

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: P156635

Luminaire Tested: **TLM-F03-LED-E1-T4**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P156635
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-F03-LED-E1-T4
Description: TALON MEDIUM LED SITE LUMINAIRE
(3) LIGHTBARS WITH AccuLED OPTICS - TYPE 4
Light Source: (21) 4000K CCT, 70 CRI LEDs
Ballast/Driver: -

Summary

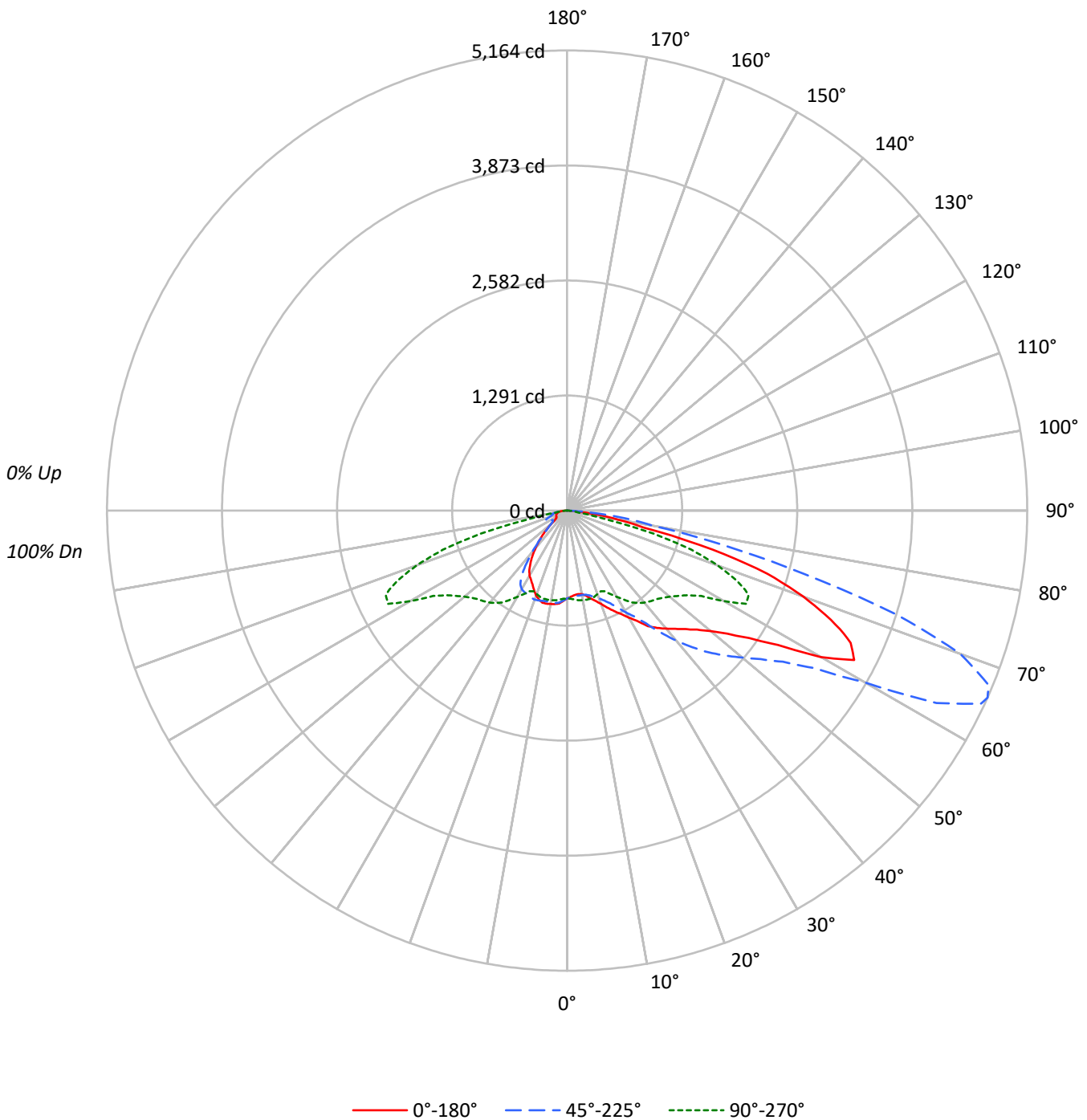
Lumens per Lamp: N/A
Luminaire Lumens: 7484.3 lumens
Efficiency: N/A
Efficacy: 95.6 lumens/watt
Spacing Criteria (0/90/45): 1.73 / 2.02 / 2.64
Luminous Opening: Rectangular (W 0.5' x L: 1' x H: 0')
CIE Type: Direct

Input Watts (W): 78.3
Input Voltage (V): NR
Input Current (A_{in}): 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	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					100			
1	105	99	93	88	102	96	91	87	92	88	84	88	84	81	84	81	79	76					76			
2	92	81	72	65	89	79	71	64	76	69	62	72	66	61	69	64	59	57					57			
3	82	68	58	49	79	66	57	49	63	55	48	60	53	47	57	51	46	43					43			
4	73	58	47	39	70	57	46	38	54	45	38	51	43	37	49	42	36	34					34			
5	66	50	39	31	64	49	39	31	47	38	31	45	36	30	42	35	30	27					27			
6	60	44	34	26	58	43	33	26	41	32	25	39	31	25	38	30	25	22					22			
7	55	39	29	22	53	38	29	22	37	28	22	35	27	21	34	27	21	19					19			
8	51	35	26	19	49	35	25	19	33	25	19	32	24	18	31	23	18	16					16			
9	47	32	23	16	46	31	23	16	30	22	16	29	22	16	28	21	16	14					14			
10	44	29	21	15	43	29	20	15	28	20	14	27	19	14	26	19	14	12					12			

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	21237	21237	21237
5°	20551	21692	22621
10°	20789	22341	23261
15°	22778	22795	23863
20°	25533	22845	23262
25°	29552	23746	21787
30°	34476	27806	20953
35°	41589	33019	18854
40°	48603	37908	15566
45°	57279	42903	11837
50°	70419	50321	7576
55°	93666	62094	5671
60°	141429	87506	5972
65°	178847	114379	6897
70°	177393	113014	8208
75°	140694	83701	10098
80°	71335	17604	12583
85°	10399	14474	16105



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	95.8	1.3
10°-20°	290.8	3.9
20°-30°	501.0	6.7
30°-40°	757.9	10.1
40°-50°	982.4	13.1
50°-60°	1354.4	18.1
60°-70°	2104.3	28.1
70°-80°	1223.7	16.3
