

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: P156655

Luminaire Tested: **TLM-F05-LED-E1-T4**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P156655
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-F05-LED-E1-T4
Description: TALON MEDIUM LED SITE LUMINAIRE
(5) LIGHTBARS WITH AccuLED OPTICS - TYPE 4
Light Source: (35) 4000K CCT, 70 CRI LEDs
Ballast/Driver: -

Summary

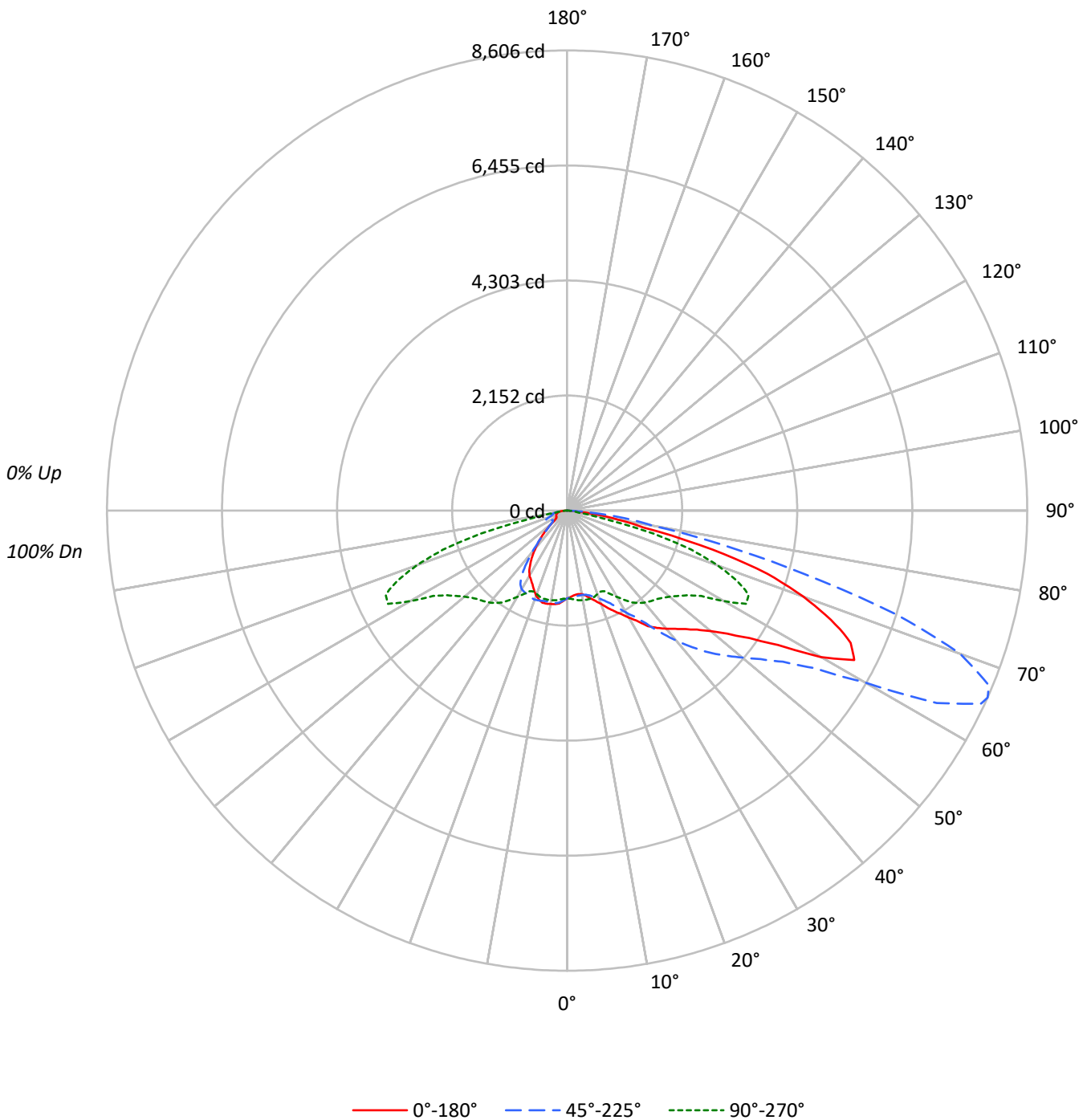
Lumens per Lamp: N/A
Luminaire Lumens: 12473.9 lumens
Efficiency: N/A
Efficacy: 93.6 lumens/watt
Spacing Criteria (0/90/45): 1.73 / 2.02 / 2.64
Luminous Opening: Rectangular (W 0.83' x L: 1' x H: 0')
CIE Type: Direct

Input Watts (W): 133.3
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	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°	21323	21323	21323
5°	20634	21781	22711
10°	20872	22430	23355
15°	22869	22887	23959
20°	25634	22938	23355
25°	29669	23842	21873
30°	34614	27918	21037
35°	41758	33153	18928
40°	48799	38060	15629
45°	57508	43074	11885
50°	70703	50522	7606
55°	94042	62343	5693
60°	141995	87859	5994
65°	179564	114840	6923
70°	178106	113468	8243
75°	141261	84039	10137
80°	71621	17677	12636
85°	10446	14538	16174



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	159.7	1.3
10°-20°	484.7	3.9
20°-30°	835.0	6.7
30°-40°	1263.2	10.1
40°-50°	1637.3	13.1
50°-60°	2257.4	18.1
60°-70°	3507.2	28.1
70°-80°	2039.4	16.3
80°-90°	290.0	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°	1479.4	11.9
0°-40°	2742.6	22.0
0°-60°	6637.3	53.2
0°-90°	12473.9	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	12473.9	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	1644	1644	1644	1644	1644	
5°	1585	1608	1673	1728	1745	151
15°	1703	1644	1705	1749	1784	488
25°	2073	1917	1666	1742	1529	967
35°	2638	2577	2094	1478	1196	1648
45°	3136	3753	2349	619	648	2451
55°	4159	4927	2757	319	252	3852
65°	5852	8543	3742	451	226	5538
75°	2819	4593	1677	283	202	2903
85°	70	479	98	116	109	304
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°	1644.2	1644.2	1644.2	1644.2	1644.2	1644.2	1644.2	1644.2	1644.2	1644.2	1644.2
