

Scaled data based on original data using
LM-79-08 Approved Method: Electrical and Photometric Measurements of Solid-
State Lighting Products

Test Report Prepared for
Cooper Lighting Solutions
(formerly Eaton)

Brand: LUMARK

Report Number: P303579

Luminaire Tested: **WPMLED15**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P303579
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G1-1906-360-1)
Test Lab: INNOVATION CENTER(G1)
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: LUMARK
Catalog Number: WPMLED15
Description: MEDIUM LED WALL PACK - 50W, 4000K
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 6202.6 lumens
Efficiency: N/A
Efficacy: 127.6 lumens/watt
Luminous Opening: Rectangular w/ Sides (W: 1.03' x L: 0.25' x H: 0.69')
IES Classification: Type IV - Short - Non-Cutoff
BUG Rating: B2 - U3 - G3

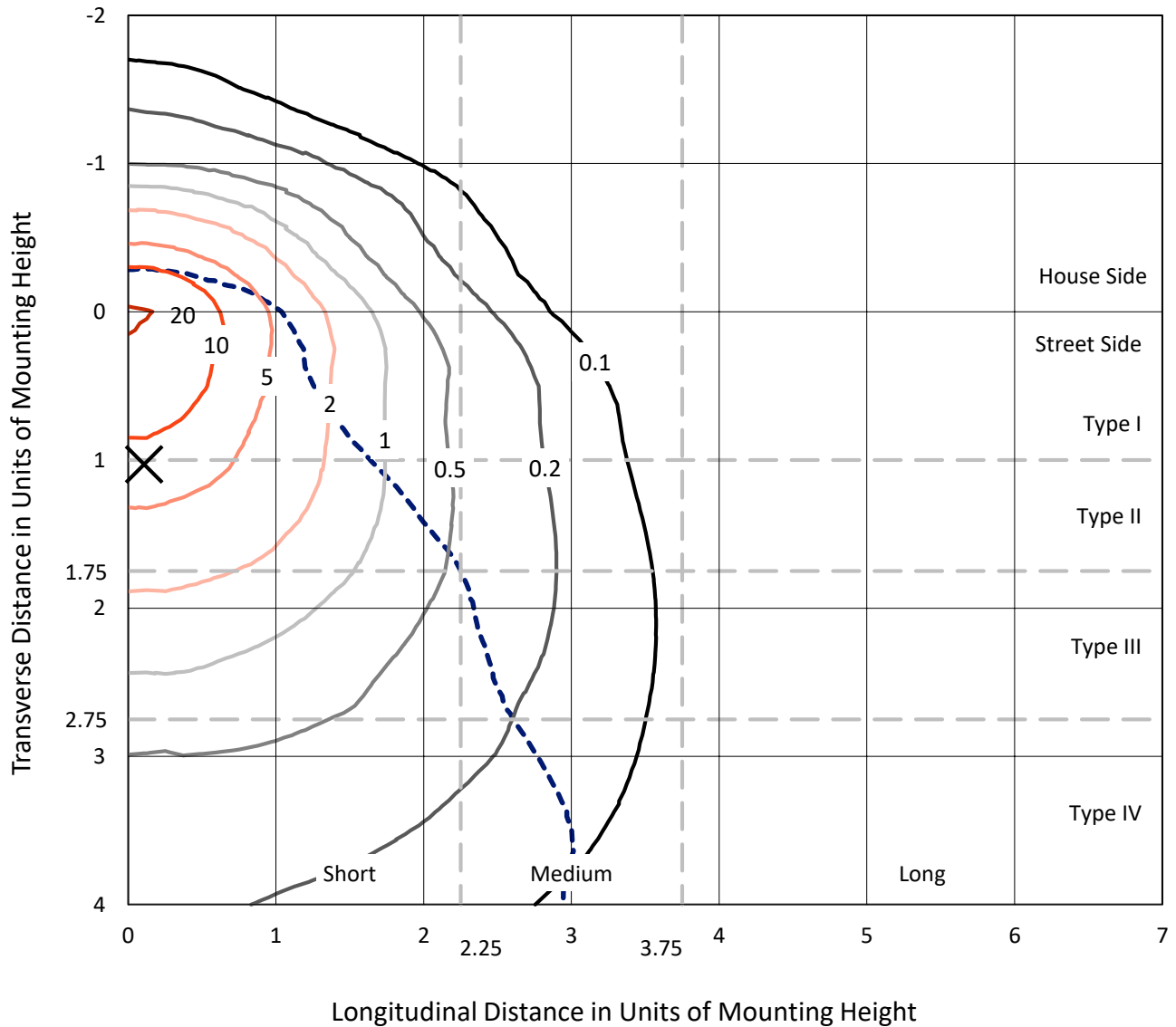
Input Watts (W): 48.6
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

