

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: P156656

Luminaire Tested: **TLM-F05-LED-E1-T4-7050**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P156656
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-T4-7050
Description: TALON MEDIUM LED SITE LUMINAIRE
(5) LIGHTBARS WITH AccuLED OPTICS - TYPE 4
Light Source: (35) 5000K CCT, 70 CRI LEDs
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 12799.5 lumens
Efficiency: N/A
Efficacy: 96.0 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

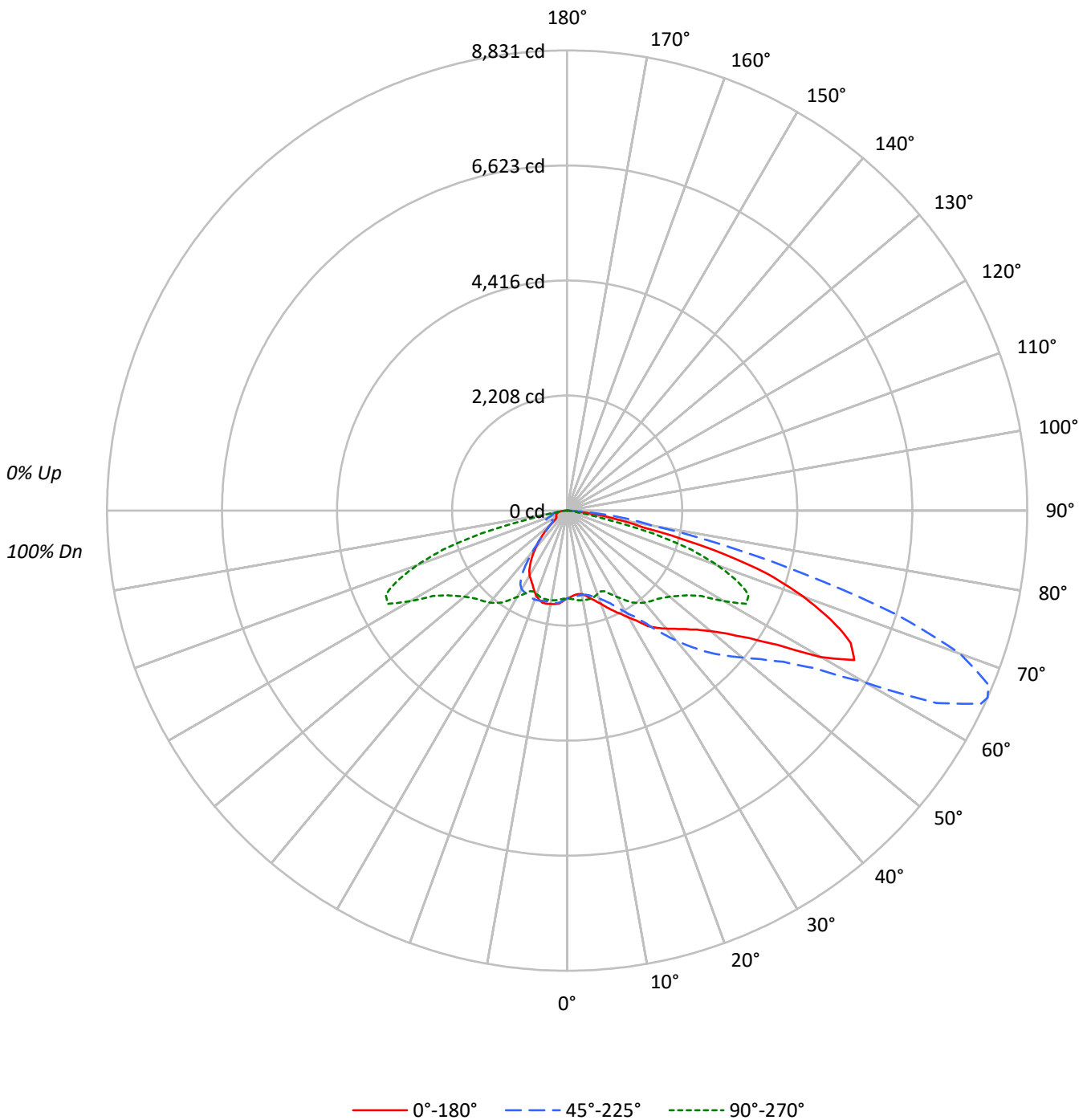
Input Watts (W): 133.3
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	21879	21879	21879
5°	21173	22348	23305
10°	21417	23016	23964
15°	23466	23485	24584
20°	26303	23536	23965
25°	30444	24465	22444
30°	35517	28647	21585
35°	42847	34018	19422
40°	50072	39054	16037
45°	59010	44198	12196
50°	72547	51841	7804
55°	96495	63968	5842
60°	145702	90152	6152
65°	184253	117838	7104
70°	182759	116430	8459
75°	144949	86234	10397
80°	73488	18133	12972
85°	10713	14910	16591



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	163.8	1.3
10°-20°	497.4	3.9
20°-30°	856.7	6.7
30°-40°	1296.2	10.1
40°-50°	1680.1	13.1
50°-60°	2316.3	18.1
60°-70°	3598.7	28.1
70°-80°	2092.7	16.3
80°-90°	297.6	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°	1518.0	11.9
0°-40°	2814.2	22.0
0°-60°	6810.5	53.2
0°-90°	12799.5	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	12799.5	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	1687	1687	1687	1687	1687	
5°	1626	1650	1717	1773	1790	155
15°	1748	1687	1749	1794	1831	501
25°	2128	1967	1710	1787	1568	992
35°	2706	2644	2149	1516	1227	1691
45°	3218	3851	2410	635	665	2515
55°	4268	5056	2829	328	258	3953
65°	6004	8766	3840	463	232	5683
75°	2893	4713	1721	291	208	2979
85°	72	491	100	119	112	311
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°	1687.1	1687.1	1687.1	1687.1	1687.1	1687.1	1687.1	1687.1	1687.1	1687.1	1687.1
2.5°	1656.0	1661.7	1657.4	1658.9	1658.9	1660.3	1660.3	1661.7	1660.3	1664.5	1667.3
5°	1626.4	1629.2	1627.8	1630.6	1633.4	1639.1	1637.7	1644.7	1646.2	1650.4	1657.4