80°-90°	174.0	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°	887.6	11.9
0°-40°	1645.5	22.0
0°-60°	3982.4	53.2
0°-90°	7484.3	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	7484.3	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	986	986	986	986	986	
5°	951	965	1004	1037	1047	91
15°	1022	986	1023	1049	1071	293
25°	1244	1150	1000	1045	917	580
35°	1582	1546	1256	887	717	989
45°	1881	2252	1409	372	389	1470
55°	2496	2956	1654	192	151	2311
65°	3511	5126	2245	271	135	3323
75°	1692	2756	1006	170	121	1742
85°	42	287	59	69	65	182
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°	986.5	986.5	986.5	986.5	986.5	986.5	986.5	986.5	986.5	986.5	986.5
2.5°	968.3	971.6	969.2	970.0	970.0	970.8	970.8	971.6	970.8	973.3	974.9
5°	951.0	952.7	951.8	953.5	955.1	958.4	957.6	961.7	962.6	965.0	969.2
7.5°	944.4	942.7	943.6	946.1	947.7	949.4	951.0	954.3	956.8	962.6	965.9
10°	951.0	950.2	951.0	952.7	952.7	953.5	951.8	955.1	956.8	961.7	965.0
12.5°	978.2	978.2	976.6	976.6	974.9	973.3	969.2	966.7	965.9	966.7	968.3
15°	1022.0	1020.3	1017.0	1014.6	1011.3	1005.5	999.7	994.8	991.5	986.5	984.9
17.5°	1064.9	1062.5	1059.1	1055.8	1051.7	1045.9	1036.9	1031.1	1022.0	1016.2	1012.9
20°	1114.5	1109.5	1105.4	1101.3	1093.0	1091.3	1082.3	1072.4	1061.6	1048.4	1046.8
22.5°	1178.8	1170.6	1165.6	1163.2	1154.9	1152.4	1137.6	1123.5	1110.3	1093.0	1088.9
25°	1244.1	1235.8	1233.3	1230.0	1224.3	1221.0	1206.9	1191.2	1173.9	1150.0	1145.0
27.5°	1307.6	1308.5	1301.9	1304.3	1302.7	1296.9	1282.9	1267.2	1254.0	1225.9	1220.1
30°	1386.9	1381.9	1378.6	1383.6	1377.8	1378.6	1366.2	1358.0	1336.5	1320.0	1308.5
32.5°	1469.4	1468.6	1473.6	1476.9	1476.0	1474.4	1464.5	1456.2	1437.2	1413.3	1408.3
35°	1582.5	1587.5	1591.6	1606.5	1606.5	1617.2	1607.3	1597.4	1575.1	1546.2	1536.3
37.5°	1659.3	1661.0	1677.5	1697.3	1722.0	1745.2	1751.8	1754.2	1745.2	1723.7	1708.8
40°	1729.5	1732.8	1759.2	1789.7	1826.1	1871.5	1898.7	1911.1	1913.6	1903.7	1871.5
42.5°	1799.6	1804.6	1831.8	1876.4	1926.8	1984.6	2032.4	2063.0	2080.3	2080.3	2061.3
45°	1881.4	1888.0	1917.7	1966.4	2025.0	2097.7	2163.7	2222.3	2250.4	2252.0	2233.9
47.5°	1978.0	1983.7	2018.4	2067.9	2128.2	2201.7	2285.1	2351.9	2403.9	2407.2	2392.4
