

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: P156637

Luminaire Tested: **TLM-F03-LED-E1-T4-7060**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-41-14  
Report Number: P156637  
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-T4-7060  
Description: TALON MEDIUM LED SITE LUMINAIRE  
(3) LIGHTBARS WITH AccuLED OPTICS - TYPE 4  
Light Source: (21) 5700K CCT, 70 CRI LEDs  
Ballast/Driver: -

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 7679.7 lumens  
Efficiency: N/A  
Efficacy: 98.1 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

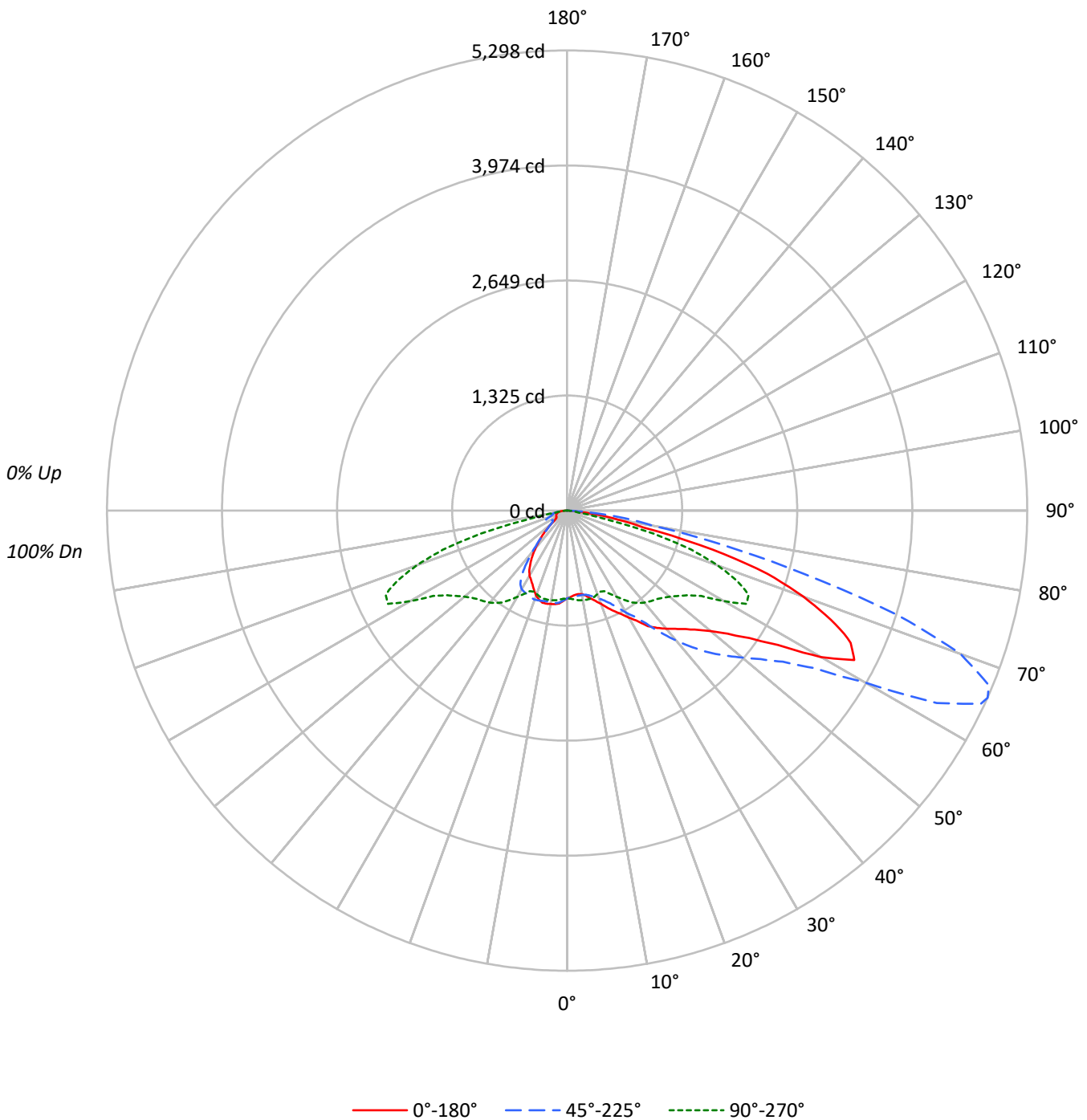
Input Watts (W): 78.3  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	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°	21793	21793	21793
5°	21087	22258	23211
10°	21331	22925	23869
15°	23373	23390	24487
20°	26199	23443	23869
25°	30321	24366	22354
30°	35376	28532	21500
35°	42674	33881	19345
40°	49871	38897	15974
45°	58774	44023	12148
50°	72258	51634	7773
55°	96110	63712	5818
60°	145119	89793	6127
65°	183514	117364	7075
70°	182025	115966	8422
75°	144371	85889	10356
80°	73194	18063	12918
85°	10671	14845	16525



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	98.3	1.3
10°-20°	298.4	3.9
20°-30°	514.0	6.7
30°-40°	777.7	10.1
40°-50°	1008.0	13.1
50°-60°	1389.8	18.1
60°-70°	2159.2	28.1
70°-80°	1255.6	16.3
80°-90°	178.5	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°	910.8	11.9
0°-40°	1688.5	22.0
0°-60°	4086.3	53.2
0°-90°	7679.7	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	7679.7	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	1012	1012	1012	1012	1012	
5°	976	990	1030	1064	1074	93
15°	1049	1012	1050	1077	1099	300
25°	1276	1180	1026	1072	941	595
35°	1624	1587	1289	910	736	1015
45°	1930	2311	1446	381	399	1509
55°	2561	3033	1698	196	155	2372
65°	3603	5260	2304	278	139	3409
75°	1736	2828	1033	174	124	1788
85°	43	295	60	71	67	187
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°	1012.3	1012.3	1012.3	1012.3	1012.3	1012.3	1012.3	1012.3	1012.3	1012.3	1012.3	1012.3
2.5°	993.6	997.0	994.5	995.3	995.3	996.2	996.2	997.0	996.2	998.7	998.7	1000.4