2.5°	1613.9	1619.4	1615.3	1616.7	1616.7	1618.0	1618.0	1619.4	1618.0	1622.2	1624.9
5°	1585.0	1587.8	1586.4	1589.1	1591.9	1597.4	1596.0	1602.9	1604.3	1608.4	1615.3
7.5°	1574.0	1571.2	1572.6	1576.8	1579.5	1582.3	1585.0	1590.5	1594.6	1604.3	1609.8
10°	1585.0	1583.6	1585.0	1587.8	1587.8	1589.1	1586.4	1591.9	1594.6	1602.9	1608.4
12.5°	1630.4	1630.4	1627.7	1627.7	1624.9	1622.2	1615.3	1611.1	1609.8	1611.1	1613.9
15°	1703.3	1700.6	1695.1	1691.0	1685.4	1675.8	1666.2	1657.9	1652.4	1644.2	1641.4
17.5°	1774.9	1770.8	1765.2	1759.7	1752.9	1743.2	1728.1	1718.5	1703.3	1693.7	1688.2
20°	1857.4	1849.2	1842.3	1835.4	1821.7	1818.9	1803.8	1787.3	1769.4	1747.4	1744.6
22.5°	1964.7	1951.0	1942.7	1938.6	1924.8	1920.7	1896.0	1872.6	1850.6	1821.7	1814.8
25°	2073.4	2059.7	2055.6	2050.1	2040.4	2034.9	2011.5	1985.4	1956.5	1916.6	1908.3
27.5°	2179.4	2180.8	2169.8	2173.9	2171.1	2161.5	2138.1	2112.0	2090.0	2043.2	2033.5
30°	2311.5	2303.2	2297.7	2306.0	2296.3	2297.7	2277.1	2263.3	2227.5	2200.0	2180.8
32.5°	2449.1	2447.7	2455.9	2461.4	2460.1	2457.3	2440.8	2427.0	2395.4	2355.5	2347.2
35°	2637.6	2645.8	2652.7	2677.5	2677.5	2695.3	2678.8	2662.3	2625.2	2577.0	2560.5
37.5°	2765.5	2768.3	2795.8	2828.8	2870.1	2908.6	2919.6	2923.7	2908.6	2872.8	2848.1
40°	2882.5	2888.0	2932.0	2982.9	3043.4	3119.1	3164.5	3185.2	3189.3	3172.8	3119.1
42.5°	2999.4	3007.7	3053.1	3127.4	3211.3	3307.6	3387.4	3438.3	3467.2	3467.2	3435.6
45°	3135.6	3146.6	3196.2	3277.3	3375.0	3496.1	3606.2	3703.9	3750.6	3753.4	3723.1
47.5°	3296.6	3306.2	3364.0	3446.6	3547.0	3669.5	3808.4	3919.9	4006.5	4012.1	3987.3
50°	3504.4	3518.1	3566.3	3640.6	3743.8	3867.6	4006.5	4162.0	4252.8	4274.8	4248.7
52.5°	3779.5	3782.3	3822.2	3891.0	3991.4	4109.7	4257.0	4426.2	4545.9	4563.8	4521.1
55°	4159.3	4155.1	4181.3	4255.6	4331.3	4423.4	4576.2	4766.0	4899.5	4927.0	4883.0
57.5°	4675.2	4671.1	4693.1	4711.0	4852.7	4942.1	5092.1	5273.7	5403.1	5482.9	5407.2
60°	5474.6	5470.5	5506.3	5610.8	5716.8	5847.5	5993.3	6210.7	6392.3	6415.7	6341.4
62.5°	6053.8	6074.5	6152.9	6275.4	6490.0	6745.9	7012.8	7299.0	7671.9	7790.2	7754.4
65°	5851.6	5892.9	6001.6	6187.3	6473.5	6827.1	7245.4	7764.1	8263.5	8542.8	8534.6