50°	2102.6	2110.9	2139.8	2184.3	2246.3	2320.6	2403.9	2497.2	2551.7	2564.9	2549.2
52.5°	2267.7	2269.4	2293.3	2334.6	2394.8	2465.8	2554.2	2655.7	2727.5	2738.3	2712.7
55°	2495.6	2493.1	2508.8	2553.3	2598.8	2654.1	2745.7	2859.6	2939.7	2956.2	2929.8
57.5°	2805.1	2802.7	2815.9	2826.6	2911.6	2965.3	3055.3	3164.2	3241.8	3289.7	3244.3
60°	3284.8	3282.3	3303.8	3366.5	3430.1	3508.5	3596.0	3726.4	3835.4	3849.4	3804.8
62.5°	3632.3	3644.7	3691.7	3765.2	3894.0	4047.5	4207.7	4379.4	4603.1	4674.1	4652.7
65°	3511.0	3535.7	3600.9	3712.4	3884.1	4096.3	4347.2	4658.4	4958.1	5125.7	5120.7
66°	3402.0	3429.2	3509.3	3616.6	3798.2	4030.2	4304.3	4643.6	4978.7	5163.7	5175.2
67.5°	3203.9	3234.4	3312.8	3440.0	3616.6	3863.5	4158.2	4527.2	4906.1	5121.6	5152.1
70°	2818.3	2853.0	2910.0	3014.8	3189.0	3409.4	3719.8	4050.0	4447.1	4693.9	4731.1
72.5°	2356.0	2386.6	2450.2	2536.0	2678.8	2817.5	3061.0	3304.6	3588.6	3870.1	3842.8
75°	1691.5	1704.7	1742.7	1836.0	1912.7	2037.4	2233.0	2432.8	2626.8	2755.6	2773.8
77.5°	879.2	913.9	967.5	1070.7	1154.1	1266.4	1393.5	1543.7	1685.7	1803.8	1771.6
80°	575.4	590.3	638.1	691.0	752.1	823.9	908.9	965.0	983.2	975.8	983.2
82.5°	331.9	359.1	422.7	463.1	508.5	533.3	601.0	665.4	701.7	656.3	639.8
85°	42.1	54.5	171.7	216.3	247.7	284.8	305.4	344.2	321.1	287.3	350.0
87.5°	9.1	8.3	11.6	24.8	25.6	21.5	40.5	42.9	26.4	13.2	16.5
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°	986.5	986.5	986.5	986.5	986.5	986.5	986.5	986.5	986.5	986.5	986.5
2.5°	976.6	977.4	979.1	981.5	983.2	984.9	986.5	989.0	990.6	992.3	995.6
5°	972.5	975.8	979.1	982.4	986.5	993.1	997.2	1000.5	1003.8	1010.4	1012.9
7.5°	970.0	975.8	980.7	986.5	993.1	998.9	1006.3	1010.4	1015.4	1019.5	1024.5
10°	968.3	976.6	981.5	989.8	997.2	1003.0	1011.3	1016.2	1022.0	1027.0	1029.4
12.5°	971.6	975.8	980.7	989.0	998.1	1006.3	1015.4	1019.5	1024.5	1028.6	1029.4
15°	985.7	985.7	986.5	993.1	1002.2	1008.8	1016.2	1020.3	1022.8	1025.3	1025.3
17.5°	1011.3	1005.5	1001.4	1002.2	1008.0	1012.1	1016.2	1016.2	1014.6	1013.7	1012.1
20°	1041.0	1033.6	1025.3	1019.5	1017.9	1014.6	1012.1	1003.8	997.2	991.5	987.3
22.5°	1083.9	1072.4	1060.8	1050.1	1040.2	1027.8	1013.7	997.2	981.5	970.8	964.2
