

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: P156643

Luminaire Tested: **TLM-F04-LED-E1-T4-8030**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P156643
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-T4-8030
Description: TALON MEDIUM LED SITE LUMINAIRE
(4) LIGHTBARS WITH AccuLED OPTICS - TYPE 4
Light Source: (28) 3000K CCT, 80 CRI LEDs
Ballast/Driver: -

Summary

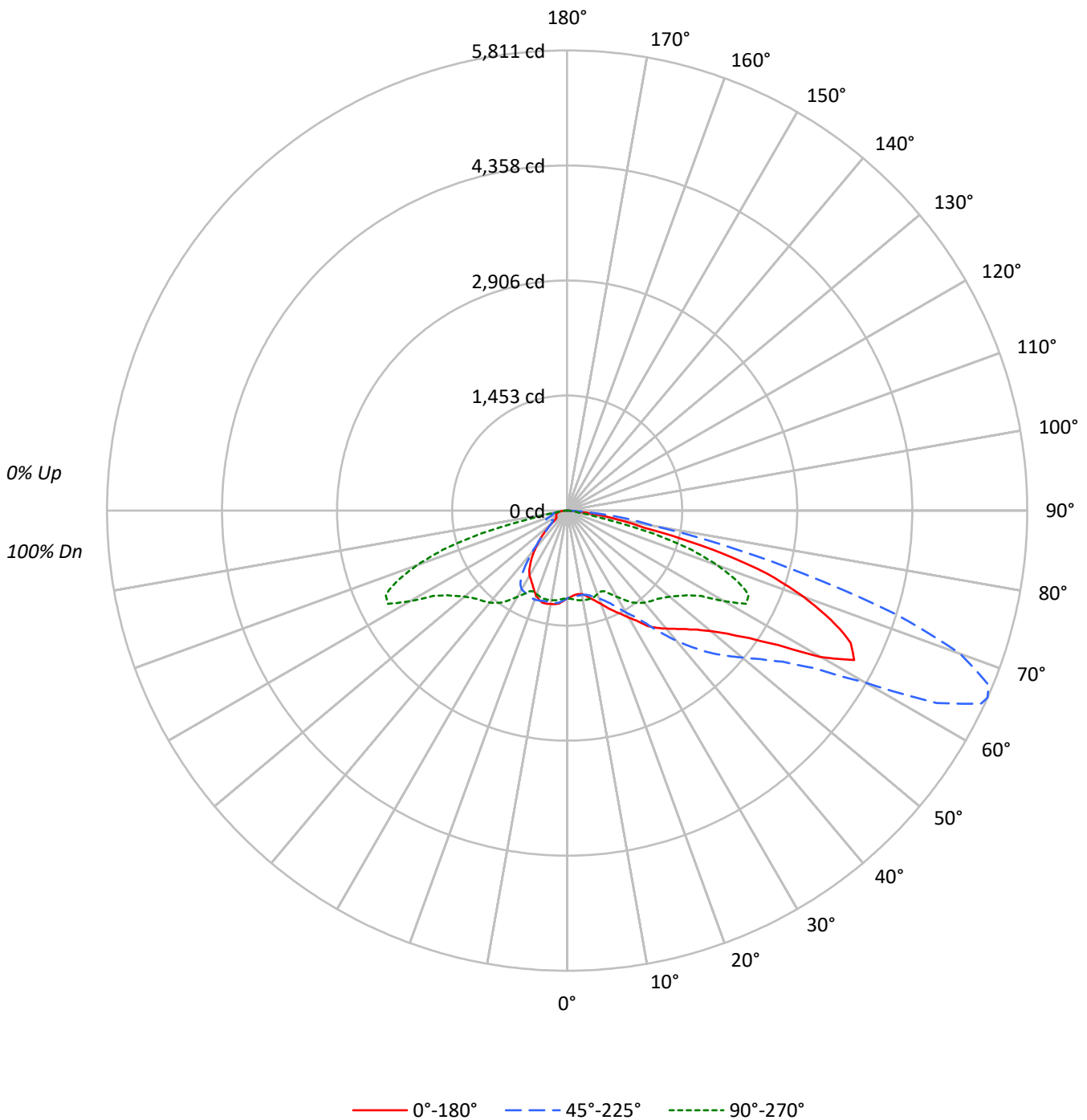
Lumens per Lamp: N/A
Luminaire Lumens: 8422.3 lumens
Efficiency: N/A
Efficacy: 82.4 lumens/watt
Spacing Criteria (0/90/45): 1.73 / 2.02 / 2.64
Luminous Opening: Rectangular (W 0.67' x L: 1' x H: 0')
CIE Type: Direct

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	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°	17834	17834	17834
5°	17259	18217	18996
10°	17459	18762	19535
15°	19129	19144	20040
20°	21441	19186	19535
25°	24817	19942	18295
30°	28952	23352	17596
35°	34928	27730	15833
40°	40816	31836	13072
45°	48101	36030	9940
50°	59137	42257	6361
55°	78659	52145	4762
60°	118769	73490	5016
65°	150195	96055	5793
70°	148973	94908	6896
75°	118155	70291	8479
80°	59905	14784	10575
85°	8737	12166	13530



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	107.8	1.3
10°-20°	327.3	3.9
20°-30°	563.8	6.7
30°-40°	852.9	10.1
40°-50°	1105.5	13.1
50°-60°	1524.1	18.1
60°-70°	2368.0	28.1
70°-80°	1377.0	16.3
80°-90°	195.8	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°	998.8	11.9
0°-40°	1851.8	22.0
0°-60°	4481.4	53.2
0°-90°	8422.3	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	8422.3	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	1110	1110	1110	1110	1110	
5°	1070	1086	1130	1167	1178	102
15°	1150	1110	1151	1181	1205	330
25°	1400	1294	1125	1176	1032	653
35°	1781	1740	1414	998	807	1113
45°	2117	2534	1586	418	438	1655
55°	2808	3327	1862	216	170	2601
65°	3951	5768	2527	305	152	3739
75°	1904	3101	1132	191	137	1960
85°	47	323	66	78	73	205
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°	1110.1	1110.1	1110.1	1110.1	1110.1	1110.1	1110.1	1110.1	1110.1	1110.1	1110.1	1110.1
2.5°	1089.7	1093.4	1090.6	1091.6	1091.6	1092.5	1092.5	1093.4	1092.5	1095.3	1097.1	1097.1
