

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: P156641

Luminaire Tested: **TLM-E04-LED-E1-T4-7050**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P156641
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-E04-LED-E1-T4-7050
Description: TALON MEDIUM LED SITE LUMINAIRE
(4) LIGHTBARS WITH AccuLED OPTICS - TYPE 4
Light Source: (84) 5000K CCT, 70 CRI LEDs
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 12403.7 lumens
Efficiency: N/A
Efficacy: 127.6 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

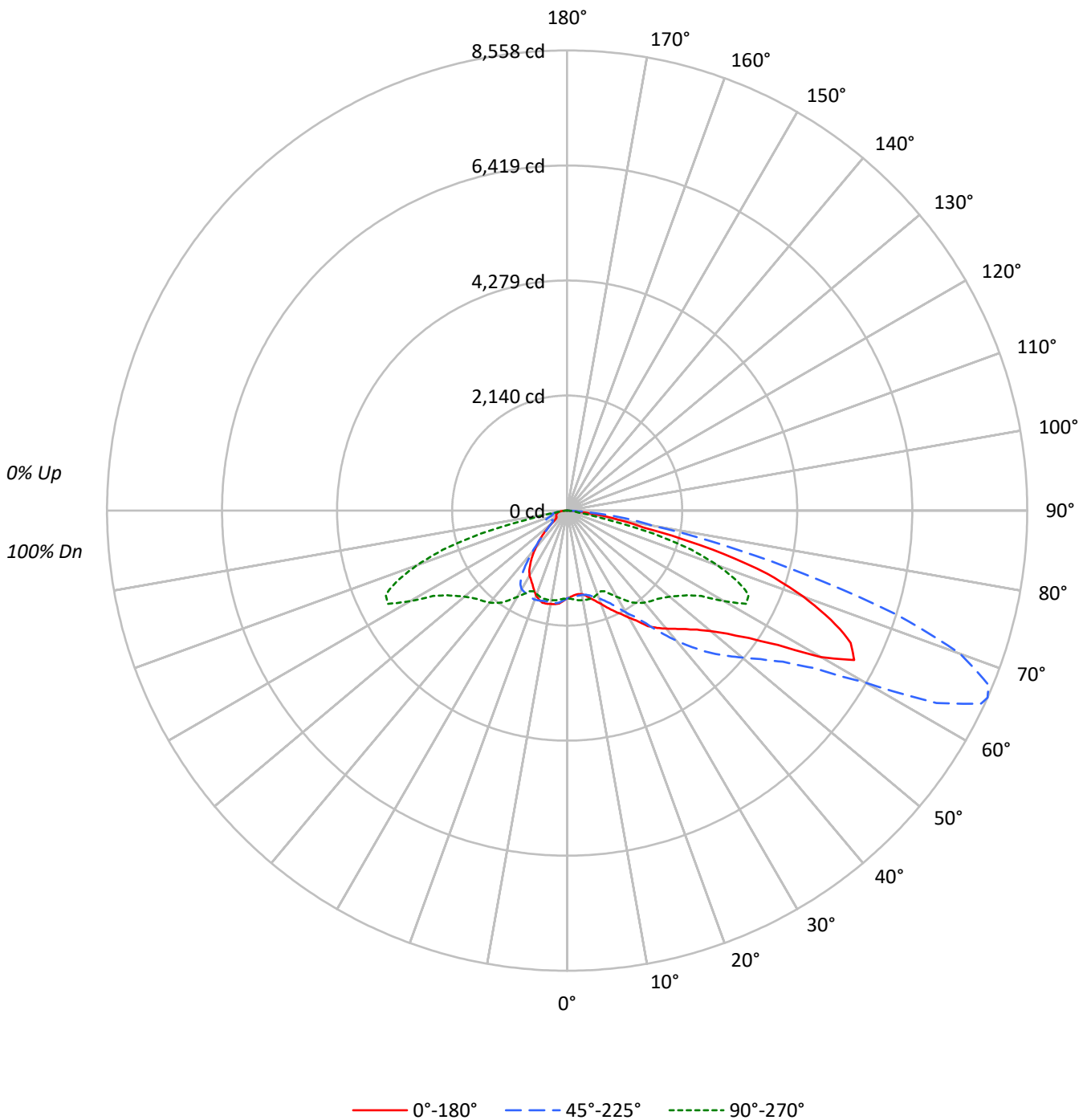
Input Watts (W): 97.2
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	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°	26266	26266	26266
5°	25418	26830	27977
10°	25712	27632	28769
15°	28172	28193	29514
20°	31577	28256	28770
25°	36548	29369	26944
30°	42639	34390	25914
35°	51437	40839	23317
40°	60112	46883	19252
45°	70841	53061	14641
50°	87095	62234	9370
55°	115844	76796	7014
60°	174915	108230	7384
65°	221194	141463	8530
70°	219399	139776	10155
75°	174008	103525	12483
80°	88225	21769	15571
85°	12866	17899	19926



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	158.8	1.3
10°-20°	482.0	3.9
20°-30°	830.3	6.7
30°-40°	1256.1	10.1
40°-50°	1628.1	13.1
50°-60°	2244.7	18.1
60°-70°	3487.4	28.1
70°-80°	2028.0	16.3
80°-90°	288.4	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°	1471.0	11.9
0°-40°	2727.2	22.0
0°-60°	6599.9	53.2
0°-90°	12403.7	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	12403.7	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	1635	1635	1635	1635	1635	
5°	1576	1599	1664	1718	1735	151
15°	1694	1635	1695	1739	1774	485
25°	2062	1906	1657	1732	1520	961
35°	2623	2562	2082	1469	1189	1639
45°	3118	3732	2335	616	644	2437
55°	4136	4899	2742	317	250	3831
65°	5819	8495	3721	449	224	5507
75°	2803	4567	1668	282	201	2887
85°	70	476	97	115	108	302
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°	1634.9	1634.9	1634.9	1634.9	1634.9	1634.9	1634.9	1634.9	1634.9	1634.9	1634.9
2.5°	1604.8	1610.3	1606.2	1607.6	1607.6	1608.9	1608.9	1610.3	1608.9	1613.0	1615.8