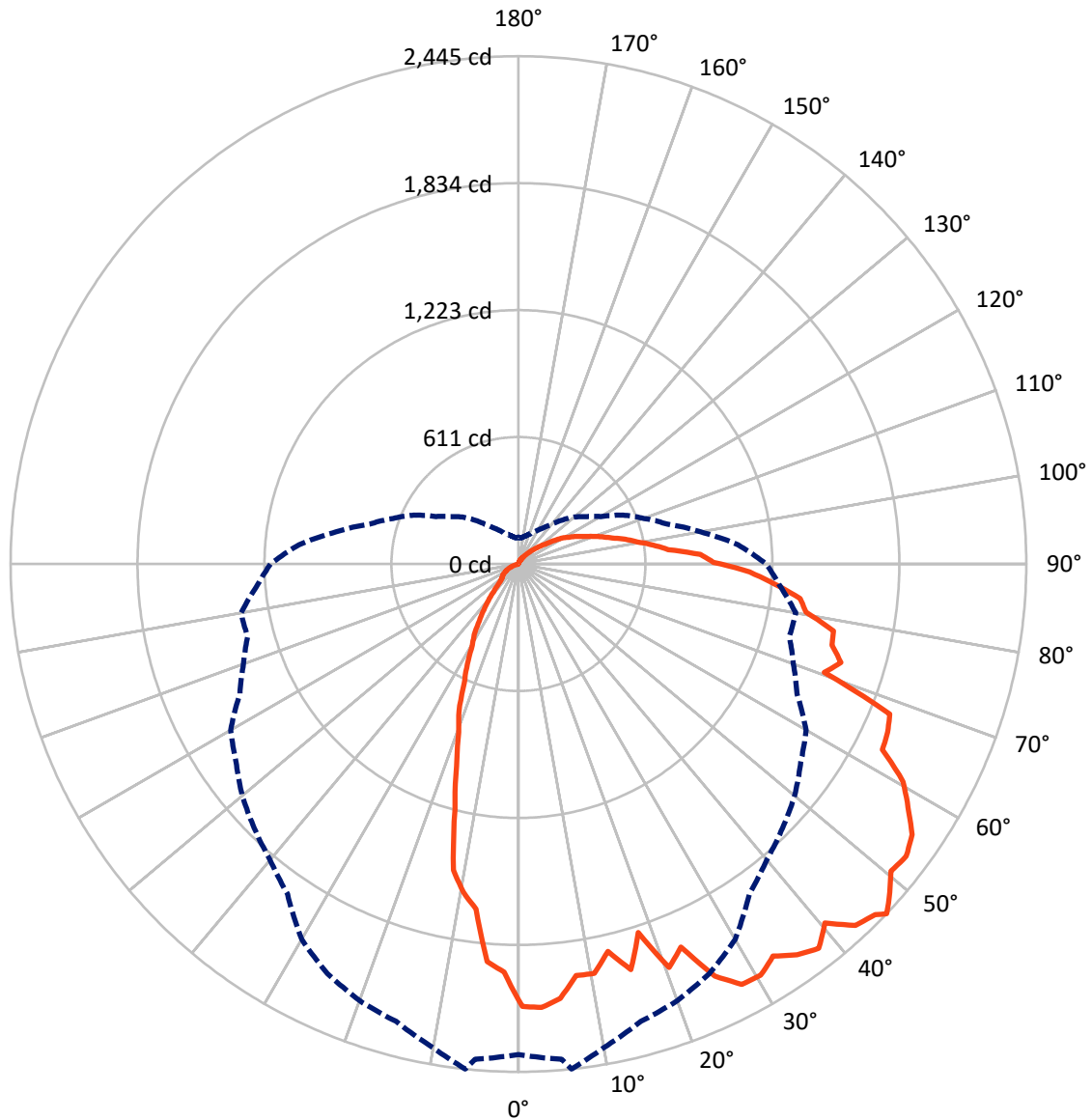
× Max cd
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 21.3 fc
 Type IV - Short - Non-Cutoff

