

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: P156640

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

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P156640
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
Description: TALON MEDIUM LED SITE LUMINAIRE
(4) LIGHTBARS WITH AccuLED OPTICS - TYPE 4
Light Source: (84) 4000K CCT, 70 CRI LEDs
Ballast/Driver: -

Summary

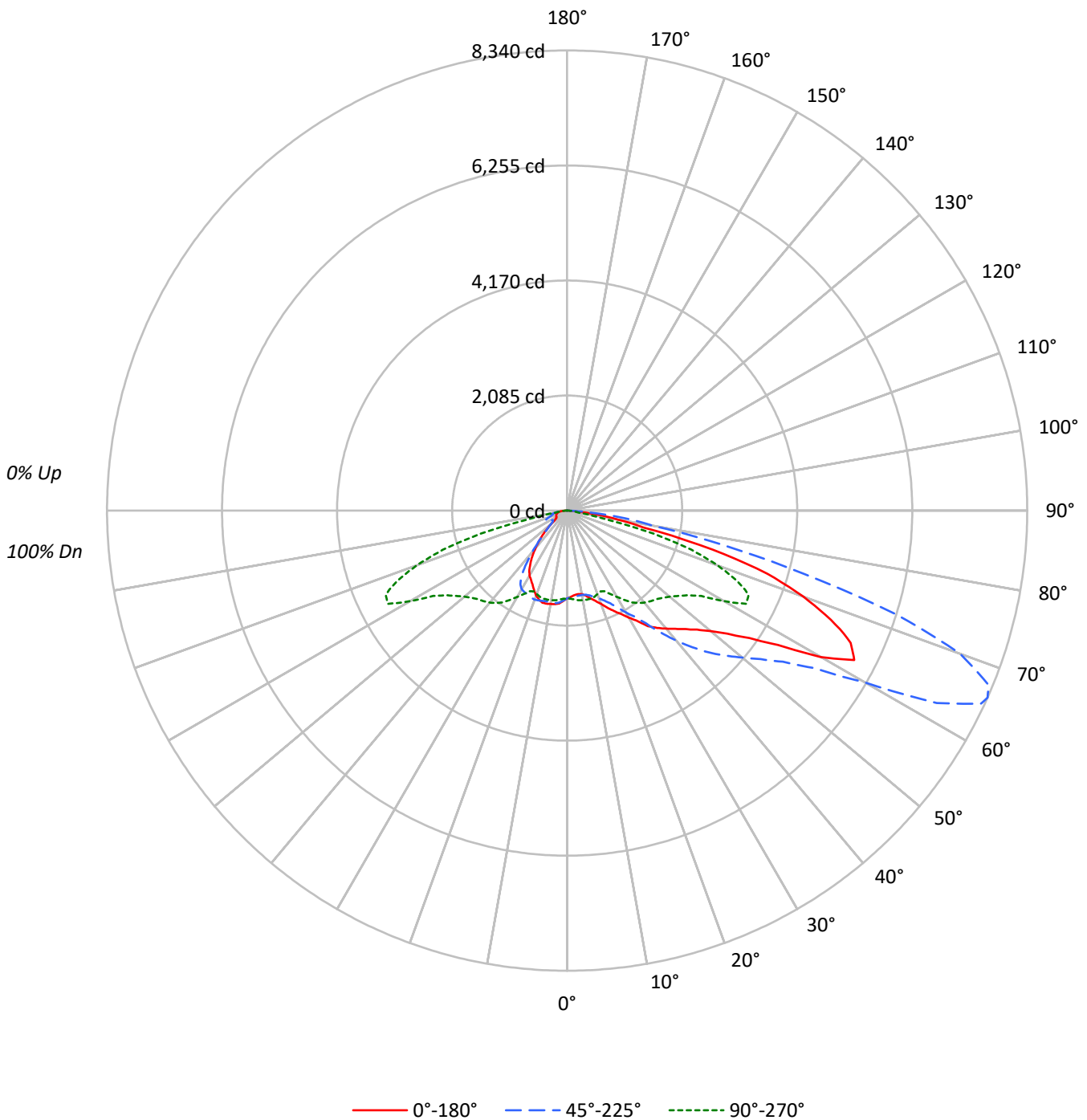
Lumens per Lamp: N/A
Luminaire Lumens: 12088.2 lumens
Efficiency: N/A
Efficacy: 124.4 lumens/watt
Spacing Criteria (0/90/45): 1.73 / 2.02 / 2.64
Luminous Opening: Rectangular (W 0.67' x L: 1' x H: 0')
CIE Type: Direct

Input Watts (W): 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°	25597	25597	25597
5°	24771	26147	27266
10°	25057	26928	28038
15°	27455	27477	28762
20°	30774	27537	28038
25°	35618	28623	26258
30°	41554	33516	25253
35°	50129	39799	22725
40°	58581	45692	18764
45°	69040	51711	14268
50°	84878	60652	9130
55°	112898	74841	6834
60°	170465	105477	7197
65°	215568	137867	8314
70°	213819	136220	9897
75°	169582	100886	12166
80°	85977	21214	15173
85°	12535	17456	19410



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	154.7	1.3
10°-20°	469.8	3.9
20°-30°	809.1	6.7
30°-40°	1224.2	10.1
40°-50°	1586.7	13.1
50°-60°	2187.6	18.1
60°-70°	3398.7	28.1
70°-80°	1976.4	16.3
80°-90°	281.0	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°	1433.6	11.9
0°-40°	2657.8	22.0
0°-60°	6432.0	53.2
0°-90°	12088.2	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	12088.2	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	1593	1593	1593	1593	1593	
5°	1536	1559	1621	1675	1691	147
15°	1651	1593	1652	1695	1729	473
25°	2009	1857	1615	1688	1481	937
35°	2556	2497	2029	1432	1159	1597
45°	3039	3637	2276	600	628	2375
55°	4031	4775	2672	309	244	3733
65°	5671	8279	3627	437	219	5367
75°	2732	4451	1625	275	196	2814
85°	68	464	95	112	105	294
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°	1593.3	1593.3	1593.3	1593.3	1593.3	1593.3	1593.3	1593.3	1593.3	1593.3	1593.3
2.5°	1564.0	1569.3	1565.3	1566.7	1566.7	1568.0	1568.0	1569.3	1568.0	1572.0	1574.7