5°	975.8	977.5	976.7	978.4	980.1	983.5	982.6	986.8	987.7	990.2	990.2	994.5
7.5°	969.1	967.4	968.2	970.7	972.4	974.1	975.8	979.2	981.8	987.7	987.7	991.1
10°	975.8	975.0	975.8	977.5	977.5	978.4	976.7	980.1	981.8	986.8	986.8	990.2
12.5°	1003.8	1003.8	1002.1	1002.1	1000.4	998.7	994.5	991.9	991.1	991.9	991.9	993.6
15°	1048.7	1047.0	1043.6	1041.1	1037.7	1031.7	1025.8	1020.7	1017.3	1012.3	1012.3	1010.6
17.5°	1092.7	1090.2	1086.8	1083.4	1079.2	1073.2	1063.9	1058.0	1048.7	1042.8	1042.8	1039.4
20°	1143.6	1138.5	1134.2	1130.0	1121.5	1119.8	1110.5	1100.4	1089.3	1075.8	1075.8	1074.1
22.5°	1209.6	1201.2	1196.1	1193.5	1185.1	1182.5	1167.3	1152.9	1139.3	1121.5	1121.5	1117.3
25°	1276.5	1268.1	1265.5	1262.1	1256.2	1252.8	1238.4	1222.3	1204.5	1180.0	1180.0	1174.9
27.5°	1341.8	1342.6	1335.8	1338.4	1336.7	1330.8	1316.4	1300.3	1286.7	1257.9	1257.9	1252.0
30°	1423.1	1418.0	1414.6	1419.7	1413.8	1414.6	1401.9	1393.4	1371.4	1354.5	1354.5	1342.6
32.5°	1507.8	1506.9	1512.0	1515.4	1514.6	1512.9	1502.7	1494.2	1474.8	1450.2	1450.2	1445.1
35°	1623.8	1628.9	1633.2	1648.4	1648.4	1659.4	1649.3	1639.1	1616.2	1586.6	1586.6	1576.4
37.5°	1702.6	1704.3	1721.3	1741.6	1767.0	1790.7	1797.5	1800.0	1790.7	1768.7	1768.7	1753.4
40°	1774.6	1778.0	1805.1	1836.5	1873.7	1920.3	1948.3	1961.0	1963.5	1953.4	1953.4	1920.3
42.5°	1846.6	1851.7	1879.7	1925.4	1977.1	2036.4	2085.5	2116.8	2134.6	2134.6	2134.6	2115.1
45°	1930.5	1937.3	1967.8	2017.7	2077.9	2152.4	2220.2	2280.3	2309.1	2310.8	2310.8	2292.2
47.5°	2029.6	2035.5	2071.1	2121.9	2183.8	2259.2	2344.7	2413.3	2466.7	2470.1	2470.1	2454.8
50°	2157.5	2166.0	2195.6	2241.4	2304.9	2381.1	2466.7	2562.4	2618.3	2631.9	2631.9	2615.8
52.5°	2326.9	2328.6	2353.2	2395.5	2457.4	2530.2	2620.9	2725.0	2798.7	2809.7	2809.7	2783.5
55°	2560.7	2558.2	2574.3	2620.0	2666.6	2723.3	2817.4	2934.3	3016.4	3033.4	3033.4	3006.3
57.5°	2878.4	2875.8	2889.4	2900.4	2987.6	3042.7	3135.0	3246.8	3326.5	3375.6	3375.6	3329.0
60°	3370.5	3368.0	3390.0	3454.4	3519.6	3600.1	3689.9	3823.7	3935.5	3949.9	3949.9	3904.2
62.5°	3727.1	3739.8	3788.1	3863.5	3995.7	4153.2	4317.5	4493.7	4723.3	4796.1	4796.1	4774.1