5°	1070.2	1072.0	1071.1	1073.0	1074.8	1078.5	1077.6	1082.3	1083.2	1086.0	1090.6	1090.6
7.5°	1062.8	1060.9	1061.8	1064.6	1066.5	1068.3	1070.2	1073.9	1076.7	1083.2	1086.9	1086.9
10°	1070.2	1069.3	1070.2	1072.0	1072.0	1073.0	1071.1	1074.8	1076.7	1082.3	1086.0	1086.0
12.5°	1100.8	1100.8	1099.0	1099.0	1097.1	1095.3	1090.6	1087.8	1086.9	1087.8	1089.7	1089.7
15°	1150.1	1148.2	1144.5	1141.7	1138.0	1131.5	1125.0	1119.4	1115.7	1110.1	1108.3	1108.3
17.5°	1198.4	1195.6	1191.9	1188.2	1183.5	1177.0	1166.8	1160.3	1150.1	1143.6	1139.9	1139.9
20°	1254.1	1248.6	1243.9	1239.3	1230.0	1228.1	1217.9	1206.7	1194.7	1179.8	1177.9	1177.9
22.5°	1326.6	1317.3	1311.7	1308.9	1299.6	1296.9	1280.1	1264.3	1249.5	1230.0	1225.3	1225.3
25°	1400.0	1390.7	1387.9	1384.2	1377.7	1374.0	1358.2	1340.5	1321.0	1294.1	1288.5	1288.5
27.5°	1471.5	1472.4	1465.0	1467.8	1465.9	1459.4	1443.6	1426.0	1411.1	1379.5	1373.0	1373.0
30°	1560.7	1555.1	1551.4	1557.0	1550.5	1551.4	1537.5	1528.2	1504.0	1485.4	1472.4	1472.4
32.5°	1653.6	1652.7	1658.2	1661.9	1661.0	1659.2	1648.0	1638.7	1617.4	1590.4	1584.8	1584.8
35°	1780.9	1786.4	1791.1	1807.8	1807.8	1819.9	1808.7	1797.6	1772.5	1740.0	1728.8	1728.8
37.5°	1867.3	1869.1	1887.7	1910.0	1937.9	1963.9	1971.3	1974.1	1963.9	1939.7	1923.0	1923.0
40°	1946.2	1949.9	1979.7	2014.0	2054.9	2106.0	2136.7	2150.6	2153.4	2142.2	2106.0	2106.0
42.5°	2025.2	2030.8	2061.4	2111.6	2168.2	2233.3	2287.2	2321.5	2341.0	2341.0	2319.7	2319.7
45°	2117.1	2124.6	2158.0	2212.8	2278.8	2360.5	2434.9	2500.8	2532.4	2534.3	2513.8	2513.8
47.5°	2225.8	2232.3	2271.4	2327.1	2394.9	2477.6	2571.4	2646.7	2705.2	2708.9	2692.2	2692.2
50°	2366.1	2375.4	2407.9	2458.1	2527.8	2611.4	2705.2	2810.2	2871.5	2886.3	2868.7	2868.7
52.5°	2551.9	2553.8	2580.7	2627.2	2695.0	2774.9	2874.3	2988.5	3069.4	3081.4	3052.6	3052.6
55°	2808.3	2805.5	2823.2	2873.3	2924.4	2986.7	3089.8	3218.0	3308.1	3326.7	3297.0	3297.0
57.5°	3156.7	3153.9	3168.8	3180.8	3276.5	3336.9	3438.2	3560.8	3648.1	3702.0	3650.9	3650.9
60°	3696.4	3693.6	3717.8	3788.4	3859.9	3948.2	4046.6	4193.4	4316.0	4331.8	4281.7	4281.7