66°	5670.0	5715.4	5848.8	6027.7	6330.4	6717.0	7173.8	7739.3	8297.9	8606.1	8625.4
67.5°	5339.8	5390.7	5521.4	5733.3	6027.7	6439.1	6930.3	7545.3	8176.8	8535.9	8586.8
70°	4697.2	4755.0	4850.0	5024.7	5315.0	5682.4	6199.7	6750.0	7411.8	7823.2	7885.1
72.5°	3926.7	3977.7	4083.6	4226.7	4464.7	4695.9	5101.7	5507.6	5980.9	6450.1	6404.7
75°	2819.2	2841.2	2904.5	3059.9	3187.9	3395.7	3721.7	4054.7	4378.0	4592.7	4622.9
77.5°	1465.3	1523.1	1612.5	1784.5	1923.5	2110.6	2322.5	2572.9	2809.5	3006.3	2952.6
80°	959.0	983.8	1063.6	1151.6	1253.4	1373.1	1514.8	1608.4	1638.7	1626.3	1638.7
82.5°	553.1	598.5	704.4	771.9	847.5	888.8	1001.6	1109.0	1169.5	1093.8	1066.3
85°	70.2	90.8	286.2	360.5	412.8	474.7	509.1	573.7	535.2	478.8	583.4
87.5°	15.1	13.8	19.3	41.3	42.7	35.8	67.4	71.5	44.0	22.0	27.5
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°	1644.2	1644.2	1644.2	1644.2	1644.2	1644.2	1644.2	1644.2	1644.2	1644.2	1644.2
2.5°	1627.7	1629.0	1631.8	1635.9	1638.7	1641.4	1644.2	1648.3	1651.0	1653.8	1659.3
5°	1620.8	1626.3	1631.8	1637.3	1644.2	1655.2	1662.1	1667.6	1673.1	1684.1	1688.2
7.5°	1616.7	1626.3	1634.5	1644.2	1655.2	1664.8	1677.2	1684.1	1692.3	1699.2	1707.5
10°	1613.9	1627.7	1635.9	1649.7	1662.1	1671.7	1685.4	1693.7	1703.3	1711.6	1715.7
12.5°	1619.4	1626.3	1634.5	1648.3	1663.4	1677.2	1692.3	1699.2	1707.5	1714.3	1715.7
15°	1642.8	1642.8	1644.2	1655.2	1670.3	1681.3	1693.7	1700.6	1704.7	1708.8	1708.8
17.5°	1685.4	1675.8	1668.9	1670.3	1679.9	1686.8	1693.7	1693.7	1691.0	1689.6	1686.8
20°	1735.0	1722.6	1708.8	1699.2	1696.5	1691.0	1686.8	1673.1	1662.1	1652.4	1645.5
22.5°	1806.5	1787.3	1768.0	1750.1	1733.6	1713.0	1689.6	1662.1	1635.9	1618.0	1607.0
25°	1894.6	1879.4	1856.1	1828.5	1807.9	1769.4	1739.1	1699.2	1666.2	1642.8	1623.5
27.5°	2019.8	2001.9	1979.9	1955.1	1924.8	1882.2	1845.0	1798.3	1758.4	1724.0	1699.2
30°	2175.3	2151.9	2135.4	2105.1	2084.5	2036.3	1999.1	1941.4	1864.3	1809.3	1774.9
32.5°	2334.9	2308.7	2295.0	2271.6	2248.2	2219.3	2162.9	2073.4	1974.4	1884.9	1825.8
35°	2548.1	2520.6	2495.8	2475.2	2440.8	2387.1	2337.6	2230.3	2094.1	1968.9	1869.8