25°	1136.7	1127.7	1113.6	1097.1	1084.7	1061.6	1043.5	1019.5	999.7	985.7	974.1
27.5°	1211.9	1201.1	1187.9	1173.1	1154.9	1129.3	1107.0	1079.0	1055.0	1034.4	1019.5
30°	1305.2	1291.1	1281.2	1263.1	1250.7	1221.8	1199.5	1164.8	1118.6	1085.6	1064.9
32.5°	1400.9	1385.2	1377.0	1362.9	1348.9	1331.6	1297.7	1244.1	1184.6	1131.0	1095.5
35°	1528.9	1512.4	1497.5	1485.1	1464.5	1432.3	1402.6	1338.2	1256.4	1181.3	1121.9
37.5°	1689.8	1662.6	1625.5	1594.1	1557.8	1511.5	1466.1	1400.1	1306.8	1209.4	1130.1
40°	1861.6	1813.7	1760.8	1702.2	1639.5	1572.6	1520.6	1453.7	1348.9	1233.3	1124.4
42.5°	2040.7	1964.7	1891.3	1808.7	1721.2	1642.0	1574.3	1500.8	1380.3	1239.9	1101.3
45°	2218.2	2133.2	2021.7	1913.6	1802.9	1704.7	1628.8	1546.2	1409.2	1242.4	1070.7
47.5°	2365.1	2277.6	2150.5	2015.1	1883.8	1772.4	1683.2	1594.1	1448.0	1259.8	1063.3
50°	2520.3	2413.8	2272.7	2112.5	1963.9	1839.3	1744.3	1651.9	1502.5	1304.3	1087.2
52.5°	2689.6	2567.4	2402.3	2223.1	2060.5	1921.0	1817.8	1722.9	1571.8	1367.1	1132.6
55°	2895.9	2746.5	2567.4	2365.1	2190.9	2036.6	1922.6	1810.4	1654.4	1441.4	1189.6
57.5°	3211.3	3028.0	2826.6	2596.3	2403.1	2220.7	2084.5	1954.8	1782.3	1552.0	1267.2
60°	3781.7	3586.1	3324.4	3045.4	2818.3	2605.4	2405.6	2244.6	2032.4	1769.9	1438.9
62.5°	4599.0	4339.0	3989.8	3599.3	3302.1	2995.0	2769.6	2530.2	2266.9	1983.7	1641.1
65°	5053.0	4737.7	4270.4	3817.2	3435.0	3101.5	2815.0	2537.7	2245.4	1974.7	1688.2
66°	5109.2	4780.6	4295.2	3818.1	3416.8	3074.3	2772.9	2485.7	2186.8	1928.4	1668.4
67.5°	5086.1	4750.1	4249.8	3746.2	3338.4	2970.2	2659.0	2361.0	2063.0	1821.9	1602.3
70°	4707.1	4388.5	3897.3	3409.4	3022.2	2659.0	2361.8	2068.8	1795.5	1589.1	1427.3
72.5°	3908.9	3636.4	3209.6	2826.6	2522.8	2223.1	1971.4	1691.5	1460.4	1307.6	1211.9
75°	2821.6	2656.5	2267.7	2048.1	1781.5	1582.5	1338.2	1172.2	1006.3	932.0	915.5
77.5°	1782.3	1560.2	1313.4	1081.4	889.1	737.2	573.7	487.1	406.2	397.9	480.5
80°	902.3	812.3	625.7	498.6	419.4	339.3	268.3	203.1	142.0	170.9	204.7
82.5°	591.1	492.8	386.3	317.8	276.6	229.5	178.3	123.8	90.8	102.4	140.3
85°	319.5	272.4	219.6	173.4	140.3	125.5	84.2	59.4	58.6	62.7	80.1
87.5°	23.1	23.1	18.2	16.5	19.8	16.5	14.9	14.9	14.0	14.9	19.8
