1	677.5	678.0
5°	696.2	695.6	698.4	696.7	697.8
7.5°	702.2	702.8	705.0	705.0	705.5
10°	702.8	703.9	706.6	708.3	709.4
12.5°	705.5	707.8	712.2	713.3	713.3
15°	707.8	708.9	711.6	712.7	713.8
17.5°	700.0	697.8	698.9	699.5	698.9
20°	680.8	678.6	678.0	675.8	676.9
22.5°	659.9	653.8	650.0	645.6	645.6
25°	634.6	625.2	617.5	609.8	611.4
27.5°	610.9	598.8	591.1	586.1	585.0
30°	587.8	575.1	568.0	561.9	561.9
32.5°	549.2	540.4	531.1	527.2	526.7
35°	495.9	490.4	482.7	481.0	478.3
37.5°	435.9	434.2	427.6	427.1	424.3
40°	373.1	374.2	372.0	370.9	369.3
42.5°	310.4	315.9	314.8	314.2	313.1
45°	250.4	254.3	254.8	256.5	259.2
47.5°	197.0	198.1	199.2	198.7	199.2
50°	154.1	151.3	150.8	149.1	150.8
52.5°	124.4	120.0	117.8	115.6	114.5
55°	109.5	105.1	102.9	101.8	100.7
57.5°	105.7	101.3	98.0	95.8	95.2
60°	106.8	100.2	95.8	93.0	92.5
62.5°	109.5	100.7	94.7	91.9	91.4
65°	109.0	99.6	94.1	90.8	90.3
66°	107.3	98.5	93.0	90.3	89.7
67.5°	104.6	96.9	91.9	89.7	88.6
70°	99.6	94.7	90.8	88.1	87.0
72.5°	95.2	91.4	88.1	85.3	84.8
75°	90.3	87.0	83.7	81.5	80.9
77.5°	84.2	80.9	78.7	77.0	76.5
80°	74.3	72.1	69.9	67.7	67.7
82.5°	61.6	60.0	57.8	56.1	55.6
85°	47.3	47.3	45.7	44.0	43.5
87.5°	28.1	27.5	27.5	25.9	25.9
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)