

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: P156644

Luminaire Tested: **TLM-F04-LED-E1-T4-7030**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P156644
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-F04-LED-E1-T4-7030
Description: TALON MEDIUM LED SITE LUMINAIRE
(4) LIGHTBARS WITH AccuLED OPTICS - TYPE 4
Light Source: (28) 3000K CCT, 70 CRI LEDs
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 9114.4 lumens
Efficiency: N/A
Efficacy: 89.2 lumens/watt
Spacing Criteria (0/90/45): 1.73 / 2.02 / 2.64
Luminous Opening: Rectangular (W 0.67' x L: 1' x H: 0')
CIE Type: Direct

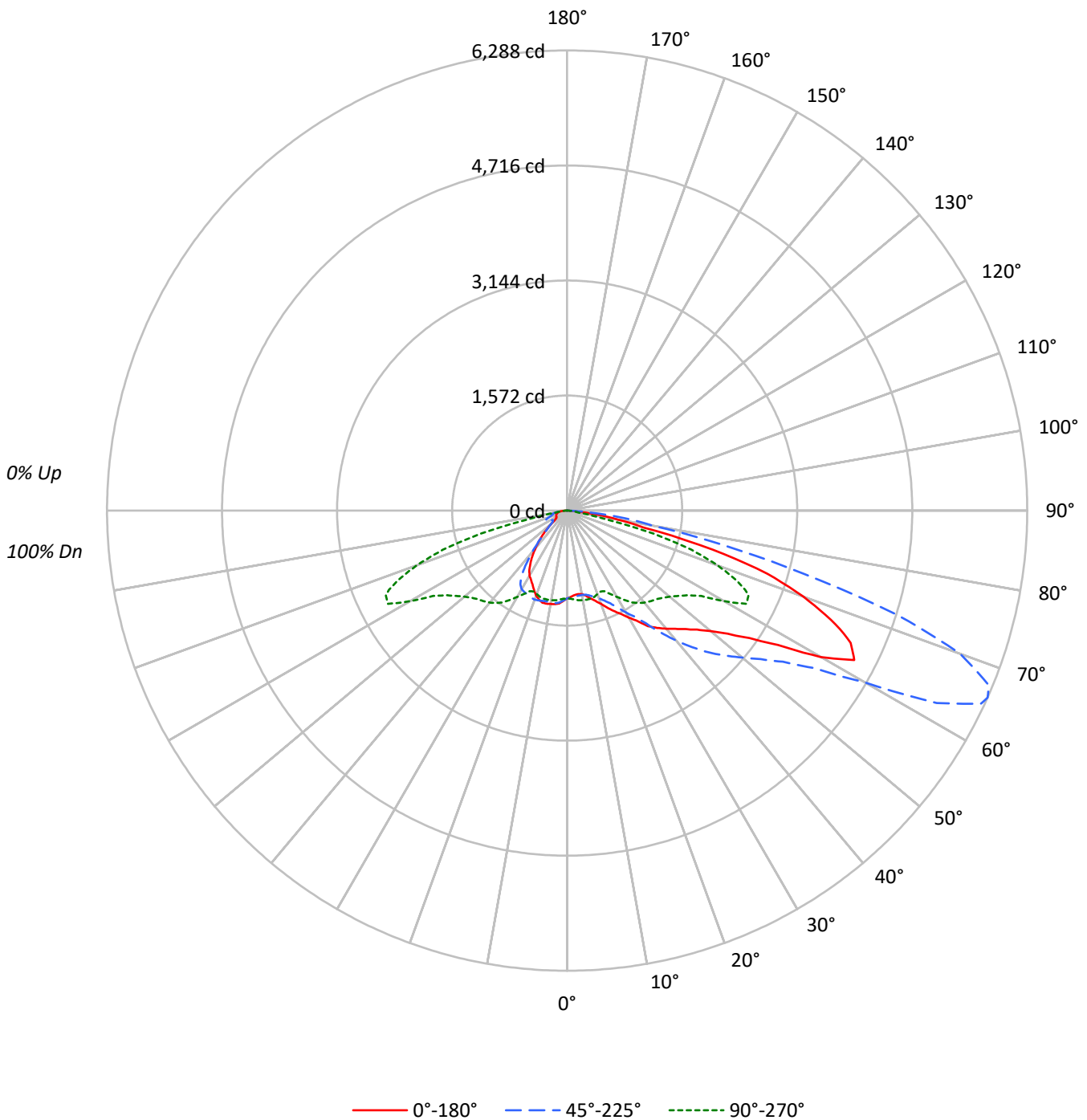
Input Watts (W): 102.2
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	19301	19301	19301
5°	18677	19715	20559
10°	18893	20304	21141
15°	20701	20717	21687
20°	23203	20762	21140
25°	26855	21580	19799
30°	31331	25270	19041
35°	37797	30009	17133
40°	44171	34451	14148
45°	52054	38990	10758
50°	63998	45731	6886
55°	85123	56431	5154
60°	128531	79528	5427
65°	162534	103950	6269
70°	161219	102710	7459
75°	127863	76070	9174
80°	64827	15996	11444
85°	9456	13161	14636



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	116.7	1.3
10°-20°	354.2	3.9
20°-30°	610.1	6.7
30°-40°	923.0	10.1
40°-50°	1196.4	13.1
50°-60°	1649.4	18.1
60°-70°	2562.6	28.1
70°-80°	1490.2	16.3
80°-90°	211.9	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°	1080.9	11.9
0°-40°	2003.9	22.0
0°-60°	4849.7	53.2
0°-90°	9114.4	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	9114.4	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	1201	1201	1201	1201	1201	
5°	1158	1175	1222	1263	1275	111
15°	1245	1201	1246	1278	1304	357
25°	1515	1400	1217	1273	1117	706
35°	1927	1883	1530	1080	874	1204
45°	2291	2742	1716	452	474	1791
55°	3039	3600	2015	233	184	2815
65°	4276	6242	2734	330	165	4046
75°	2060	3356	1226	207	148	2121
85°	51	350	71	84	79	222
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°	1201.4	1201.4	1201.4	1201.4	1201.4	1201.4	1201.4	1201.4	1201.4	1201.4	1201.4
2.5°	1179.2	1183.3	1180.3	1181.3	1181.3	1182.3	1182.3	1183.3	1182.3	1185.3	1187.3