7.5°	1615.1	1612.3	1613.7	1617.9	1620.7	1623.6	1626.4	1632.0	1636.3	1646.2	1651.8
10°	1626.4	1625.0	1626.4	1629.2	1629.2	1630.6	1627.8	1633.4	1636.3	1644.7	1650.4
12.5°	1673.0	1673.0	1670.2	1670.2	1667.3	1664.5	1657.4	1653.2	1651.8	1653.2	1656.0
15°	1747.8	1745.0	1739.3	1735.1	1729.4	1719.6	1709.7	1701.2	1695.6	1687.1	1684.3
17.5°	1821.2	1817.0	1811.3	1805.7	1798.6	1788.7	1773.2	1763.3	1747.8	1737.9	1732.3
20°	1905.9	1897.4	1890.4	1883.3	1869.2	1866.4	1850.9	1833.9	1815.6	1793.0	1790.2
22.5°	2016.0	2001.9	1993.5	1989.2	1975.1	1970.9	1945.5	1921.4	1898.9	1869.2	1862.2
25°	2127.6	2113.5	2109.2	2103.6	2093.7	2088.0	2064.0	2037.2	2007.6	1966.6	1958.2
27.5°	2236.3	2237.7	2226.4	2230.6	2227.8	2217.9	2193.9	2167.1	2144.5	2096.5	2086.6
30°	2371.8	2363.3	2357.7	2366.2	2356.3	2357.7	2336.5	2322.4	2285.7	2257.5	2237.7
32.5°	2513.0	2511.6	2520.0	2525.7	2524.3	2521.5	2504.5	2490.4	2457.9	2417.0	2408.5
35°	2706.4	2714.9	2721.9	2747.3	2747.3	2765.7	2748.8	2731.8	2693.7	2644.3	2627.3
37.5°	2837.7	2840.5	2868.8	2902.6	2945.0	2984.5	2995.8	3000.1	2984.5	2947.8	2922.4
40°	2957.7	2963.4	3008.5	3060.8	3122.9	3200.5	3247.1	3268.3	3272.5	3255.6	3200.5
42.5°	3077.7	3086.2	3132.8	3209.0	3295.1	3393.9	3475.8	3528.1	3557.7	3557.7	3525.2
45°	3217.5	3228.8	3279.6	3362.9	3463.1	3587.4	3700.3	3800.5	3848.5	3851.4	3820.3
47.5°	3382.7	3392.5	3451.8	3536.5	3639.6	3765.3	3907.8	4022.2	4111.1	4116.8	4091.4
50°	3595.8	3610.0	3659.4	3735.6	3841.5	3968.5	4111.1	4270.7	4363.9	4386.4	4359.6
52.5°	3878.2	3881.0	3922.0	3992.5	4095.6	4217.0	4368.1	4541.7	4664.6	4682.9	4639.2
55°	4267.8	4263.6	4290.4	4366.7	4444.3	4538.9	4695.6	4890.4	5027.4	5055.6	5010.5
57.5°	4797.3	4793.0	4815.6	4834.0	4979.4	5071.2	5225.0	5411.4	5544.1	5626.0	5548.3
60°	5617.5	5613.3	5650.0	5757.3	5866.0	6000.1	6149.8	6372.8	6559.2	6583.2	6507.0
62.5°	6211.9	6233.1	6313.5	6439.2	6659.4	6922.0	7195.9	7489.6	7872.2	7993.6	7956.9
65°	6004.4	6046.7	6158.2	6348.8	6642.5	7005.3	7434.5	7966.7	8479.2	8765.8	8757.4
66°	5818.0	5864.6	6001.5	6185.1	6495.7	6892.4	7361.1	7941.3	8514.5	8830.8	8850.5