5°	1536.0	1538.7	1537.3	1540.0	1542.7	1548.0	1546.7	1553.3	1554.7	1558.7	1565.3
7.5°	1525.3	1522.7	1524.0	1528.0	1530.7	1533.3	1536.0	1541.3	1545.3	1554.7	1560.0
10°	1536.0	1534.7	1536.0	1538.7	1538.7	1540.0	1537.3	1542.7	1545.3	1553.3	1558.7
12.5°	1580.0	1580.0	1577.3	1577.3	1574.7	1572.0	1565.3	1561.3	1560.0	1561.3	1564.0
15°	1650.7	1648.0	1642.7	1638.7	1633.3	1624.0	1614.7	1606.7	1601.3	1593.3	1590.7
17.5°	1720.0	1716.0	1710.7	1705.3	1698.7	1689.3	1674.7	1665.3	1650.7	1641.3	1636.0
20°	1800.0	1792.0	1785.3	1778.7	1765.3	1762.7	1748.0	1732.0	1714.7	1693.3	1690.7
22.5°	1904.0	1890.7	1882.7	1878.7	1865.3	1861.3	1837.3	1814.7	1793.3	1765.3	1758.7
25°	2009.3	1996.0	1992.0	1986.7	1977.3	1972.0	1949.3	1924.0	1896.0	1857.3	1849.3
27.5°	2112.0	2113.3	2102.7	2106.7	2104.0	2094.7	2072.0	2046.7	2025.3	1980.0	1970.7
30°	2240.0	2232.0	2226.7	2234.7	2225.3	2226.7	2206.7	2193.3	2158.7	2132.0	2113.3
32.5°	2373.3	2372.0	2380.0	2385.3	2384.0	2381.3	2365.3	2352.0	2321.3	2282.7	2274.7
35°	2556.0	2564.0	2570.7	2594.7	2594.7	2612.0	2596.0	2580.0	2544.0	2497.3	2481.3
37.5°	2680.0	2682.7	2709.3	2741.3	2781.3	2818.7	2829.3	2833.3	2818.7	2784.0	2760.0
40°	2793.3	2798.7	2841.3	2890.7	2949.3	3022.7	3066.7	3086.7	3090.7	3074.7	3022.7
42.5°	2906.7	2914.7	2958.7	3030.7	3112.0	3205.3	3282.7	3332.0	3360.0	3360.0	3329.3
45°	3038.7	3049.3	3097.3	3176.0	3270.7	3388.0	3494.7	3589.3	3634.7	3637.3	3608.0
47.5°	3194.7	3204.0	3260.0	3340.0	3437.3	3556.0	3690.7	3798.7	3882.7	3888.0	3864.0
50°	3396.0	3409.3	3456.0	3528.0	3628.0	3748.0	3882.7	4033.3	4121.3	4142.7	4117.3
52.5°	3662.7	3665.3	3704.0	3770.7	3868.0	3982.7	4125.3	4289.3	4405.3	4422.7	4381.3
55°	4030.7	4026.7	4052.0	4124.0	4197.3	4286.7	4434.7	4618.7	4748.0	4774.7	4732.0
57.5°	4530.7	4526.7	4548.0	4565.3	4702.7	4789.3	4934.7	5110.7	5236.0	5313.3	5240.0
60°	5305.3	5301.3	5336.0	5437.3	5540.0	5666.7	5808.0	6018.7	6194.7	6217.3	6145.3
62.5°	5866.7	5886.7	5962.7	6081.3	6289.3	6537.3	6796.0	7073.3	7434.7	7549.3	7514.7
65°	5670.7	5710.7	5816.0	5996.0	6273.3	6616.0	7021.3	7524.0	8008.0	8278.7	8270.7