62.5°	4087.5	4101.4	4154.4	4237.1	4382.0	4554.8	4735.0	4928.2	5180.0	5259.9	5235.7	5235.7
65°	3951.0	3978.8	4052.2	4177.6	4370.9	4609.6	4892.0	5242.2	5579.5	5768.0	5762.5	5762.5
66°	3828.3	3859.0	3949.1	4069.9	4274.2	4535.3	4843.7	5225.5	5602.7	5810.8	5823.8	5823.8
67.5°	3605.4	3639.7	3728.0	3871.1	4069.9	4347.6	4679.3	5094.5	5520.9	5763.4	5797.8	5797.8
70°	3171.5	3210.6	3274.7	3392.6	3588.7	3836.7	4186.0	4557.6	5004.4	5282.2	5324.0	5324.0
72.5°	2651.3	2685.7	2757.2	2853.8	3014.5	3170.6	3444.7	3718.7	4038.3	4355.1	4324.4	4324.4
75°	1903.5	1918.3	1961.1	2066.1	2152.4	2292.7	2512.9	2737.7	2956.0	3100.9	3121.4	3121.4
77.5°	989.4	1028.4	1088.8	1204.9	1298.7	1425.1	1568.1	1737.2	1897.0	2029.8	1993.6	1993.6
80°	647.5	664.2	718.1	777.6	846.3	927.1	1022.8	1086.0	1106.4	1098.1	1106.4	1106.4
82.5°	373.5	404.1	475.6	521.2	572.3	600.1	676.3	748.8	789.6	738.5	720.0	720.0
85°	47.4	61.3	193.2	243.4	278.7	320.5	343.7	387.4	361.4	323.3	393.9	393.9
87.5°	10.2	9.3	13.0	27.9	28.8	24.2	45.5	48.3	29.7	14.9	18.6	18.6
90°	0.0	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°	1110.1	1110.1	1110.1	1110.1	1110.1	1110.1	1110.1	1110.1	1110.1	1110.1	1110.1
2.5°	1099.0	1099.9	1101.8	1104.6	1106.4	1108.3	1110.1	1112.9	1114.8	1116.6	1120.4
5°	1094.3	1098.1	1101.8	1105.5	1110.1	1117.6	1122.2	1125.9	1129.6	1137.1	1139.9
7.5°	1091.6	1098.1	1103.6	1110.1	1117.6	1124.1	1132.4	1137.1	1142.6	1147.3	1152.9
10°	1089.7	1099.0	1104.6	1113.8	1122.2	1128.7	1138.0	1143.6	1150.1	1155.7	1158.4
12.5°	1093.4	1098.1	1103.6	1112.9	1123.1	1132.4	1142.6	1147.3	1152.9	1157.5	1158.4
15°	1109.2	1109.2	1110.1	1117.6	1127.8	1135.2	1143.6	1148.2	1151.0	1153.8	1153.8
17.5°	1138.0	1131.5	1126.9	1127.8	1134.3	1138.9	1143.6	1143.6	1141.7	1140.8	1138.9
20°	1171.4	1163.1	1153.8	1147.3	1145.4	1141.7	1138.9	1129.6	1122.2	1115.7	1111.1
22.5°	1219.8	1206.7	1193.7	1181.7	1170.5	1156.6	1140.8	1122.2	1104.6	1092.5	1085.0
25°	1279.2	1269.0	1253.2	1234.6	1220.7	1194.7	1174.2	1147.3	1125.0	1109.2	1096.2
27.5°	1363.7	1351.7	1336.8	1320.1	1299.6	1270.8	1245.8	1214.2	1187.2	1164.0	1147.3
30°	1468.7	1452.9	1441.8	1421.3	1407.4	1374.9	1349.8	1310.8	1258.8	1221.6	1198.4