37.5°	2816.4	2771.0	2709.1	2656.8	2596.3	2519.2	2443.6	2333.5	2178.0	2015.7	1883.6
40°	3102.6	3022.8	2934.7	2837.1	2732.5	2621.0	2534.4	2422.9	2248.2	2055.6	1873.9
42.5°	3401.2	3274.6	3152.1	3014.5	2868.7	2736.6	2623.8	2501.3	2300.5	2066.6	1835.4
45°	3697.0	3555.3	3369.5	3189.3	3004.9	2841.2	2714.6	2577.0	2348.6	2070.7	1784.5
47.5°	3941.9	3796.0	3584.2	3358.5	3139.7	2954.0	2805.4	2656.8	2413.3	2099.6	1772.1
50°	4200.5	4023.1	3787.8	3520.9	3273.2	3065.4	2907.2	2753.1	2504.1	2173.9	1812.0
52.5°	4482.6	4279.0	4003.8	3705.2	3434.2	3201.7	3029.7	2871.5	2619.7	2278.4	1887.7
55°	4826.6	4577.5	4279.0	3941.9	3651.6	3394.3	3204.4	3017.3	2757.3	2402.3	1982.6
57.5°	5352.2	5046.7	4711.0	4327.1	4005.2	3701.1	3474.1	3258.1	2970.5	2586.6	2112.0
60°	6302.9	5976.8	5540.6	5075.6	4697.2	4342.3	4009.3	3741.0	3387.4	2949.9	2398.1
62.5°	7665.0	7231.6	6649.6	5998.8	5503.5	4991.7	4616.1	4217.1	3778.2	3306.2	2735.2
65°	8421.7	7896.1	7117.4	6362.0	5725.0	5169.2	4691.7	4229.4	3742.4	3291.1	2813.7
66°	8515.3	7967.7	7158.7	6363.4	5694.7	5123.8	4621.6	4142.8	3644.7	3214.0	2780.6
67.5°	8476.8	7916.8	7083.0	6243.7	5564.0	4950.4	4431.7	3935.0	3438.3	3036.6	2670.6
70°	7845.2	7314.2	6495.5	5682.4	5037.1	4431.7	3936.4	3447.9	2992.5	2648.6	2378.9
72.5°	6514.8	6060.7	5349.4	4711.0	4204.7	3705.2	3285.6	2819.2	2433.9	2179.4	2019.8
75°	4702.7	4427.6	3779.5	3413.5	2969.1	2637.6	2230.3	1953.7	1677.2	1553.4	1525.8
77.5°	2970.5	2600.4	2189.0	1802.4	1481.8	1228.7	956.2	811.8	676.9	663.2	800.8
80°	1503.8	1353.9	1042.9	831.0	698.9	565.5	447.2	338.5	236.7	284.8	341.2
82.5°	985.1	821.4	643.9	529.7	460.9	382.5	297.2	206.4	151.3	170.6	233.9
85°	532.5	454.0	366.0	288.9	233.9	209.1	140.3	99.1	97.7	104.6	133.5
87.5°	38.5	38.5	30.3	27.5	33.0	27.5	24.8	24.8	23.4	24.8	33.0
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):

	105°	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°
0°	1644.2	1644.2	1644.2	1644.2	1644.2	1644.2	1644.2	1644.2	1644.2	1644.2	1644.2
2.5°	1662.1	1666.2	1667.6	1674.4	1678.6	1681.3	1684.1	1684.1	1685.4	1689.6	1691.0
5°	1693.7	1700.6	1708.8	1714.3	1717.1	1725.3	1728.1	1728.1	1730.9	1736.4	1740.5