5°	1158.1	1160.1	1159.1	1161.1	1163.2	1167.2	1166.2	1171.2	1172.2	1175.2	1180.3
7.5°	1150.1	1148.1	1149.1	1152.1	1154.1	1156.1	1158.1	1162.2	1165.2	1172.2	1176.2
10°	1158.1	1157.1	1158.1	1160.1	1160.1	1161.1	1159.1	1163.2	1165.2	1171.2	1175.2
12.5°	1191.3	1191.3	1189.3	1189.3	1187.3	1185.3	1180.3	1177.2	1176.2	1177.2	1179.2
15°	1244.6	1242.6	1238.6	1235.5	1231.5	1224.5	1217.4	1211.4	1207.4	1201.4	1199.4
17.5°	1296.9	1293.9	1289.8	1285.8	1280.8	1273.7	1262.7	1255.7	1244.6	1237.6	1233.5
20°	1357.2	1351.2	1346.1	1341.1	1331.0	1329.0	1318.0	1305.9	1292.8	1276.8	1274.8
22.5°	1435.6	1425.6	1419.5	1416.5	1406.4	1403.4	1385.3	1368.2	1352.2	1331.0	1326.0
25°	1515.0	1505.0	1502.0	1497.9	1490.9	1486.9	1469.8	1450.7	1429.6	1400.4	1394.4
27.5°	1592.4	1593.4	1585.4	1588.4	1586.4	1579.4	1562.3	1543.2	1527.1	1492.9	1485.9
30°	1688.9	1682.9	1678.9	1684.9	1677.9	1678.9	1663.8	1653.8	1627.6	1607.5	1593.4
32.5°	1789.5	1788.5	1794.5	1798.5	1797.5	1795.5	1783.4	1773.4	1750.3	1721.1	1715.1
35°	1927.2	1933.2	1938.3	1956.4	1956.4	1969.4	1957.4	1945.3	1918.2	1883.0	1870.9
37.5°	2020.7	2022.7	2042.8	2066.9	2097.1	2125.3	2133.3	2136.3	2125.3	2099.1	2081.0
40°	2106.2	2110.2	2142.3	2179.5	2223.8	2279.1	2312.2	2327.3	2330.3	2318.3	2279.1
42.5°	2191.6	2197.6	2230.8	2285.1	2346.4	2416.8	2475.1	2512.3	2533.4	2533.4	2510.3
45°	2291.1	2299.2	2335.4	2394.7	2466.1	2554.5	2635.0	2706.3	2740.5	2742.5	2720.4
47.5°	2408.8	2415.8	2458.0	2518.3	2591.7	2681.2	2782.7	2864.2	2927.5	2931.5	2913.4
50°	2560.6	2570.6	2605.8	2660.1	2735.5	2826.0	2927.5	3041.1	3107.5	3123.5	3104.4
52.5°	2761.6	2763.6	2792.8	2843.1	2916.4	3002.9	3110.5	3234.1	3321.6	3334.7	3303.5
55°	3039.1	3036.1	3055.2	3109.5	3164.8	3232.1	3343.7	3482.4	3580.0	3600.1	3567.9
57.5°	3416.1	3413.1	3429.2	3442.2	3545.8	3611.1	3720.7	3853.4	3947.9	4006.2	3950.9
60°	4000.2	3997.2	4023.3	4099.7	4177.1	4272.6	4379.2	4538.0	4670.7	4687.8	4633.5
62.5°	4423.4	4438.5	4495.8	4585.3	4742.1	4929.1	5124.1	5333.2	5605.7	5692.1	5666.0
65°	4275.6	4305.8	4385.2	4520.9	4730.1	4988.4	5294.0	5673.0	6038.0	6242.1	6236.0