5°	1576.1	1578.8	1577.5	1580.2	1582.9	1588.4	1587.0	1593.9	1595.3	1599.4	1606.2
7.5°	1565.2	1562.4	1563.8	1567.9	1570.6	1573.4	1576.1	1581.6	1585.7	1595.3	1600.7
10°	1576.1	1574.7	1576.1	1578.8	1578.8	1580.2	1577.5	1582.9	1585.7	1593.9	1599.4
12.5°	1621.2	1621.2	1618.5	1618.5	1615.8	1613.0	1606.2	1602.1	1600.7	1602.1	1604.8
15°	1693.8	1691.0	1685.5	1681.4	1676.0	1666.4	1656.8	1648.6	1643.1	1634.9	1632.2
17.5°	1764.9	1760.8	1755.3	1749.9	1743.0	1733.4	1718.4	1708.8	1693.8	1684.2	1678.7
20°	1847.0	1838.8	1831.9	1825.1	1811.4	1808.7	1793.6	1777.2	1759.4	1737.5	1734.8
22.5°	1953.7	1940.0	1931.8	1927.7	1914.0	1909.9	1885.3	1862.0	1840.1	1811.4	1804.6
25°	2061.8	2048.1	2044.0	2038.5	2029.0	2023.5	2000.2	1974.2	1945.5	1905.8	1897.6
27.5°	2167.1	2168.5	2157.6	2161.7	2158.9	2149.3	2126.1	2100.1	2078.2	2031.7	2022.1
30°	2298.5	2290.3	2284.8	2293.0	2283.4	2284.8	2264.3	2250.6	2215.0	2187.7	2168.5
32.5°	2435.3	2433.9	2442.1	2447.6	2446.2	2443.5	2427.1	2413.4	2381.9	2342.3	2334.0
35°	2622.7	2630.9	2637.8	2662.4	2662.4	2680.2	2663.8	2647.4	2610.4	2562.5	2546.1
37.5°	2750.0	2752.7	2780.1	2812.9	2853.9	2892.2	2903.2	2907.3	2892.2	2856.7	2832.1
40°	2866.3	2871.7	2915.5	2966.1	3026.3	3101.6	3146.7	3167.2	3171.3	3154.9	3101.6
42.5°	2982.5	2990.8	3035.9	3109.8	3193.2	3289.0	3368.4	3419.0	3447.7	3447.7	3416.2
45°	3118.0	3128.9	3178.2	3258.9	3356.0	3476.4	3585.9	3683.0	3729.6	3732.3	3702.2
47.5°	3278.1	3287.6	3345.1	3427.2	3527.1	3648.8	3787.0	3897.8	3984.0	3989.5	3964.9
50°	3484.7	3498.3	3546.2	3620.1	3722.7	3845.8	3984.0	4138.6	4228.9	4250.8	4224.8
52.5°	3758.3	3761.0	3800.7	3869.1	3969.0	4086.6	4233.0	4401.3	4520.3	4538.1	4495.7
55°	4135.9	4131.8	4157.8	4231.7	4306.9	4398.6	4550.4	4739.2	4871.9	4899.3	4855.5
57.5°	4648.9	4644.8	4666.7	4684.5	4825.4	4914.4	5063.5	5244.1	5372.7	5452.0	5376.8
60°	5443.8	5439.7	5475.3	5579.3	5684.6	5814.6	5959.6	6175.8	6356.4	6379.6	6305.8
62.5°	6019.8	6040.3	6118.3	6240.1	6453.5	6708.0	6973.4	7258.0	7628.8	7746.4	7710.8
65°	5818.7	5859.7	5967.8	6152.5	6437.1	6788.7	7204.6	7720.4	8217.1	8494.8	8486.6