32.5°	1576.5	1558.8	1549.5	1533.7	1518.0	1498.4	1460.4	1400.0	1333.1	1272.7	1232.8
35°	1720.5	1701.9	1685.2	1671.2	1648.0	1611.8	1578.3	1505.9	1413.9	1329.4	1262.5
37.5°	1901.6	1871.0	1829.2	1793.9	1753.0	1701.0	1649.9	1575.6	1470.6	1361.0	1271.8
40°	2094.9	2041.0	1981.5	1915.6	1845.0	1769.7	1711.2	1635.9	1518.0	1387.9	1265.3
42.5°	2296.4	2211.0	2128.3	2035.4	1936.9	1847.7	1771.6	1688.9	1553.3	1395.3	1239.3
45°	2496.2	2400.5	2275.1	2153.4	2028.9	1918.3	1832.9	1740.0	1585.8	1398.1	1204.9
47.5°	2661.5	2563.1	2420.0	2267.6	2119.9	1994.5	1894.2	1793.9	1629.4	1417.6	1196.5
50°	2836.2	2716.3	2557.5	2377.3	2210.0	2069.8	1962.9	1858.9	1690.7	1467.8	1223.5
52.5°	3026.6	2889.1	2703.3	2501.7	2318.7	2161.7	2045.6	1938.8	1768.8	1538.4	1274.6
55°	3258.9	3090.7	2889.1	2661.5	2465.5	2291.8	2163.6	2037.3	1861.7	1622.0	1338.7
57.5°	3613.7	3407.5	3180.8	2921.6	2704.3	2499.0	2345.7	2199.8	2005.7	1746.5	1426.0
60°	4255.7	4035.5	3741.0	3427.0	3171.5	2931.9	2707.0	2525.9	2287.2	1991.7	1619.2
62.5°	5175.4	4882.7	4489.8	4050.4	3715.9	3370.3	3116.7	2847.3	2551.0	2232.3	1846.8
65°	5686.3	5331.4	4805.6	4295.6	3865.5	3490.2	3167.8	2855.7	2526.8	2222.1	1899.8
66°	5749.5	5379.7	4833.5	4296.5	3845.1	3459.5	3120.4	2797.2	2460.9	2170.1	1877.5
67.5°	5723.5	5345.4	4782.4	4215.7	3756.8	3342.5	2992.2	2656.9	2321.5	2050.3	1803.2
70°	5297.0	4938.5	4385.7	3836.7	3401.0	2992.2	2657.8	2328.0	2020.5	1788.3	1606.2
72.5°	4398.7	4092.2	3611.9	3180.8	2839.0	2501.7	2218.4	1903.5	1643.4	1471.5	1363.7
75°	3175.3	2989.5	2551.9	2304.8	2004.7	1780.9	1505.9	1319.2	1132.4	1048.8	1030.2
77.5°	2005.7	1755.8	1478.0	1217.0	1000.5	829.6	645.6	548.1	457.1	447.8	540.7
80°	1015.4	914.1	704.2	561.1	471.9	381.8	301.9	228.5	159.8	192.3	230.4
82.5°	665.2	554.6	434.8	357.7	311.2	258.3	200.7	139.3	102.2	115.2	157.9
85°	359.5	306.6	247.1	195.1	157.9	141.2	94.8	66.9	66.0	70.6	90.1
87.5°	26.0	26.0	20.4	18.6	22.3	18.6	16.7	16.7	15.8	16.7	22.3
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°	1110.1	1110.1	1110.1	1110.1	1110.1	1110.1	1110.1	1110.1	1110.1	1110.1	1110.1
2.5°	1122.2	1125.0	1125.9	1130.6	1133.4	1135.2	1137.1	1137.1	1138.0	1140.8	1141.7