66°	4142.9	4176.1	4273.6	4404.3	4625.5	4908.0	5241.8	5655.0	6063.1	6288.3	6302.4
67.5°	3901.7	3938.9	4034.4	4189.2	4404.3	4704.9	5063.8	5513.2	5974.6	6237.0	6274.2
70°	3432.2	3474.4	3543.8	3671.4	3883.6	4152.0	4530.0	4932.1	5415.7	5716.3	5761.5
72.5°	2869.2	2906.4	2983.8	3088.4	3262.3	3431.2	3727.7	4024.3	4370.1	4713.0	4679.8
75°	2059.9	2076.0	2122.2	2235.8	2329.3	2481.1	2719.4	2962.7	3198.9	3355.8	3377.9
77.5°	1070.7	1112.9	1178.2	1303.9	1405.4	1542.2	1697.0	1880.0	2052.9	2196.6	2157.4
80°	700.7	718.8	777.1	841.5	915.9	1003.3	1106.9	1175.2	1197.3	1188.3	1197.3
82.5°	404.1	437.3	514.7	564.0	619.3	649.4	731.9	810.3	854.5	799.2	779.1
85°	51.3	66.4	209.1	263.4	301.6	346.8	372.0	419.2	391.1	349.9	426.3
87.5°	11.1	10.1	14.1	30.2	31.2	26.1	49.3	52.3	32.2	16.1	20.1
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°	1201.4	1201.4	1201.4	1201.4	1201.4	1201.4	1201.4	1201.4	1201.4	1201.4	1201.4
2.5°	1189.3	1190.3	1192.3	1195.3	1197.3	1199.4	1201.4	1204.4	1206.4	1208.4	1212.4
5°	1184.3	1188.3	1192.3	1196.3	1201.4	1209.4	1214.4	1218.5	1222.5	1230.5	1233.5
7.5°	1181.3	1188.3	1194.3	1201.4	1209.4	1216.4	1225.5	1230.5	1236.5	1241.6	1247.6
10°	1179.2	1189.3	1195.3	1205.4	1214.4	1221.5	1231.5	1237.6	1244.6	1250.6	1253.6
12.5°	1183.3	1188.3	1194.3	1204.4	1215.4	1225.5	1236.5	1241.6	1247.6	1252.6	1253.6
15°	1200.4	1200.4	1201.4	1209.4	1220.5	1228.5	1237.6	1242.6	1245.6	1248.6	1248.6
17.5°	1231.5	1224.5	1219.5	1220.5	1227.5	1232.5	1237.6	1237.6	1235.5	1234.5	1232.5
20°	1267.7	1258.7	1248.6	1241.6	1239.6	1235.5	1232.5	1222.5	1214.4	1207.4	1202.4
22.5°	1320.0	1305.9	1291.8	1278.8	1266.7	1251.6	1234.5	1214.4	1195.3	1182.3	1174.2
25°	1384.3	1373.3	1356.2	1336.1	1321.0	1292.8	1270.7	1241.6	1217.4	1200.4	1186.3
27.5°	1475.8	1462.7	1446.7	1428.6	1406.4	1375.3	1348.1	1314.0	1284.8	1259.7	1241.6
30°	1589.4	1572.3	1560.3	1538.1	1523.1	1487.9	1460.7	1418.5	1362.2	1322.0	1296.9
32.5°	1706.0	1686.9	1676.9	1659.8	1642.7	1621.6	1580.4	1515.0	1442.6	1377.3	1334.1
35°	1861.9	1841.8	1823.7	1808.6	1783.4	1744.2	1708.0	1629.6	1530.1	1438.6	1366.2