66°	5638.1	5683.3	5816.0	5993.8	6294.8	6679.3	7133.5	7695.8	8251.3	8557.7	8576.9
67.5°	5309.8	5360.4	5490.3	5701.0	5993.8	6402.9	6891.3	7502.9	8130.9	8487.9	8538.6
70°	4670.8	4728.3	4822.7	4996.4	5285.1	5650.4	6164.8	6712.1	7370.2	7779.2	7840.8
72.5°	3904.7	3955.3	4060.6	4202.9	4439.6	4669.5	5073.1	5476.7	5947.3	6413.8	6368.7
75°	2803.3	2825.2	2888.1	3042.7	3170.0	3376.6	3700.8	4031.9	4353.4	4566.9	4597.0
77.5°	1457.1	1514.5	1603.5	1774.5	1912.7	2098.7	2309.4	2558.4	2793.7	2989.4	2936.0
80°	953.6	978.2	1057.6	1145.1	1246.4	1365.4	1506.3	1599.4	1629.5	1617.1	1629.5
82.5°	550.0	595.1	700.5	767.5	842.8	883.8	996.0	1102.7	1162.9	1087.7	1060.3
85°	69.8	90.3	284.6	358.5	410.4	472.0	506.2	570.5	532.2	476.1	580.1
87.5°	15.0	13.7	19.2	41.0	42.4	35.6	67.0	71.1	43.8	21.9	27.4
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°	1634.9	1634.9	1634.9	1634.9	1634.9	1634.9	1634.9	1634.9	1634.9	1634.9	1634.9
2.5°	1618.5	1619.9	1622.6	1626.7	1629.5	1632.2	1634.9	1639.0	1641.8	1644.5	1650.0
5°	1611.7	1617.1	1622.6	1628.1	1634.9	1645.9	1652.7	1658.2	1663.7	1674.6	1678.7
7.5°	1607.6	1617.1	1625.4	1634.9	1645.9	1655.5	1667.8	1674.6	1682.8	1689.7	1697.9
10°	1604.8	1618.5	1626.7	1640.4	1652.7	1662.3	1676.0	1684.2	1693.8	1702.0	1706.1
12.5°	1610.3	1617.1	1625.4	1639.0	1654.1	1667.8	1682.8	1689.7	1697.9	1704.7	1706.1
15°	1633.6	1633.6	1634.9	1645.9	1660.9	1671.9	1684.2	1691.0	1695.1	1699.2	1699.2
17.5°	1676.0	1666.4	1659.6	1660.9	1670.5	1677.3	1684.2	1684.2	1681.4	1680.1	1677.3
20°	1725.2	1712.9	1699.2	1689.7	1686.9	1681.4	1677.3	1663.7	1652.7	1643.1	1636.3
22.5°	1796.4	1777.2	1758.1	1740.3	1723.9	1703.3	1680.1	1652.7	1626.7	1608.9	1598.0
25°	1883.9	1868.9	1845.6	1818.3	1797.7	1759.4	1729.3	1689.7	1656.8	1633.6	1614.4
27.5°	2008.4	1990.6	1968.8	1944.1	1914.0	1871.6	1834.7	1788.2	1748.5	1714.3	1689.7
30°	2163.0	2139.8	2123.4	2093.3	2072.7	2024.8	1987.9	1930.4	1853.8	1799.1	1764.9
32.5°	2321.7	2295.7	2282.1	2258.8	2235.5	2206.8	2150.7	2061.8	1963.3	1874.4	1815.5
35°	2533.8	2506.4	2481.8	2461.3	2427.1	2373.7	2324.5	2217.8	2082.3	1957.8	1859.3