65°	3602.6	3628.0	3694.9	3809.3	3985.5	4203.2	4460.7	4780.0	5087.5	5259.5	5259.5	5254.4
66°	3490.8	3518.8	3600.9	3711.0	3897.4	4135.4	4416.7	4764.8	5108.7	5298.5	5298.5	5310.3
67.5°	3287.5	3318.8	3399.3	3529.8	3711.0	3964.3	4266.7	4645.4	5034.2	5255.3	5255.3	5286.6
70°	2891.9	2927.5	2985.9	3093.5	3272.3	3498.4	3816.9	4155.8	4563.2	4816.5	4816.5	4854.6
72.5°	2417.6	2448.9	2514.1	2602.2	2748.8	2891.1	3141.0	3390.8	3682.2	3971.1	3971.1	3943.1
75°	1735.7	1749.2	1788.2	1883.9	1962.7	2090.6	2291.3	2496.3	2695.4	2827.5	2827.5	2846.2
77.5°	902.1	937.7	992.8	1098.7	1184.2	1299.4	1429.9	1584.0	1729.7	1850.9	1850.9	1817.8
80°	590.4	605.7	654.8	709.0	771.7	845.4	932.6	990.2	1008.9	1001.2	1001.2	1008.9
82.5°	340.5	368.5	433.7	475.2	521.8	547.2	616.7	682.7	720.0	673.4	673.4	656.5
85°	43.2	55.9	176.2	221.9	254.1	292.2	313.4	353.2	329.5	294.8	294.8	359.2
87.5°	9.3	8.5	11.9	25.4	26.3	22.0	41.5	44.0	27.1	13.6	13.6	16.9
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°	1012.3	1012.3	1012.3	1012.3	1012.3	1012.3	1012.3	1012.3	1012.3	1012.3	1012.3
2.5°	1002.1	1002.9	1004.6	1007.2	1008.9	1010.6	1012.3	1014.8	1016.5	1018.2	1021.6
5°	997.9	1001.2	1004.6	1008.0	1012.3	1019.0	1023.3	1026.7	1030.0	1036.8	1039.4
7.5°	995.3	1001.2	1006.3	1012.3	1019.0	1025.0	1032.6	1036.8	1041.9	1046.1	1051.2
10°	993.6	1002.1	1007.2	1015.6	1023.3	1029.2	1037.7	1042.8	1048.7	1053.8	1056.3
12.5°	997.0	1001.2	1006.3	1014.8	1024.1	1032.6	1041.9	1046.1	1051.2	1055.5	1056.3
15°	1011.4	1011.4	1012.3	1019.0	1028.3	1035.1	1042.8	1047.0	1049.5	1052.1	1052.1
17.5°	1037.7	1031.7	1027.5	1028.3	1034.3	1038.5	1042.8	1042.8	1041.1	1040.2	1038.5
20°	1068.2	1060.5	1052.1	1046.1	1044.4	1041.1	1038.5	1030.0	1023.3	1017.3	1013.1
22.5°	1112.2	1100.4	1088.5	1077.5	1067.3	1054.6	1040.2	1023.3	1007.2	996.2	989.4
25°	1166.4	1157.1	1142.7	1125.8	1113.1	1089.3	1070.7	1046.1	1025.8	1011.4	999.5
27.5°	1243.5	1232.5	1218.9	1203.7	1185.1	1158.8	1135.9	1107.1	1082.6	1061.4	1046.1
30°	1339.2	1324.8	1314.7	1296.0	1283.3	1253.7	1230.8	1195.2	1147.8	1113.9	1092.7