7.5°	1713.0	1722.6	1730.9	1733.6	1739.1	1741.9	1746.0	1748.7	1748.7	1754.2	1757.0
10°	1719.8	1725.3	1733.6	1733.6	1739.1	1739.1	1743.2	1744.6	1744.6	1750.1	1754.2
12.5°	1719.8	1722.6	1729.5	1729.5	1733.6	1735.0	1740.5	1744.6	1746.0	1752.9	1758.4
15°	1711.6	1714.3	1719.8	1721.2	1730.9	1736.4	1748.7	1757.0	1757.0	1763.9	1766.6
17.5°	1688.2	1695.1	1706.1	1717.1	1735.0	1747.4	1762.5	1769.4	1763.9	1759.7	1755.6
20°	1649.7	1662.1	1688.2	1715.7	1747.4	1763.9	1772.1	1765.2	1746.0	1726.7	1714.3
22.5°	1611.1	1635.9	1679.9	1721.2	1757.0	1768.0	1763.9	1739.1	1707.5	1684.1	1667.6
25°	1629.0	1657.9	1700.6	1737.7	1761.1	1758.4	1741.9	1707.5	1673.1	1642.8	1615.3
27.5°	1703.3	1735.0	1758.4	1770.8	1768.0	1748.7	1722.6	1684.1	1642.8	1602.9	1564.4
30°	1773.5	1790.0	1795.5	1785.9	1763.9	1732.2	1699.2	1655.2	1600.1	1550.6	1506.6
32.5°	1805.1	1788.6	1762.5	1736.4	1700.6	1673.1	1627.7	1579.5	1510.7	1451.5	1407.5
35°	1805.1	1739.1	1673.1	1618.0	1564.4	1530.0	1477.7	1413.0	1349.7	1300.2	1265.8
37.5°	1765.2	1638.7	1530.0	1440.5	1373.1	1336.0	1257.5	1199.8	1146.1	1129.6	1107.6
40°	1692.3	1505.2	1348.4	1231.4	1146.1	1091.1	1012.6	972.7	952.1	943.9	939.7
42.5°	1594.6	1356.6	1147.5	1003.0	910.8	848.9	796.6	771.9	770.5	769.1	769.1
45°	1490.1	1197.0	952.1	780.1	698.9	643.9	619.1	609.5	617.8	616.4	617.8
47.5°	1425.4	1075.9	773.2	590.3	528.3	492.6	480.2	484.3	491.2	488.4	488.4
50°	1417.2	1014.0	653.5	459.5	412.8	394.9	392.1	392.1	396.3	393.5	392.1
52.5°	1447.4	1004.4	591.6	394.9	357.7	342.6	339.8	338.5	337.1	328.8	322.0
55°	1499.7	1026.4	573.7	378.4	339.8	323.3	319.2	316.5	310.9	299.9	287.6
57.5°	1604.3	1095.2	590.3	386.6	345.3	331.6	327.5	327.5	316.5	298.6	280.7
60°	1856.1	1269.9	657.7	418.3	371.5	357.7	360.5	359.1	342.6	316.5	288.9
62.5°	2180.8	1498.3	745.7	462.3	404.5	401.8	415.5	412.8	385.2	345.3	305.4
65°	2330.7	1605.6	770.5	471.9	411.4	423.8	451.3	448.5	414.1	359.1	308.2
66°	2333.5	1605.6	759.5	463.7	401.8	416.9	444.4	443.0	408.6	353.6	302.7
67.5°	2277.1	1561.6	727.8	447.2	382.5	393.5	418.3	416.9	385.2	339.8	291.7
70°	2065.2	1397.9	646.7	418.3	356.4	350.8	359.1	353.6	333.0	301.3	268.3