67.5°	5479.2	5531.4	5665.5	5882.9	6185.1	6607.2	7111.2	7742.3	8390.3	8758.8	8811.0
70°	4819.9	4879.2	4976.6	5155.9	5453.8	5830.7	6361.5	6926.3	7605.3	8027.5	8091.0
72.5°	4029.3	4081.5	4190.2	4337.0	4581.3	4818.4	5234.9	5651.4	6137.1	6618.5	6571.9
75°	2892.8	2915.4	2980.3	3139.8	3271.1	3484.3	3818.9	4160.6	4492.3	4712.6	4743.6
77.5°	1503.6	1562.9	1654.6	1831.1	1973.7	2165.7	2383.1	2640.1	2882.9	3084.8	3029.7
80°	984.0	1009.4	1091.3	1181.7	1286.1	1409.0	1554.4	1650.4	1681.4	1668.7	1681.4
82.5°	567.5	614.1	722.8	792.0	869.7	912.0	1027.8	1137.9	1200.0	1122.4	1094.1
85°	72.0	93.2	293.7	369.9	423.5	487.1	522.4	588.7	549.2	491.3	598.6
87.5°	15.5	14.1	19.8	42.4	43.8	36.7	69.2	73.4	45.2	22.6	28.2
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°	1687.1	1687.1	1687.1	1687.1	1687.1	1687.1	1687.1	1687.1	1687.1	1687.1	1687.1
2.5°	1670.2	1671.6	1674.4	1678.6	1681.4	1684.3	1687.1	1691.3	1694.2	1697.0	1702.6
5°	1663.1	1668.7	1674.4	1680.0	1687.1	1698.4	1705.4	1711.1	1716.7	1728.0	1732.3
7.5°	1658.9	1668.7	1677.2	1687.1	1698.4	1708.3	1721.0	1728.0	1736.5	1743.6	1752.0
10°	1656.0	1670.2	1678.6	1692.7	1705.4	1715.3	1729.4	1737.9	1747.8	1756.3	1760.5
12.5°	1661.7	1668.7	1677.2	1691.3	1706.9	1721.0	1736.5	1743.6	1752.0	1759.1	1760.5
15°	1685.7	1685.7	1687.1	1698.4	1713.9	1725.2	1737.9	1745.0	1749.2	1753.4	1753.4
17.5°	1729.4	1719.6	1712.5	1713.9	1723.8	1730.9	1737.9	1737.9	1735.1	1733.7	1730.9
20°	1780.3	1767.6	1753.4	1743.6	1740.7	1735.1	1730.9	1716.7	1705.4	1695.6	1688.5
22.5°	1853.7	1833.9	1814.2	1795.8	1778.9	1757.7	1733.7	1705.4	1678.6	1660.3	1649.0
25°	1944.0	1928.5	1904.5	1876.3	1855.1	1815.6	1784.5	1743.6	1709.7	1685.7	1665.9
27.5°	2072.5	2054.2	2031.6	2006.2	1975.1	1931.3	1893.2	1845.2	1804.3	1769.0	1743.6
30°	2232.0	2208.0	2191.1	2160.0	2138.9	2089.5	2051.3	1992.0	1913.0	1856.5	1821.2
32.5°	2395.8	2369.0	2354.9	2330.9	2306.9	2277.2	2219.3	2127.6	2025.9	1934.2	1873.4
35°	2614.6	2586.4	2561.0	2539.8	2504.5	2449.5	2398.6	2288.5	2148.7	2020.3	1918.6
37.5°	2889.9	2843.4	2779.8	2726.2	2664.1	2585.0	2507.3	2394.4	2234.9	2068.3	1932.7