66°	5494.7	5538.7	5668.0	5841.3	6134.7	6509.3	6952.0	7500.0	8041.3	8340.0	8358.7
67.5°	5174.7	5224.0	5350.7	5556.0	5841.3	6240.0	6716.0	7312.0	7924.0	8272.0	8321.3
70°	4552.0	4608.0	4700.0	4869.3	5150.7	5506.7	6008.0	6541.3	7182.7	7581.3	7641.3
72.5°	3805.3	3854.7	3957.3	4096.0	4326.7	4550.7	4944.0	5337.3	5796.0	6250.7	6206.7
75°	2732.0	2753.3	2814.7	2965.3	3089.3	3290.7	3606.7	3929.3	4242.7	4450.7	4480.0
77.5°	1420.0	1476.0	1562.7	1729.3	1864.0	2045.3	2250.7	2493.3	2722.7	2913.3	2861.3
80°	929.3	953.3	1030.7	1116.0	1214.7	1330.7	1468.0	1558.7	1588.0	1576.0	1588.0
82.5°	536.0	580.0	682.7	748.0	821.3	861.3	970.7	1074.7	1133.3	1060.0	1033.3
85°	68.0	88.0	277.3	349.3	400.0	460.0	493.3	556.0	518.7	464.0	565.3
87.5°	14.7	13.3	18.7	40.0	41.3	34.7	65.3	69.3	42.7	21.3	26.7
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°	1593.3	1593.3	1593.3	1593.3	1593.3	1593.3	1593.3	1593.3	1593.3	1593.3	1593.3
2.5°	1577.3	1578.7	1581.3	1585.3	1588.0	1590.7	1593.3	1597.3	1600.0	1602.7	1608.0
5°	1570.7	1576.0	1581.3	1586.7	1593.3	1604.0	1610.7	1616.0	1621.3	1632.0	1636.0
7.5°	1566.7	1576.0	1584.0	1593.3	1604.0	1613.3	1625.3	1632.0	1640.0	1646.7	1654.7
10°	1564.0	1577.3	1585.3	1598.7	1610.7	1620.0	1633.3	1641.3	1650.7	1658.7	1662.7
12.5°	1569.3	1576.0	1584.0	1597.3	1612.0	1625.3	1640.0	1646.7	1654.7	1661.3	1662.7
15°	1592.0	1592.0	1593.3	1604.0	1618.7	1629.3	1641.3	1648.0	1652.0	1656.0	1656.0
17.5°	1633.3	1624.0	1617.3	1618.7	1628.0	1634.7	1641.3	1641.3	1638.7	1637.3	1634.7
20°	1681.3	1669.3	1656.0	1646.7	1644.0	1638.7	1634.7	1621.3	1610.7	1601.3	1594.7
22.5°	1750.7	1732.0	1713.3	1696.0	1680.0	1660.0	1637.3	1610.7	1585.3	1568.0	1557.3
25°	1836.0	1821.3	1798.7	1772.0	1752.0	1714.7	1685.3	1646.7	1614.7	1592.0	1573.3
27.5°	1957.3	1940.0	1918.7	1894.7	1865.3	1824.0	1788.0	1742.7	1704.0	1670.7	1646.7
30°	2108.0	2085.3	2069.3	2040.0	2020.0	1973.3	1937.3	1881.3	1806.7	1753.3	1720.0
32.5°	2262.7	2237.3	2224.0	2201.3	2178.7	2150.7	2096.0	2009.3	1913.3	1826.7	1769.3
35°	2469.3	2442.7	2418.7	2398.7	2365.3	2313.3	2265.3	2161.3	2029.3	1908.0	1812.0