37.5°	2057.9	2024.7	1979.5	1941.3	1897.0	1840.7	1785.5	1705.0	1591.4	1472.8	1376.3
40°	2267.0	2208.7	2144.4	2073.0	1996.6	1915.1	1851.8	1770.4	1642.7	1502.0	1369.3
42.5°	2485.2	2392.7	2303.2	2202.7	2096.1	1999.6	1917.2	1827.7	1680.9	1510.0	1341.1
45°	2701.3	2597.8	2462.0	2330.3	2195.6	2076.0	1983.5	1883.0	1716.1	1513.0	1303.9
47.5°	2880.3	2773.7	2618.9	2454.0	2294.2	2158.4	2049.9	1941.3	1763.3	1534.1	1294.9
50°	3069.3	2939.6	2767.7	2572.6	2391.7	2239.9	2124.3	2011.7	1829.7	1588.4	1324.0
52.5°	3275.3	3126.6	2925.5	2707.3	2509.3	2339.4	2213.7	2098.1	1914.1	1664.8	1379.3
55°	3526.7	3344.7	3126.6	2880.3	2668.1	2480.1	2341.4	2204.7	2014.7	1755.3	1448.7
57.5°	3910.7	3687.5	3442.2	3161.7	2926.5	2704.3	2538.4	2380.6	2170.5	1890.0	1543.2
60°	4605.4	4367.1	4048.4	3708.6	3432.2	3172.8	2929.5	2733.5	2475.1	2155.4	1752.3
62.5°	5600.7	5284.0	4858.7	4383.2	4021.3	3647.3	3372.9	3081.3	2760.6	2415.8	1998.6
65°	6153.6	5769.6	5200.5	4648.6	4183.2	3777.0	3428.2	3090.4	2734.5	2404.7	2055.9
66°	6222.0	5821.8	5230.7	4649.6	4161.0	3743.8	3376.9	3027.0	2663.1	2348.4	2031.8
67.5°	6193.8	5784.6	5175.4	4562.2	4065.5	3617.2	3238.2	2875.2	2512.3	2218.8	1951.3
70°	5732.4	5344.3	4746.1	4152.0	3680.5	3238.2	2876.2	2519.3	2186.6	1935.2	1738.2
72.5°	4760.2	4428.5	3908.7	3442.2	3072.3	2707.3	2400.7	2059.9	1778.4	1592.4	1475.8
75°	3436.2	3235.1	2761.6	2494.2	2169.5	1927.2	1629.6	1427.6	1225.5	1135.0	1114.9
77.5°	2170.5	1900.1	1599.5	1317.0	1082.7	897.8	698.7	593.1	494.6	484.6	585.1
80°	1098.8	989.2	762.0	607.2	510.7	413.2	326.7	247.3	172.9	208.1	249.3
82.5°	719.8	600.2	470.5	387.0	336.8	279.5	217.2	150.8	110.6	124.7	170.9
85°	389.1	331.8	267.4	211.1	170.9	152.8	102.5	72.4	71.4	76.4	97.5
87.5°	28.1	28.1	22.1	20.1	24.1	20.1	18.1	18.1	17.1	18.1	24.1
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°	1201.4	1201.4	1201.4	1201.4	1201.4	1201.4	1201.4	1201.4	1201.4	1201.4	1201.4
2.5°	1214.4	1217.4	1218.5	1223.5	1226.5	1228.5	1230.5	1230.5	1231.5	1234.5	1235.5
5°	1237.6	1242.6	1248.6	1252.6	1254.6	1260.7	1262.7	1262.7	1264.7	1268.7	1271.7