72.5°	1769.4	1173.6	564.1	396.3	338.5	316.5	310.9	306.8	290.3	272.4	251.8
75°	1393.8	928.7	495.3	379.7	322.0	293.1	283.4	277.9	266.9	254.5	238.0
77.5°	859.9	664.5	432.0	357.7	309.6	280.7	273.8	265.5	249.0	233.9	221.5
80°	383.9	411.4	355.0	312.3	276.6	250.4	239.4	227.0	210.5	200.9	194.0
82.5°	255.9	265.5	257.3	233.9	209.1	188.5	172.0	172.0	169.2	161.0	158.2
85°	163.7	165.1	159.6	144.5	134.8	122.5	115.6	116.9	122.5	121.1	119.7
87.5°	37.1	37.1	44.0	41.3	48.2	50.9	55.0	59.2	67.4	67.4	71.5
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: P156655

CATALOG NUMBER: TLM-F05-LED-E1-T4

CANDELA DISTRIBUTION (continued):

	160°	165°	170°	175°	180°
0°	1644.2	1644.2	1644.2	1644.2	1644.2
2.5°	1692.3	1695.1	1697.8	1693.7	1695.1
5°	1740.5	1739.1	1746.0	1741.9	1744.6
7.5°	1755.6	1757.0	1762.5	1762.5	1763.9
10°	1757.0	1759.7	1766.6	1770.8	1773.5
12.5°	1763.9	1769.4	1780.4	1783.1	1783.1
15°	1769.4	1772.1	1779.0	1781.8	1784.5
17.5°	1750.1	1744.6	1747.4	1748.7	1747.4
20°	1702.0	1696.5	1695.1	1689.6	1692.3
22.5°	1649.7	1634.5	1624.9	1613.9	1613.9
25°	1586.4	1563.0	1543.7	1524.5	1528.6
27.5°	1527.2	1497.0	1477.7	1465.3	1462.6
30°	1469.4	1437.8	1419.9	1404.8	1404.8
32.5°	1373.1	1351.1	1327.7	1318.1	1316.7
35°	1239.7	1225.9	1206.6	1202.5	1195.6
37.5°	1089.7	1085.6	1069.1	1067.7	1060.8
40°	932.8	935.6	930.1	927.3	923.2
42.5°	776.0	789.8	787.0	785.6	782.9
45°	626.0	635.7	637.0	641.2	648.0
47.5°	492.6	495.3	498.1	496.7	498.1
50°	385.2	378.4	377.0	372.9	377.0
52.5°	310.9	299.9	294.4	288.9	286.2
55°	273.8	262.8	257.3	254.5	251.8
57.5°	264.2	253.2	244.9	239.4	238.0
60°	266.9	250.4	239.4	232.5	231.1
62.5°	273.8	251.8	236.7	229.8	228.4
65°	272.4	249.0	235.3	227.0	225.6
66°	268.3	246.3	232.5	225.6	224.3
67.5°	261.4	242.2	229.8	224.3	221.5
70°	249.0	236.7	227.0	220.1	217.4
72.5°	238.0	228.4	220.1	213.3	211.9
75°	225.6	217.4	209.1	203.6	202.3
77.5°	210.5	202.3	196.8	192.6	191.2
80°	185.7	180.2	174.7	169.2	169.2
82.5°	154.1	150.0	144.5	140.3	139.0
85°	118.3	118.3	114.2	110.1	108.7
87.5°	70.2	68.8	68.8	64.7	64.7
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)