37.5°	2729.3	2685.3	2625.3	2574.7	2516.0	2441.3	2368.0	2261.3	2110.7	1953.3	1825.3
40°	3006.7	2929.3	2844.0	2749.3	2648.0	2540.0	2456.0	2348.0	2178.7	1992.0	1816.0
42.5°	3296.0	3173.3	3054.7	2921.3	2780.0	2652.0	2542.7	2424.0	2229.3	2002.7	1778.7
45°	3582.7	3445.3	3265.3	3090.7	2912.0	2753.3	2630.7	2497.3	2276.0	2006.7	1729.3
47.5°	3820.0	3678.7	3473.3	3254.7	3042.7	2862.7	2718.7	2574.7	2338.7	2034.7	1717.3
50°	4070.7	3898.7	3670.7	3412.0	3172.0	2970.7	2817.3	2668.0	2426.7	2106.7	1756.0
52.5°	4344.0	4146.7	3880.0	3590.7	3328.0	3102.7	2936.0	2782.7	2538.7	2208.0	1829.3
55°	4677.3	4436.0	4146.7	3820.0	3538.7	3289.3	3105.3	2924.0	2672.0	2328.0	1921.3
57.5°	5186.7	4890.7	4565.3	4193.3	3881.3	3586.7	3366.7	3157.3	2878.7	2506.7	2046.7
60°	6108.0	5792.0	5369.3	4918.7	4552.0	4208.0	3885.3	3625.3	3282.7	2858.7	2324.0
62.5°	7428.0	7008.0	6444.0	5813.3	5333.3	4837.3	4473.3	4086.7	3661.3	3204.0	2650.7
65°	8161.3	7652.0	6897.3	6165.3	5548.0	5009.3	4546.7	4098.7	3626.7	3189.3	2726.7
66°	8252.0	7721.3	6937.3	6166.7	5518.7	4965.3	4478.7	4014.7	3532.0	3114.7	2694.7
67.5°	8214.7	7672.0	6864.0	6050.7	5392.0	4797.3	4294.7	3813.3	3332.0	2942.7	2588.0
70°	7602.7	7088.0	6294.7	5506.7	4881.3	4294.7	3814.7	3341.3	2900.0	2566.7	2305.3
72.5°	6313.3	5873.3	5184.0	4565.3	4074.7	3590.7	3184.0	2732.0	2358.7	2112.0	1957.3
75°	4557.3	4290.7	3662.7	3308.0	2877.3	2556.0	2161.3	1893.3	1625.3	1505.3	1478.7
77.5°	2878.7	2520.0	2121.3	1746.7	1436.0	1190.7	926.7	786.7	656.0	642.7	776.0
80°	1457.3	1312.0	1010.7	805.3	677.3	548.0	433.3	328.0	229.3	276.0	330.7
82.5°	954.7	796.0	624.0	513.3	446.7	370.7	288.0	200.0	146.7	165.3	226.7
85°	516.0	440.0	354.7	280.0	226.7	202.7	136.0	96.0	94.7	101.3	129.3
87.5°	37.3	37.3	29.3	26.7	32.0	26.7	24.0	24.0	22.7	24.0	32.0
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°	1593.3	1593.3	1593.3	1593.3	1593.3	1593.3	1593.3	1593.3	1593.3	1593.3	1593.3
2.5°	1610.7	1614.7	1616.0	1622.7	1626.7	1629.3	1632.0	1632.0	1633.3	1637.3	1638.7
5°	1641.3	1648.0	1656.0	1661.3	1664.0	1672.0	1674.7	1674.7	1677.3	1682.7	1686.7