40°	3183.6	3101.7	3011.4	2911.1	2803.8	2689.5	2600.5	2486.2	2306.9	2109.2	1922.9
42.5°	3490.0	3360.1	3234.4	3093.2	2943.6	2808.1	2692.3	2566.6	2360.5	2120.5	1883.3
45°	3793.5	3648.1	3457.5	3272.5	3083.4	2915.4	2785.5	2644.3	2409.9	2124.7	1831.1
47.5°	4044.8	3895.1	3677.7	3446.2	3221.7	3031.1	2878.6	2726.2	2476.3	2154.4	1818.4
50°	4310.2	4128.1	3886.7	3612.8	3358.7	3145.5	2983.1	2825.0	2569.5	2230.6	1859.3
52.5°	4599.6	4390.7	4108.3	3802.0	3523.8	3285.2	3108.8	2946.4	2688.1	2337.9	1937.0
55°	4952.6	4697.0	4390.7	4044.8	3746.9	3482.9	3288.1	3096.1	2829.2	2465.0	2034.4
57.5°	5491.9	5178.5	4834.0	4440.1	4109.7	3797.7	3564.8	3343.1	3048.1	2654.2	2167.1
60°	6467.4	6132.8	5685.3	5208.1	4819.9	4455.6	4114.0	3838.7	3475.8	3026.9	2460.8
62.5°	7865.1	7420.4	6823.2	6155.4	5647.2	5122.0	4736.6	4327.1	3876.8	3392.5	2806.6
65°	8641.6	8102.3	7303.2	6528.1	5874.5	5304.1	4814.2	4339.9	3840.1	3377.0	2887.1
66°	8737.6	8175.7	7345.6	6529.5	5843.4	5257.5	4742.2	4250.9	3739.8	3297.9	2853.2
67.5°	8698.1	8123.5	7267.9	6406.7	5709.3	5079.6	4547.4	4037.7	3528.1	3115.8	2740.3
70°	8050.0	7505.1	6665.1	5830.7	5168.6	4547.4	4039.1	3538.0	3070.6	2717.7	2441.0
72.5°	6684.8	6218.9	5489.1	4834.0	4314.4	3802.0	3371.4	2892.8	2497.5	2236.3	2072.5
75°	4825.5	4543.1	3878.2	3502.7	3046.6	2706.4	2288.5	2004.7	1721.0	1593.9	1565.7
77.5°	3048.1	2668.3	2246.2	1849.4	1520.5	1260.7	981.2	833.0	694.6	680.5	821.7
80°	1543.1	1389.2	1070.1	852.7	717.2	580.2	458.8	347.3	242.8	292.2	350.1
82.5°	1010.8	842.8	660.7	543.5	473.0	392.5	304.9	211.8	155.3	175.1	240.0
85°	546.4	465.9	375.5	296.5	240.0	214.6	144.0	101.6	100.2	107.3	136.9
87.5°	39.5	39.5	31.1	28.2	33.9	28.2	25.4	25.4	24.0	25.4	33.9
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°	1687.1	1687.1	1687.1	1687.1	1687.1	1687.1	1687.1	1687.1	1687.1	1687.1	1687.1
2.5°	1705.4	1709.7	1711.1	1718.2	1722.4	1725.2	1728.0	1728.0	1729.4	1733.7	1735.1
5°	1737.9	1745.0	1753.4	1759.1	1761.9	1770.4	1773.2	1773.2	1776.0	1781.7	1785.9
7.5°	1757.7	1767.6	1776.0	1778.9	1784.5	1787.3	1791.6	1794.4	1794.4	1800.0	1802.9