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°	986.5	986.5	986.5	986.5	986.5	986.5	986.5	986.5	986.5	986.5	986.5
2.5°	997.2	999.7	1000.5	1004.7	1007.1	1008.8	1010.4	1010.4	1011.3	1013.7	1014.6
5°	1016.2	1020.3	1025.3	1028.6	1030.3	1035.2	1036.9	1036.9	1038.5	1041.8	1044.3
7.5°	1027.8	1033.6	1038.5	1040.2	1043.5	1045.1	1047.6	1049.2	1049.2	1052.5	1054.2
10°	1031.9	1035.2	1040.2	1040.2	1043.5	1043.5	1045.9	1046.8	1046.8	1050.1	1052.5
12.5°	1031.9	1033.6	1037.7	1037.7	1040.2	1041.0	1044.3	1046.8	1047.6	1051.7	1055.0
15°	1027.0	1028.6	1031.9	1032.7	1038.5	1041.8	1049.2	1054.2	1054.2	1058.3	1060.0
17.5°	1012.9	1017.0	1023.7	1030.3	1041.0	1048.4	1057.5	1061.6	1058.3	1055.8	1053.4
20°	989.8	997.2	1012.9	1029.4	1048.4	1058.3	1063.3	1059.1	1047.6	1036.0	1028.6
22.5°	966.7	981.5	1008.0	1032.7	1054.2	1060.8	1058.3	1043.5	1024.5	1010.4	1000.5
25°	977.4	994.8	1020.3	1042.6	1056.7	1055.0	1045.1	1024.5	1003.8	985.7	969.2
27.5°	1022.0	1041.0	1055.0	1062.5	1060.8	1049.2	1033.6	1010.4	985.7	961.7	938.6
30°	1064.1	1074.0	1077.3	1071.5	1058.3	1039.3	1019.5	993.1	960.1	930.4	903.9
32.5°	1083.1	1073.2	1057.5	1041.8	1020.3	1003.8	976.6	947.7	906.4	870.9	844.5
35°	1083.1	1043.5	1003.8	970.8	938.6	918.0	886.6	847.8	809.8	780.1	759.5
37.5°	1059.1	983.2	918.0	864.3	823.9	801.6	754.5	719.9	687.7	677.8	664.5
40°	1015.4	903.1	809.0	738.8	687.7	654.6	607.6	583.6	571.3	566.3	563.8
42.5°	956.8	814.0	688.5	601.8	546.5	509.3	478.0	463.1	462.3	461.5	461.5
45°	894.0	718.2	571.3	468.1	419.4	386.3	371.5	365.7	370.7	369.8	370.7
47.5°	855.2	645.6	463.9	354.2	317.0	295.5	288.1	290.6	294.7	293.1	293.1
50°	850.3	608.4	392.1	275.7	247.7	236.9	235.3	235.3	237.8	236.1	235.3
52.5°	868.5	602.6	355.0	236.9	214.6	205.6	203.9	203.1	202.3	197.3	193.2
55°	899.8	615.8	344.2	227.0	203.9	194.0	191.5	189.9	186.6	180.0	172.5
57.5°	962.6	657.1	354.2	232.0	207.2	199.0	196.5	196.5	189.9	179.1	168.4
60°	1113.6	762.0	394.6	251.0	222.9	214.6	216.3	215.5	205.6	189.9	173.4
62.5°	1308.5	899.0	447.4	277.4	242.7	241.1	249.3	247.7	231.1	207.2	183.3
65°	1398.4	963.4	462.3	283.2	246.8	254.3	270.8	269.1	248.5	215.5	184.9
66°	1400.1	963.4	455.7	278.2	241.1	250.1	266.6	265.8	245.2	212.2	181.6