32.5°	1437.5	1421.4	1412.9	1398.5	1384.1	1366.3	1331.6	1276.5	1215.6	1160.5	1124.1
35°	1568.8	1551.8	1536.6	1523.9	1502.7	1469.7	1439.2	1373.1	1289.2	1212.2	1151.2
37.5°	1734.0	1706.0	1667.9	1635.7	1598.4	1551.0	1504.4	1436.6	1340.9	1241.0	1159.6
40°	1910.2	1861.0	1806.8	1746.7	1682.3	1613.7	1560.3	1491.7	1384.1	1265.5	1153.7
42.5°	2094.0	2016.0	1940.7	1855.9	1766.2	1684.8	1615.4	1540.0	1416.3	1272.3	1130.0
45°	2276.1	2188.8	2074.5	1963.5	1850.0	1749.2	1671.3	1586.6	1446.0	1274.8	1098.7
47.5°	2426.9	2337.1	2206.6	2067.7	1933.0	1818.7	1727.2	1635.7	1485.8	1292.6	1091.0
50°	2586.1	2476.8	2332.0	2167.7	2015.2	1887.3	1789.9	1695.0	1541.7	1338.4	1115.6
52.5°	2759.8	2634.4	2465.0	2281.2	2114.3	1971.1	1865.3	1767.8	1612.8	1402.8	1162.2
55°	2971.5	2818.2	2634.4	2426.9	2248.1	2089.7	1972.8	1857.6	1697.5	1479.0	1220.6
57.5°	3295.1	3107.1	2900.4	2664.1	2465.8	2278.6	2138.9	2005.9	1828.8	1592.5	1300.3
60°	3880.5	3679.7	3411.2	3124.9	2891.9	2673.4	2468.4	2303.2	2085.5	1816.1	1476.5
62.5°	4719.1	4452.2	4093.9	3693.2	3388.3	3073.2	2841.9	2596.3	2326.1	2035.5	1684.0
65°	5184.9	4861.4	4381.9	3916.9	3524.7	3182.5	2888.5	2603.9	2304.0	2026.2	1732.3
66°	5242.6	4905.4	4407.3	3917.7	3506.0	3154.5	2845.3	2550.5	2243.9	1978.8	1711.9
67.5°	5218.8	4874.1	4360.7	3844.0	3425.6	3047.8	2728.4	2422.6	2116.8	1869.5	1644.2
70°	4830.0	4503.1	3999.0	3498.4	3101.1	2728.4	2423.5	2122.8	1842.4	1630.6	1464.6
72.5°	4010.9	3731.4	3293.4	2900.4	2588.7	2281.2	2022.8	1735.7	1498.5	1341.8	1243.5
75°	2895.3	2725.9	2326.9	2101.6	1828.0	1623.8	1373.1	1202.8	1032.6	956.3	939.4
77.5°	1828.8	1601.0	1347.7	1109.7	912.3	756.4	588.7	499.8	416.8	408.3	493.0
80°	925.9	833.5	642.1	511.6	430.3	348.1	275.3	208.4	145.7	175.3	210.1
82.5°	606.5	505.7	396.4	326.1	283.8	235.5	183.0	127.1	93.2	105.0	144.0
85°	327.8	279.5	225.3	177.9	144.0	128.8	86.4	61.0	60.1	64.4	82.2
87.5°	23.7	23.7	18.6	16.9	20.3	16.9	15.2	15.2	14.4	15.2	20.3
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°	1012.3	1012.3	1012.3	1012.3	1012.3	1012.3	1012.3	1012.3	1012.3	1012.3	1012.3
2.5°	1023.3	1025.8	1026.7	1030.9	1033.4	1035.1	1036.8	1036.8	1037.7	1040.2	1041.1