10°	1764.7	1770.4	1778.9	1778.9	1784.5	1784.5	1788.7	1790.2	1790.2	1795.8	1800.0
12.5°	1764.7	1767.6	1774.6	1774.6	1778.9	1780.3	1785.9	1790.2	1791.6	1798.6	1804.3
15°	1756.3	1759.1	1764.7	1766.2	1776.0	1781.7	1794.4	1802.9	1802.9	1809.9	1812.7
17.5°	1732.3	1739.3	1750.6	1761.9	1780.3	1793.0	1808.5	1815.6	1809.9	1805.7	1801.4
20°	1692.7	1705.4	1732.3	1760.5	1793.0	1809.9	1818.4	1811.3	1791.6	1771.8	1759.1
22.5°	1653.2	1678.6	1723.8	1766.2	1802.9	1814.2	1809.9	1784.5	1752.0	1728.0	1711.1
25°	1671.6	1701.2	1745.0	1783.1	1807.1	1804.3	1787.3	1752.0	1716.7	1685.7	1657.4
27.5°	1747.8	1780.3	1804.3	1817.0	1814.2	1794.4	1767.6	1728.0	1685.7	1644.7	1605.2
30°	1819.8	1836.7	1842.4	1832.5	1809.9	1777.4	1743.6	1698.4	1641.9	1591.1	1545.9
32.5°	1852.3	1835.3	1808.5	1781.7	1745.0	1716.7	1670.2	1620.7	1550.1	1489.4	1444.3
35°	1852.3	1784.5	1716.7	1660.3	1605.2	1569.9	1516.3	1449.9	1385.0	1334.1	1298.8
37.5°	1811.3	1681.4	1569.9	1478.1	1409.0	1370.9	1290.4	1231.1	1176.0	1159.1	1136.5
40°	1736.5	1544.5	1383.6	1263.6	1176.0	1119.6	1039.1	998.1	977.0	968.5	964.3
42.5°	1636.3	1392.0	1177.4	1029.2	934.6	871.1	817.4	792.0	790.6	789.2	789.2
45°	1529.0	1228.3	977.0	800.5	717.2	660.7	635.3	625.4	633.9	632.5	633.9
47.5°	1462.6	1104.0	793.4	605.7	542.1	505.4	492.7	497.0	504.0	501.2	501.2
50°	1454.1	1040.5	670.6	471.5	423.5	405.2	402.4	402.4	406.6	403.8	402.4
52.5°	1485.2	1030.6	607.1	405.2	367.1	351.5	348.7	347.3	345.9	337.4	330.4
55°	1538.9	1053.2	588.7	388.2	348.7	331.8	327.5	324.7	319.1	307.8	295.1
57.5°	1646.2	1123.8	605.7	396.7	354.4	340.2	336.0	336.0	324.7	306.4	288.0
60°	1904.5	1303.1	674.8	429.2	381.2	367.1	369.9	368.5	351.5	324.7	296.5
62.5°	2237.7	1537.4	765.2	474.4	415.1	412.2	426.4	423.5	395.3	354.4	313.4
65°	2391.6	1647.6	790.6	484.2	422.1	434.8	463.1	460.2	424.9	368.5	316.2
66°	2394.4	1647.6	779.3	475.8	412.2	427.8	456.0	454.6	419.3	362.8	310.6
67.5°	2336.5	1602.4	746.8	458.8	392.5	403.8	429.2	427.8	395.3	348.7	299.3
70°	2119.1	1434.4	663.5	429.2	365.7	360.0	368.5	362.8	341.7	309.2	275.3