37.5°	2800.6	2755.4	2693.9	2641.9	2581.7	2505.1	2429.8	2320.4	2165.8	2004.3	1873.0
40°	3085.2	3005.8	2918.2	2821.1	2717.1	2606.3	2520.1	2409.3	2235.5	2044.0	1863.4
42.5°	3382.0	3256.2	3134.4	2997.6	2852.6	2721.2	2609.0	2487.3	2287.5	2054.9	1825.1
45°	3676.2	3535.3	3350.6	3171.3	2988.0	2825.2	2699.3	2562.5	2335.4	2059.1	1774.5
47.5°	3919.7	3774.7	3564.0	3339.6	3122.1	2937.4	2789.6	2641.9	2399.7	2087.8	1762.2
50°	4176.9	4000.4	3766.5	3501.1	3254.8	3048.2	2890.9	2737.6	2490.0	2161.7	1801.8
52.5°	4457.4	4254.9	3981.3	3684.4	3414.9	3183.7	3012.6	2855.3	2604.9	2265.6	1877.1
55°	4799.4	4551.8	4254.9	3919.7	3631.0	3375.2	3186.4	3000.3	2741.8	2388.8	1971.5
57.5°	5322.1	5018.3	4684.5	4302.8	3982.7	3680.3	3454.6	3239.8	2953.8	2572.1	2100.1
60°	6267.5	5943.2	5509.5	5047.1	4670.8	4317.9	3986.8	3720.0	3368.4	2933.3	2384.7
62.5°	7621.9	7190.9	6612.2	5965.1	5472.6	4963.6	4590.1	4193.4	3756.9	3287.6	2719.9
65°	8374.4	7851.8	7077.4	6326.3	5692.8	5140.1	4665.4	4205.7	3721.3	3272.6	2797.8
66°	8467.4	7922.9	7118.4	6327.7	5662.7	5095.0	4595.6	4119.5	3624.2	3196.0	2765.0
67.5°	8429.1	7872.3	7043.2	6208.6	5532.8	4922.6	4406.8	3912.9	3419.0	3019.5	2655.6
70°	7801.1	7273.0	6459.0	5650.4	5008.8	4406.8	3914.3	3428.6	2975.7	2633.7	2365.5
72.5°	6478.1	6026.7	5319.3	4684.5	4181.0	3684.4	3267.1	2803.3	2420.2	2167.1	2008.4
75°	4676.3	4402.7	3758.3	3394.4	2952.4	2622.7	2217.8	1942.8	1667.8	1544.6	1517.3
77.5°	2953.8	2585.8	2176.7	1792.3	1473.5	1221.7	950.9	807.2	673.1	659.4	796.3
80°	1495.4	1346.3	1037.1	826.4	695.0	562.3	444.6	336.6	235.3	283.2	339.3
82.5°	979.6	816.8	640.3	526.7	458.3	380.3	295.5	205.2	150.5	169.6	232.6
85°	529.5	451.5	363.9	287.3	232.6	208.0	139.6	98.5	97.1	104.0	132.7
87.5°	38.3	38.3	30.1	27.4	32.8	27.4	24.6	24.6	23.3	24.6	32.8
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°	1634.9	1634.9	1634.9	1634.9	1634.9	1634.9	1634.9	1634.9	1634.9	1634.9	1634.9
2.5°	1652.7	1656.8	1658.2	1665.0	1669.1	1671.9	1674.6	1674.6	1676.0	1680.1	1681.4
5°	1684.2	1691.0	1699.2	1704.7	1707.4	1715.6	1718.4	1718.4	1721.1	1726.6	1730.7