5°	1042.8	1047.0	1052.1	1055.5	1057.2	1062.2	1063.9	1063.9	1065.6	1069.0	1071.6
7.5°	1054.6	1060.5	1065.6	1067.3	1070.7	1072.4	1074.9	1076.6	1076.6	1080.0	1081.7
10°	1058.8	1062.2	1067.3	1067.3	1070.7	1070.7	1073.2	1074.1	1074.1	1077.5	1080.0
12.5°	1058.8	1060.5	1064.8	1064.8	1067.3	1068.2	1071.6	1074.1	1074.9	1079.2	1082.6
15°	1053.8	1055.5	1058.8	1059.7	1065.6	1069.0	1076.6	1081.7	1081.7	1086.0	1087.6
17.5°	1039.4	1043.6	1050.4	1057.2	1068.2	1075.8	1085.1	1089.3	1086.0	1083.4	1080.9
20°	1015.6	1023.3	1039.4	1056.3	1075.8	1086.0	1091.0	1086.8	1074.9	1063.1	1055.5
22.5°	991.9	1007.2	1034.3	1059.7	1081.7	1088.5	1086.0	1070.7	1051.2	1036.8	1026.7
25°	1002.9	1020.7	1047.0	1069.9	1084.3	1082.6	1072.4	1051.2	1030.0	1011.4	994.5
27.5°	1048.7	1068.2	1082.6	1090.2	1088.5	1076.6	1060.5	1036.8	1011.4	986.8	963.1
30°	1091.9	1102.0	1105.4	1099.5	1086.0	1066.5	1046.1	1019.0	985.1	954.7	927.5
32.5°	1111.4	1101.2	1085.1	1069.0	1047.0	1030.0	1002.1	972.4	930.1	893.7	866.6
35°	1111.4	1070.7	1030.0	996.2	963.1	941.9	909.8	869.9	831.0	800.5	779.3
37.5°	1086.8	1008.9	941.9	886.9	845.4	822.5	774.2	738.6	705.6	695.4	681.9
40°	1041.9	926.7	830.1	758.1	705.6	671.7	623.4	598.9	586.2	581.1	578.6
42.5°	981.8	835.2	706.5	617.5	560.8	522.6	490.5	475.2	474.4	473.5	473.5
45°	917.4	737.0	586.2	480.3	430.3	396.4	381.2	375.3	380.3	379.5	380.3
47.5°	877.6	662.4	476.1	363.4	325.3	303.3	295.6	298.2	302.4	300.7	300.7
50°	872.5	624.3	402.4	282.9	254.1	243.1	241.4	241.4	244.0	242.3	241.4
52.5°	891.1	618.4	364.2	243.1	220.2	210.9	209.2	208.4	207.5	202.5	198.2
55°	923.3	631.9	353.2	232.9	209.2	199.1	196.5	194.8	191.4	184.7	177.0
57.5°	987.7	674.3	363.4	238.0	212.6	204.1	201.6	201.6	194.8	183.8	172.8
60°	1142.7	781.9	404.9	257.5	228.7	220.2	221.9	221.1	210.9	194.8	177.9
62.5°	1342.6	922.5	459.1	284.6	249.0	247.3	255.8	254.1	237.2	212.6	188.1
65°	1434.9	988.5	474.4	290.5	253.3	260.9	277.8	276.1	255.0	221.1	189.7
66°	1436.6	988.5	467.6	285.5	247.3	256.7	273.6	272.8	251.6	217.7	186.4
67.5°	1401.9	961.4	448.1	275.3	235.5	242.3	257.5	256.7	237.2	209.2	179.6