7.5°	1660.0	1669.3	1677.3	1680.0	1685.3	1688.0	1692.0	1694.7	1694.7	1700.0	1702.7
10°	1666.7	1672.0	1680.0	1680.0	1685.3	1685.3	1689.3	1690.7	1690.7	1696.0	1700.0
12.5°	1666.7	1669.3	1676.0	1676.0	1680.0	1681.3	1686.7	1690.7	1692.0	1698.7	1704.0
15°	1658.7	1661.3	1666.7	1668.0	1677.3	1682.7	1694.7	1702.7	1702.7	1709.3	1712.0
17.5°	1636.0	1642.7	1653.3	1664.0	1681.3	1693.3	1708.0	1714.7	1709.3	1705.3	1701.3
20°	1598.7	1610.7	1636.0	1662.7	1693.3	1709.3	1717.3	1710.7	1692.0	1673.3	1661.3
22.5°	1561.3	1585.3	1628.0	1668.0	1702.7	1713.3	1709.3	1685.3	1654.7	1632.0	1616.0
25°	1578.7	1606.7	1648.0	1684.0	1706.7	1704.0	1688.0	1654.7	1621.3	1592.0	1565.3
27.5°	1650.7	1681.3	1704.0	1716.0	1713.3	1694.7	1669.3	1632.0	1592.0	1553.3	1516.0
30°	1718.7	1734.7	1740.0	1730.7	1709.3	1678.7	1646.7	1604.0	1550.7	1502.7	1460.0
32.5°	1749.3	1733.3	1708.0	1682.7	1648.0	1621.3	1577.3	1530.7	1464.0	1406.7	1364.0
35°	1749.3	1685.3	1621.3	1568.0	1516.0	1482.7	1432.0	1369.3	1308.0	1260.0	1226.7
37.5°	1710.7	1588.0	1482.7	1396.0	1330.7	1294.7	1218.7	1162.7	1110.7	1094.7	1073.3
40°	1640.0	1458.7	1306.7	1193.3	1110.7	1057.3	981.3	942.7	922.7	914.7	910.7
42.5°	1545.3	1314.7	1112.0	972.0	882.7	822.7	772.0	748.0	746.7	745.3	745.3
45°	1444.0	1160.0	922.7	756.0	677.3	624.0	600.0	590.7	598.7	597.3	598.7
47.5°	1381.3	1042.7	749.3	572.0	512.0	477.3	465.3	469.3	476.0	473.3	473.3
50°	1373.3	982.7	633.3	445.3	400.0	382.7	380.0	380.0	384.0	381.3	380.0
52.5°	1402.7	973.3	573.3	382.7	346.7	332.0	329.3	328.0	326.7	318.7	312.0
55°	1453.3	994.7	556.0	366.7	329.3	313.3	309.3	306.7	301.3	290.7	278.7
57.5°	1554.7	1061.3	572.0	374.7	334.7	321.3	317.3	317.3	306.7	289.3	272.0
60°	1798.7	1230.7	637.3	405.3	360.0	346.7	349.3	348.0	332.0	306.7	280.0
62.5°	2113.3	1452.0	722.7	448.0	392.0	389.3	402.7	400.0	373.3	334.7	296.0
65°	2258.7	1556.0	746.7	457.3	398.7	410.7	437.3	434.7	401.3	348.0	298.7
66°	2261.3	1556.0	736.0	449.3	389.3	404.0	430.7	429.3	396.0	342.7	293.3
67.5°	2206.7	1513.3	705.3	433.3	370.7	381.3	405.3	404.0	373.3	329.3	282.7
70°	2001.3	1354.7	626.7	405.3	345.3	340.0	348.0	342.7	322.7	292.0	260.0