7.5°	1251.6	1258.7	1264.7	1266.7	1270.7	1272.7	1275.8	1277.8	1277.8	1281.8	1283.8
10°	1256.7	1260.7	1266.7	1266.7	1270.7	1270.7	1273.7	1274.8	1274.8	1278.8	1281.8
12.5°	1256.7	1258.7	1263.7	1263.7	1266.7	1267.7	1271.7	1274.8	1275.8	1280.8	1284.8
15°	1250.6	1252.6	1256.7	1257.7	1264.7	1268.7	1277.8	1283.8	1283.8	1288.8	1290.8
17.5°	1233.5	1238.6	1246.6	1254.6	1267.7	1276.8	1287.8	1292.8	1288.8	1285.8	1282.8
20°	1205.4	1214.4	1233.5	1253.6	1276.8	1288.8	1294.9	1289.8	1275.8	1261.7	1252.6
22.5°	1177.2	1195.3	1227.5	1257.7	1283.8	1291.8	1288.8	1270.7	1247.6	1230.5	1218.5
25°	1190.3	1211.4	1242.6	1269.7	1286.8	1284.8	1272.7	1247.6	1222.5	1200.4	1180.3
27.5°	1244.6	1267.7	1284.8	1293.9	1291.8	1277.8	1258.7	1230.5	1200.4	1171.2	1143.1
30°	1295.9	1307.9	1311.9	1304.9	1288.8	1265.7	1241.6	1209.4	1169.2	1133.0	1100.8
32.5°	1319.0	1306.9	1287.8	1268.7	1242.6	1222.5	1189.3	1154.1	1103.8	1060.6	1028.4
35°	1319.0	1270.7	1222.5	1182.3	1143.1	1117.9	1079.7	1032.5	986.2	950.0	924.9
37.5°	1289.8	1197.3	1117.9	1052.6	1003.3	976.2	918.9	876.6	837.4	825.4	809.3
40°	1236.5	1099.8	985.2	899.8	837.4	797.2	739.9	710.8	695.7	689.7	686.6
42.5°	1165.2	991.3	838.4	732.9	665.5	620.3	582.1	564.0	563.0	562.0	562.0
45°	1088.8	874.6	695.7	570.0	510.7	470.5	452.4	445.4	451.4	450.4	451.4
47.5°	1041.5	786.2	565.0	431.3	386.0	359.9	350.9	353.9	358.9	356.9	356.9
50°	1035.5	740.9	477.5	335.8	301.6	288.5	286.5	286.5	289.5	287.5	286.5
52.5°	1057.6	733.9	432.3	288.5	261.4	250.3	248.3	247.3	246.3	240.3	235.2
55°	1095.8	750.0	419.2	276.5	248.3	236.3	233.2	231.2	227.2	219.2	210.1
57.5°	1172.2	800.2	431.3	282.5	252.3	242.3	239.3	239.3	231.2	218.2	205.1
60°	1356.2	927.9	480.5	305.6	271.4	261.4	263.4	262.4	250.3	231.2	211.1
62.5°	1593.4	1094.8	544.9	337.8	295.6	293.6	303.6	301.6	281.5	252.3	223.2
65°	1703.0	1173.2	563.0	344.8	300.6	309.6	329.7	327.7	302.6	262.4	225.2
66°	1705.0	1173.2	554.9	338.8	293.6	304.6	324.7	323.7	298.6	258.4	221.2
67.5°	1663.8	1141.0	531.8	326.7	279.5	287.5	305.6	304.6	281.5	248.3	213.1
70°	1509.0	1021.4	472.5	305.6	260.4	256.4	262.4	258.4	243.3	220.2	196.0