67.5°	1366.2	937.0	436.7	268.3	229.5	236.1	251.0	250.1	231.1	203.9	175.0
70°	1239.1	838.7	388.0	251.0	213.8	210.5	215.5	212.2	199.8	180.8	161.0
72.5°	1061.6	704.2	338.5	237.8	203.1	189.9	186.6	184.1	174.2	163.5	151.1
75°	836.3	557.2	297.2	227.8	193.2	175.8	170.1	166.8	160.2	152.7	142.8
77.5°	516.0	398.7	259.2	214.6	185.7	168.4	164.3	159.3	149.4	140.3	132.9
80°	230.3	246.8	213.0	187.4	165.9	150.2	143.6	136.2	126.3	120.5	116.4
82.5°	153.5	159.3	154.4	140.3	125.5	113.1	103.2	103.2	101.5	96.6	94.9
85°	98.2	99.1	95.8	86.7	80.9	73.5	69.3	70.2	73.5	72.6	71.8
87.5°	22.3	22.3	26.4	24.8	28.9	30.5	33.0	35.5	40.5	40.5	42.9
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: P156635

CATALOG NUMBER: TLM-F03-LED-E1-T4

CANDELA DISTRIBUTION (continued):

	160°	165°	170°	175°	180°
0°	986.5	986.5	986.5	986.5	986.5
2.5°	1015.4	1017.0	1018.7	1016.2	1017.0
5°	1044.3	1043.5	1047.6	1045.1	1046.8
7.5°	1053.4	1054.2	1057.5	1057.5	1058.3
10°	1054.2	1055.8	1060.0	1062.5	1064.1
12.5°	1058.3	1061.6	1068.2	1069.9	1069.9
15°	1061.6	1063.3	1067.4	1069.1	1070.7
17.5°	1050.1	1046.8	1048.4	1049.2	1048.4
20°	1021.2	1017.9	1017.0	1013.7	1015.4
22.5°	989.8	980.7	974.9	968.3	968.3
25°	951.8	937.8	926.2	914.7	917.2
27.5°	916.3	898.2	886.6	879.2	877.5
30°	881.7	862.7	851.9	842.9	842.9
32.5°	823.9	810.7	796.6	790.9	790.0
35°	743.8	735.5	724.0	721.5	717.4
37.5°	653.8	651.3	641.4	640.6	636.5
40°	559.7	561.4	558.1	556.4	553.9
42.5°	465.6	473.9	472.2	471.4	469.7
45°	375.6	381.4	382.2	384.7	388.8
47.5°	295.5	297.2	298.8	298.0	298.8
50°	231.1	227.0	226.2	223.7	226.2
52.5°	186.6	180.0	176.7	173.4	171.7
55°	164.3	157.7	154.4	152.7	151.1
57.5°	158.5	151.9	146.9	143.6	142.8
60°	160.2	150.2	143.6	139.5	138.7
62.5°	164.3	151.1	142.0	137.9	137.0
65°	163.5	149.4	141.2	136.2	135.4
66°	161.0	147.8	139.5	135.4	134.6
67.5°	156.8	145.3	137.9	134.6	132.9
70°	149.4	142.0	136.2	132.1	130.4
72.5°	142.8	137.0	132.1	128.0	127.1
75°	135.4	130.4	125.5	122.2	121.4
77.5°	126.3	121.4	118.1	115.6	114.7
80°	111.4	108.1	104.8	101.5	101.5
82.5°	92.5	90.0	86.7	84.2	83.4
85°	71.0	71.0	68.5	66.0	65.2
87.5°	42.1	41.3	41.3	38.8	38.8
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)