72.5°	1714.7	1137.3	546.7	384.0	328.0	306.7	301.3	297.3	281.3	264.0	244.0
75°	1350.7	900.0	480.0	368.0	312.0	284.0	274.7	269.3	258.7	246.7	230.7
77.5°	833.3	644.0	418.7	346.7	300.0	272.0	265.3	257.3	241.3	226.7	214.7
80°	372.0	398.7	344.0	302.7	268.0	242.7	232.0	220.0	204.0	194.7	188.0
82.5°	248.0	257.3	249.3	226.7	202.7	182.7	166.7	166.7	164.0	156.0	153.3
85°	158.7	160.0	154.7	140.0	130.7	118.7	112.0	113.3	118.7	117.3	116.0
87.5°	36.0	36.0	42.7	40.0	46.7	49.3	53.3	57.3	65.3	65.3	69.3
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: P156640

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

CANDELA DISTRIBUTION (continued):

	160°	165°	170°	175°	180°
0°	1593.3	1593.3	1593.3	1593.3	1593.3
2.5°	1640.0	1642.7	1645.3	1641.3	1642.7
5°	1686.7	1685.3	1692.0	1688.0	1690.7
7.5°	1701.3	1702.7	1708.0	1708.0	1709.3
10°	1702.7	1705.3	1712.0	1716.0	1718.7
12.5°	1709.3	1714.7	1725.3	1728.0	1728.0
15°	1714.7	1717.3	1724.0	1726.7	1729.3
17.5°	1696.0	1690.7	1693.3	1694.7	1693.3
20°	1649.3	1644.0	1642.7	1637.3	1640.0
22.5°	1598.7	1584.0	1574.7	1564.0	1564.0
25°	1537.3	1514.7	1496.0	1477.3	1481.3
27.5°	1480.0	1450.7	1432.0	1420.0	1417.3
30°	1424.0	1393.3	1376.0	1361.3	1361.3
32.5°	1330.7	1309.3	1286.7	1277.3	1276.0
35°	1201.3	1188.0	1169.3	1165.3	1158.7
37.5°	1056.0	1052.0	1036.0	1034.7	1028.0
40°	904.0	906.7	901.3	898.7	894.7
42.5°	752.0	765.3	762.7	761.3	758.7
45°	606.7	616.0	617.3	621.3	628.0
47.5°	477.3	480.0	482.7	481.3	482.7
50°	373.3	366.7	365.3	361.3	365.3
52.5°	301.3	290.7	285.3	280.0	277.3
55°	265.3	254.7	249.3	246.7	244.0
57.5°	256.0	245.3	237.3	232.0	230.7
60°	258.7	242.7	232.0	225.3	224.0
62.5°	265.3	244.0	229.3	222.7	221.3
65°	264.0	241.3	228.0	220.0	218.7
66°	260.0	238.7	225.3	218.7	217.3
67.5°	253.3	234.7	222.7	217.3	214.7
70°	241.3	229.3	220.0	213.3	210.7
72.5°	230.7	221.3	213.3	206.7	205.3
75°	218.7	210.7	202.7	197.3	196.0
77.5°	204.0	196.0	190.7	186.7	185.3
80°	180.0	174.7	169.3	164.0	164.0
82.5°	149.3	145.3	140.0	136.0	134.7
85°	114.7	114.7	110.7	106.7	105.3
87.5°	68.0	66.7	66.7	62.7	62.7
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)