7.5°	1703.3	1712.9	1721.1	1723.9	1729.3	1732.1	1736.2	1738.9	1738.9	1744.4	1747.1
10°	1710.2	1715.6	1723.9	1723.9	1729.3	1729.3	1733.4	1734.8	1734.8	1740.3	1744.4
12.5°	1710.2	1712.9	1719.8	1719.8	1723.9	1725.2	1730.7	1734.8	1736.2	1743.0	1748.5
15°	1702.0	1704.7	1710.2	1711.5	1721.1	1726.6	1738.9	1747.1	1747.1	1754.0	1756.7
17.5°	1678.7	1685.5	1696.5	1707.4	1725.2	1737.5	1752.6	1759.4	1754.0	1749.9	1745.7
20°	1640.4	1652.7	1678.7	1706.1	1737.5	1754.0	1762.2	1755.3	1736.2	1717.0	1704.7
22.5°	1602.1	1626.7	1670.5	1711.5	1747.1	1758.1	1754.0	1729.3	1697.9	1674.6	1658.2
25°	1619.9	1648.6	1691.0	1728.0	1751.2	1748.5	1732.1	1697.9	1663.7	1633.6	1606.2
27.5°	1693.8	1725.2	1748.5	1760.8	1758.1	1738.9	1712.9	1674.6	1633.6	1593.9	1555.6
30°	1763.5	1780.0	1785.4	1775.8	1754.0	1722.5	1689.7	1645.9	1591.1	1541.9	1498.1
32.5°	1795.0	1778.6	1752.6	1726.6	1691.0	1663.7	1618.5	1570.6	1502.2	1443.4	1399.6
35°	1795.0	1729.3	1663.7	1608.9	1555.6	1521.4	1469.4	1405.1	1342.1	1292.9	1258.7
37.5°	1755.3	1629.5	1521.4	1432.4	1365.4	1328.5	1250.5	1193.0	1139.7	1123.2	1101.4
40°	1682.8	1496.7	1340.8	1224.5	1139.7	1084.9	1007.0	967.3	946.8	938.5	934.4
42.5°	1585.7	1349.0	1141.0	997.4	905.7	844.1	792.2	767.5	766.2	764.8	764.8
45°	1481.7	1190.3	946.8	775.7	695.0	640.3	615.7	606.1	614.3	612.9	614.3
47.5°	1417.4	1069.9	768.9	586.9	525.4	489.8	477.5	481.6	488.4	485.7	485.7
50°	1409.2	1008.3	649.9	457.0	410.4	392.7	389.9	389.9	394.0	391.3	389.9
52.5°	1439.3	998.7	588.3	392.7	355.7	340.7	337.9	336.6	335.2	327.0	320.1
55°	1491.3	1020.6	570.5	376.2	337.9	321.5	317.4	314.7	309.2	298.3	285.9
57.5°	1595.3	1089.0	586.9	384.4	343.4	329.7	325.6	325.6	314.7	296.9	279.1
60°	1845.6	1262.8	654.0	415.9	369.4	355.7	358.5	357.1	340.7	314.7	287.3
62.5°	2168.5	1489.9	741.5	459.7	402.2	399.5	413.2	410.4	383.1	343.4	303.7
65°	2317.6	1596.6	766.2	469.3	409.1	421.4	448.8	446.0	411.8	357.1	306.5
66°	2320.4	1596.6	755.2	461.1	399.5	414.5	441.9	440.5	406.3	351.6	301.0
67.5°	2264.3	1552.8	723.7	444.6	380.3	391.3	415.9	414.5	383.1	337.9	290.0
70°	2053.6	1390.0	643.0	415.9	354.3	348.9	357.1	351.6	331.1	299.6	266.8