70°	1271.5	860.6	398.1	257.5	219.4	216.0	221.1	217.7	205.0	185.5	165.2
72.5°	1089.3	722.6	347.3	244.0	208.4	194.8	191.4	188.9	178.7	167.7	155.0
75°	858.1	571.8	304.9	233.8	198.2	180.4	174.5	171.1	164.3	156.7	146.5
77.5°	529.4	409.1	266.0	220.2	190.6	172.8	168.6	163.5	153.3	144.0	136.4
80°	236.3	253.3	218.5	192.3	170.3	154.2	147.4	139.8	129.6	123.7	119.4
82.5°	157.6	163.5	158.4	144.0	128.8	116.0	105.9	105.9	104.2	99.1	97.4
85°	100.8	101.6	98.3	88.9	83.0	75.4	71.2	72.0	75.4	74.5	73.7
87.5°	22.9	22.9	27.1	25.4	29.6	31.3	33.9	36.4	41.5	41.5	44.0
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: P156637

CATALOG NUMBER: TLM-F03-LED-E1-T4-7060

**CANDELA DISTRIBUTION (continued):**

	160°	165°	170°	175°	180°
0°	1012.3	1012.3	1012.3	1012.3	1012.3
2.5°	1041.9	1043.6	1045.3	1042.8	1043.6
5°	1071.6	1070.7	1074.9	1072.4	1074.1
7.5°	1080.9	1081.7	1085.1	1085.1	1086.0
10°	1081.7	1083.4	1087.6	1090.2	1091.9
12.5°	1086.0	1089.3	1096.1	1097.8	1097.8
15°	1089.3	1091.0	1095.3	1097.0	1098.7
17.5°	1077.5	1074.1	1075.8	1076.6	1075.8
20°	1047.8	1044.4	1043.6	1040.2	1041.9
22.5°	1015.6	1006.3	1000.4	993.6	993.6
25°	976.7	962.3	950.4	938.6	941.1
27.5°	940.3	921.6	909.8	902.1	900.4
30°	904.7	885.2	874.2	864.9	864.9
32.5°	845.4	831.8	817.4	811.5	810.7
35°	763.2	754.7	742.9	740.3	736.1
37.5°	670.9	668.3	658.2	657.3	653.1
40°	574.3	576.0	572.6	570.9	568.4
42.5°	477.8	486.2	484.5	483.7	482.0
45°	385.4	391.3	392.2	394.7	399.0
47.5°	303.3	304.9	306.6	305.8	306.6
50°	237.2	232.9	232.1	229.6	232.1
52.5°	191.4	184.7	181.3	177.9	176.2
55°	168.6	161.8	158.4	156.7	155.0
57.5°	162.6	155.9	150.8	147.4	146.5
60°	164.3	154.2	147.4	143.2	142.3
62.5°	168.6	155.0	145.7	141.5	140.6
65°	167.7	153.3	144.8	139.8	138.9
66°	165.2	151.6	143.2	138.9	138.1
67.5°	160.9	149.1	141.5	138.1	136.4
70°	153.3	145.7	139.8	135.5	133.8
72.5°	146.5	140.6	135.5	131.3	130.4
75°	138.9	133.8	128.8	125.4	124.5
77.5°	129.6	124.5	121.1	118.6	117.7
80°	114.4	111.0	107.6	104.2	104.2
82.5°	94.9	92.3	88.9	86.4	85.6
85°	72.8	72.8	70.3	67.8	66.9
87.5°	43.2	42.4	42.4	39.8	39.8
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)