5°	1143.6	1148.2	1153.8	1157.5	1159.4	1164.9	1166.8	1166.8	1168.7	1172.4	1175.2
7.5°	1156.6	1163.1	1168.7	1170.5	1174.2	1176.1	1178.9	1180.7	1180.7	1184.5	1186.3
10°	1161.2	1164.9	1170.5	1170.5	1174.2	1174.2	1177.0	1177.9	1177.9	1181.7	1184.5
12.5°	1161.2	1163.1	1167.7	1167.7	1170.5	1171.4	1175.2	1177.9	1178.9	1183.5	1187.2
15°	1155.7	1157.5	1161.2	1162.2	1168.7	1172.4	1180.7	1186.3	1186.3	1191.0	1192.8
17.5°	1139.9	1144.5	1151.9	1159.4	1171.4	1179.8	1190.0	1194.7	1191.0	1188.2	1185.4
20°	1113.8	1122.2	1139.9	1158.4	1179.8	1191.0	1196.5	1191.9	1178.9	1165.9	1157.5
22.5°	1087.8	1104.6	1134.3	1162.2	1186.3	1193.7	1191.0	1174.2	1152.9	1137.1	1125.9
25°	1099.9	1119.4	1148.2	1173.3	1189.1	1187.2	1176.1	1152.9	1129.6	1109.2	1090.6
27.5°	1150.1	1171.4	1187.2	1195.6	1193.7	1180.7	1163.1	1137.1	1109.2	1082.3	1056.3
30°	1197.5	1208.6	1212.3	1205.8	1191.0	1169.6	1147.3	1117.6	1080.4	1047.0	1017.2
32.5°	1218.8	1207.7	1190.0	1172.4	1148.2	1129.6	1099.0	1066.5	1020.0	980.1	950.3
35°	1218.8	1174.2	1129.6	1092.5	1056.3	1033.0	997.7	954.1	911.3	877.9	854.7
37.5°	1191.9	1106.4	1033.0	972.6	927.1	902.0	849.1	810.1	773.8	762.7	747.8
40°	1142.6	1016.3	910.4	831.4	773.8	736.7	683.7	656.8	642.9	637.3	634.5
42.5°	1076.7	916.0	774.8	677.2	615.0	573.2	537.9	521.2	520.2	519.3	519.3
45°	1006.1	808.2	642.9	526.7	471.9	434.8	418.0	411.5	417.1	416.2	417.1
47.5°	962.4	726.5	522.1	398.5	356.7	332.6	324.2	327.0	331.6	329.8	329.8
50°	956.9	684.7	441.3	310.3	278.7	266.6	264.8	264.8	267.5	265.7	264.8
52.5°	977.3	678.2	399.5	266.6	241.5	231.3	229.5	228.5	227.6	222.0	217.4
55°	1012.6	693.0	387.4	255.5	229.5	218.3	215.5	213.7	209.9	202.5	194.2
57.5°	1083.2	739.5	398.5	261.0	233.2	223.9	221.1	221.1	213.7	201.6	189.5
60°	1253.2	857.4	444.1	282.4	250.8	241.5	243.4	242.5	231.3	213.7	195.1
62.5°	1472.4	1011.7	503.5	312.1	273.1	271.3	280.6	278.7	260.1	233.2	206.2
65°	1573.7	1084.1	520.2	318.6	277.8	286.1	304.7	302.8	279.6	242.5	208.1
66°	1575.6	1084.1	512.8	313.1	271.3	281.5	300.1	299.1	275.9	238.7	204.4
67.5°	1537.5	1054.4	491.4	301.9	258.3	265.7	282.4	281.5	260.1	229.5	196.9