72.5°	1292.8	857.5	412.2	289.5	247.3	231.2	227.2	224.2	212.1	199.1	184.0
75°	1018.4	678.6	361.9	277.5	235.2	214.1	207.1	203.1	195.0	186.0	173.9
77.5°	628.3	485.6	315.7	261.4	226.2	205.1	200.1	194.0	182.0	170.9	161.9
80°	280.5	300.6	259.4	228.2	202.1	183.0	174.9	165.9	153.8	146.8	141.8
82.5°	187.0	194.0	188.0	170.9	152.8	137.7	125.7	125.7	123.7	117.6	115.6
85°	119.6	120.6	116.6	105.6	98.5	89.5	84.4	85.5	89.5	88.5	87.5
87.5°	27.1	27.1	32.2	30.2	35.2	37.2	40.2	43.2	49.3	49.3	52.3
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: P156644

CATALOG NUMBER: TLM-F04-LED-E1-T4-7030

CANDELA DISTRIBUTION (continued):

	160°	165°	170°	175°	180°
0°	1201.4	1201.4	1201.4	1201.4	1201.4
2.5°	1236.5	1238.6	1240.6	1237.6	1238.6
5°	1271.7	1270.7	1275.8	1272.7	1274.8
7.5°	1282.8	1283.8	1287.8	1287.8	1288.8
10°	1283.8	1285.8	1290.8	1293.9	1295.9
12.5°	1288.8	1292.8	1300.9	1302.9	1302.9
15°	1292.8	1294.9	1299.9	1301.9	1303.9
17.5°	1278.8	1274.8	1276.8	1277.8	1276.8
20°	1243.6	1239.6	1238.6	1234.5	1236.5
22.5°	1205.4	1194.3	1187.3	1179.2	1179.2
25°	1159.1	1142.0	1128.0	1113.9	1116.9
27.5°	1115.9	1093.8	1079.7	1070.7	1068.7
30°	1073.7	1050.6	1037.5	1026.4	1026.4
32.5°	1003.3	987.2	970.1	963.1	962.1
35°	905.8	895.7	881.7	878.7	873.6
37.5°	796.2	793.2	781.1	780.1	775.1
40°	681.6	683.6	679.6	677.6	674.6
42.5°	567.0	577.1	575.0	574.0	572.0
45°	457.4	464.5	465.5	468.5	473.5
47.5°	359.9	361.9	363.9	362.9	363.9
50°	281.5	276.5	275.5	272.4	275.5
52.5°	227.2	219.2	215.1	211.1	209.1
55°	200.1	192.0	188.0	186.0	184.0
57.5°	193.0	185.0	178.9	174.9	173.9
60°	195.0	183.0	174.9	169.9	168.9
62.5°	200.1	184.0	172.9	167.9	166.9
65°	199.1	182.0	171.9	165.9	164.9
66°	196.0	180.0	169.9	164.9	163.9
67.5°	191.0	176.9	167.9	163.9	161.9
70°	182.0	172.9	165.9	160.9	158.8
72.5°	173.9	166.9	160.9	155.8	154.8
75°	164.9	158.8	152.8	148.8	147.8
77.5°	153.8	147.8	143.8	140.7	139.7
80°	135.7	131.7	127.7	123.7	123.7
82.5°	112.6	109.6	105.6	102.5	101.5
85°	86.5	86.5	83.4	80.4	79.4
87.5°	51.3	50.3	50.3	47.3	47.3
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)