72.5°	1759.4	1167.0	560.9	394.0	336.6	314.7	309.2	305.1	288.7	270.9	250.4
75°	1385.9	923.5	492.5	377.6	320.1	291.4	281.8	276.4	265.4	253.1	236.7
77.5°	855.1	660.8	429.6	355.7	307.8	279.1	272.3	264.1	247.6	232.6	220.3
80°	381.7	409.1	353.0	310.6	275.0	249.0	238.1	225.7	209.3	199.7	192.9
82.5°	254.5	264.1	255.8	232.6	208.0	187.4	171.0	171.0	168.3	160.1	157.3
85°	162.8	164.2	158.7	143.7	134.1	121.8	114.9	116.3	121.8	120.4	119.0
87.5°	36.9	36.9	43.8	41.0	47.9	50.6	54.7	58.8	67.0	67.0	71.1
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: P156641

CATALOG NUMBER: TLM-E04-LED-E1-T4-7050

CANDELA DISTRIBUTION (continued):

	160°	165°	170°	175°	180°
0°	1634.9	1634.9	1634.9	1634.9	1634.9
2.5°	1682.8	1685.5	1688.3	1684.2	1685.5
5°	1730.7	1729.3	1736.2	1732.1	1734.8
7.5°	1745.7	1747.1	1752.6	1752.6	1754.0
10°	1747.1	1749.9	1756.7	1760.8	1763.5
12.5°	1754.0	1759.4	1770.4	1773.1	1773.1
15°	1759.4	1762.2	1769.0	1771.7	1774.5
17.5°	1740.3	1734.8	1737.5	1738.9	1737.5
20°	1692.4	1686.9	1685.5	1680.1	1682.8
22.5°	1640.4	1625.4	1615.8	1604.8	1604.8
25°	1577.5	1554.2	1535.1	1515.9	1520.0
27.5°	1518.6	1488.5	1469.4	1457.1	1454.3
30°	1461.2	1429.7	1411.9	1396.9	1396.9
32.5°	1365.4	1343.5	1320.3	1310.7	1309.3
35°	1232.7	1219.0	1199.9	1195.8	1188.9
37.5°	1083.6	1079.5	1063.0	1061.7	1054.8
40°	927.6	930.3	924.9	922.1	918.0
42.5°	771.6	785.3	782.6	781.2	778.5
45°	622.5	632.1	633.4	637.6	644.4
47.5°	489.8	492.5	495.3	493.9	495.3
50°	383.1	376.2	374.9	370.8	374.9
52.5°	309.2	298.3	292.8	287.3	284.6
55°	272.3	261.3	255.8	253.1	250.4
57.5°	262.7	251.7	243.5	238.1	236.7
60°	265.4	249.0	238.1	231.2	229.8
62.5°	272.3	250.4	235.3	228.5	227.1
65°	270.9	247.6	234.0	225.7	224.4
66°	266.8	244.9	231.2	224.4	223.0
67.5°	259.9	240.8	228.5	223.0	220.3
70°	247.6	235.3	225.7	218.9	216.2
72.5°	236.7	227.1	218.9	212.1	210.7
75°	224.4	216.2	208.0	202.5	201.1
77.5°	209.3	201.1	195.6	191.5	190.2
80°	184.7	179.2	173.8	168.3	168.3
82.5°	153.2	149.1	143.7	139.6	138.2
85°	117.7	117.7	113.6	109.5	108.1
87.5°	69.8	68.4	68.4	64.3	64.3
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)