70°	1394.4	943.8	436.6	282.4	240.6	236.9	242.5	238.7	224.8	203.4	181.2
72.5°	1194.7	792.4	380.9	267.5	228.5	213.7	209.9	207.2	196.0	183.9	170.0
75°	941.1	627.1	334.4	256.4	217.4	197.9	191.4	187.7	180.2	171.9	160.7
77.5°	580.6	448.7	291.7	241.5	209.0	189.5	184.9	179.3	168.1	157.9	149.6
80°	259.2	277.8	239.7	210.9	186.7	169.1	161.6	153.3	142.1	135.6	131.0
82.5°	172.8	179.3	173.7	157.9	141.2	127.3	116.1	116.1	114.3	108.7	106.8
85°	110.5	111.5	107.8	97.5	91.0	82.7	78.0	79.0	82.7	81.8	80.8
87.5°	25.1	25.1	29.7	27.9	32.5	34.4	37.2	39.9	45.5	45.5	48.3
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: P156643

CATALOG NUMBER: TLM-F04-LED-E1-T4-8030

CANDELA DISTRIBUTION (continued):

	160°	165°	170°	175°	180°
0°	1110.1	1110.1	1110.1	1110.1	1110.1
2.5°	1142.6	1144.5	1146.4	1143.6	1144.5
5°	1175.2	1174.2	1178.9	1176.1	1177.9
7.5°	1185.4	1186.3	1190.0	1190.0	1191.0
10°	1186.3	1188.2	1192.8	1195.6	1197.5
12.5°	1191.0	1194.7	1202.1	1204.0	1204.0
15°	1194.7	1196.5	1201.2	1203.0	1204.9
17.5°	1181.7	1177.9	1179.8	1180.7	1179.8
20°	1149.1	1145.4	1144.5	1140.8	1142.6
22.5°	1113.8	1103.6	1097.1	1089.7	1089.7
25°	1071.1	1055.3	1042.3	1029.3	1032.1
27.5°	1031.2	1010.7	997.7	989.4	987.5
30°	992.2	970.8	958.7	948.5	948.5
32.5°	927.1	912.3	896.5	890.0	889.0
35°	837.0	827.7	814.7	811.9	807.3
37.5°	735.8	733.0	721.8	720.9	716.2
40°	629.8	631.7	628.0	626.1	623.3
42.5°	523.9	533.2	531.4	530.4	528.6
45°	422.7	429.2	430.1	432.9	437.5
47.5°	332.6	334.4	336.3	335.4	336.3
50°	260.1	255.5	254.5	251.8	254.5
52.5°	209.9	202.5	198.8	195.1	193.2
55°	184.9	177.4	173.7	171.9	170.0
57.5°	178.4	170.9	165.4	161.6	160.7
60°	180.2	169.1	161.6	157.0	156.1
62.5°	184.9	170.0	159.8	155.1	154.2
65°	183.9	168.1	158.9	153.3	152.4
66°	181.2	166.3	157.0	152.4	151.4
67.5°	176.5	163.5	155.1	151.4	149.6
70°	168.1	159.8	153.3	148.6	146.8
72.5°	160.7	154.2	148.6	144.0	143.1
75°	152.4	146.8	141.2	137.5	136.6
77.5°	142.1	136.6	132.8	130.1	129.1
80°	125.4	121.7	118.0	114.3	114.3
82.5°	104.0	101.3	97.5	94.8	93.8
85°	79.9	79.9	77.1	74.3	73.4
87.5°	47.4	46.4	46.4	43.7	43.7
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)