72.5°	1815.6	1204.3	578.8	406.6	347.3	324.7	319.1	314.8	297.9	279.5	258.4
75°	1430.1	953.0	508.2	389.7	330.4	300.7	290.8	285.2	273.9	261.2	244.2
77.5°	882.4	681.9	443.3	367.1	317.7	288.0	280.9	272.5	255.5	240.0	227.3
80°	393.9	422.1	364.2	320.5	283.8	256.9	245.7	232.9	216.0	206.1	199.1
82.5°	262.6	272.5	264.0	240.0	214.6	193.4	176.5	176.5	173.7	165.2	162.4
85°	168.0	169.4	163.8	148.2	138.4	125.6	118.6	120.0	125.6	124.2	122.8
87.5°	38.1	38.1	45.2	42.4	49.4	52.2	56.5	60.7	69.2	69.2	73.4
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: P156656

CATALOG NUMBER: TLM-F05-LED-E1-T4-7050

CANDELA DISTRIBUTION (continued):

	160°	165°	170°	175°	180°
0°	1687.1	1687.1	1687.1	1687.1	1687.1
2.5°	1736.5	1739.3	1742.2	1737.9	1739.3
5°	1785.9	1784.5	1791.6	1787.3	1790.2
7.5°	1801.4	1802.9	1808.5	1808.5	1809.9
10°	1802.9	1805.7	1812.7	1817.0	1819.8
12.5°	1809.9	1815.6	1826.9	1829.7	1829.7
15°	1815.6	1818.4	1825.4	1828.3	1831.1
17.5°	1795.8	1790.2	1793.0	1794.4	1793.0
20°	1746.4	1740.7	1739.3	1733.7	1736.5
22.5°	1692.7	1677.2	1667.3	1656.0	1656.0
25°	1627.8	1603.8	1584.0	1564.3	1568.5
27.5°	1567.1	1536.0	1516.3	1503.6	1500.7
30°	1507.8	1475.3	1457.0	1441.4	1441.4
32.5°	1409.0	1386.4	1362.4	1352.5	1351.1
35°	1272.0	1257.9	1238.1	1233.9	1226.8
37.5°	1118.1	1113.9	1097.0	1095.6	1088.5
40°	957.2	960.0	954.4	951.5	947.3
42.5°	796.3	810.4	807.5	806.1	803.3
45°	642.4	652.2	653.7	657.9	665.0
47.5°	505.4	508.2	511.1	509.7	511.1
50°	395.3	388.2	386.8	382.6	386.8
52.5°	319.1	307.8	302.1	296.5	293.7
55°	280.9	269.7	264.0	261.2	258.4
57.5°	271.1	259.8	251.3	245.7	244.2
60°	273.9	256.9	245.7	238.6	237.2
62.5°	280.9	258.4	242.8	235.8	234.4
65°	279.5	255.5	241.4	232.9	231.5
66°	275.3	252.7	238.6	231.5	230.1
67.5°	268.2	248.5	235.8	230.1	227.3
70°	255.5	242.8	232.9	225.9	223.1
72.5°	244.2	234.4	225.9	218.8	217.4
75°	231.5	223.1	214.6	208.9	207.5
77.5°	216.0	207.5	201.9	197.7	196.2
80°	190.6	184.9	179.3	173.7	173.7
82.5°	158.1	153.9	148.2	144.0	142.6
85°	121.4	121.4	117.2	112.9	111.5
87.5°	72.0	70.6	70.6	66.4	66.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)