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Luminous Intensity Polar Plot



— Vertical Plane Through 6-Deg Lateral - - - Horizontal Cone Through 46-Deg Vertical

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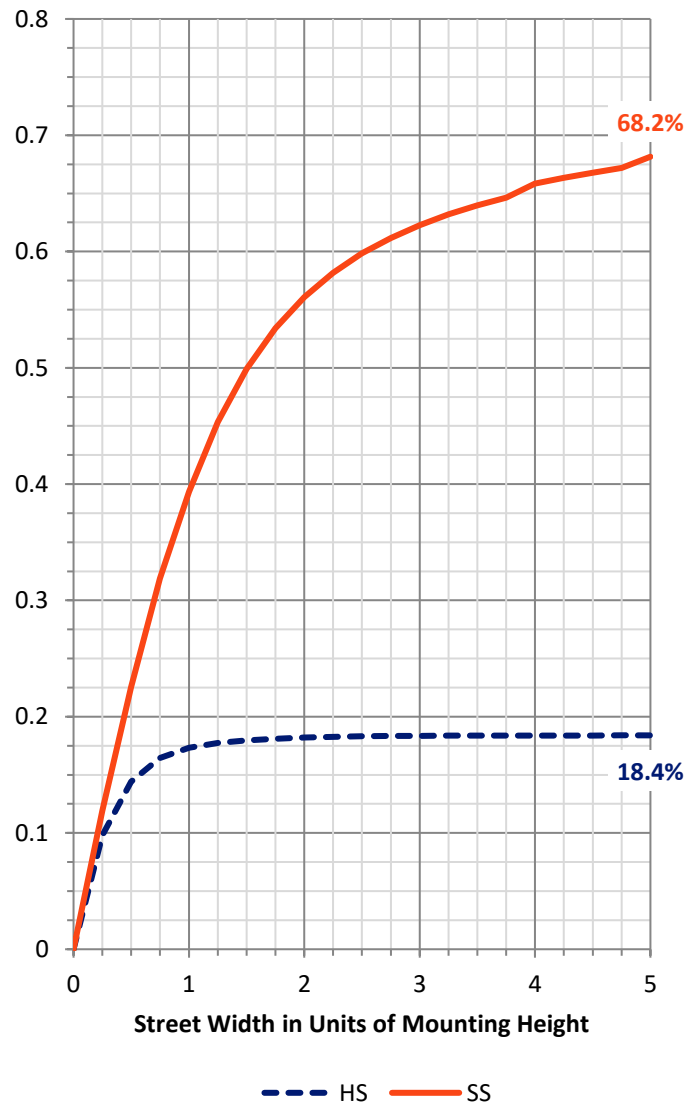
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	1152.4	7.7	1160.1
	% Fixture	18.6	0.1	18.7
Street Side	Lumens	4515.2	527.3	5042.5
	% Fixture	72.8	8.5	81.3
Total	Lumens	5667.6	535.0	6202.6
	% Fixture	91.4	8.6	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	189.5	3.1
10°-20°	494.2	8.0
20°-30°	691.4	11.1
30°-40°	823.9	13.3
40°-50°	875.3	14.1
50°-60°	851.4	13.7
60°-70°	748.4	12.1
70°-80°	581.3	9.4
80°-90°	412.1	6.6
90°-100°	241.6	3.9
100°-110°	139.9	2.3
110°-120°	82.1	1.3
120°-130°	42.6	0.7
130°-140°	18.9	0.3
140°-150°	7.2	0.1
150°-160°	2.3	0.0
160°-170°	0.5	0.0
170°-180°	0.0	0.0
0°-90°	5667.6	91.4
0°-180°	6202.6	100.0



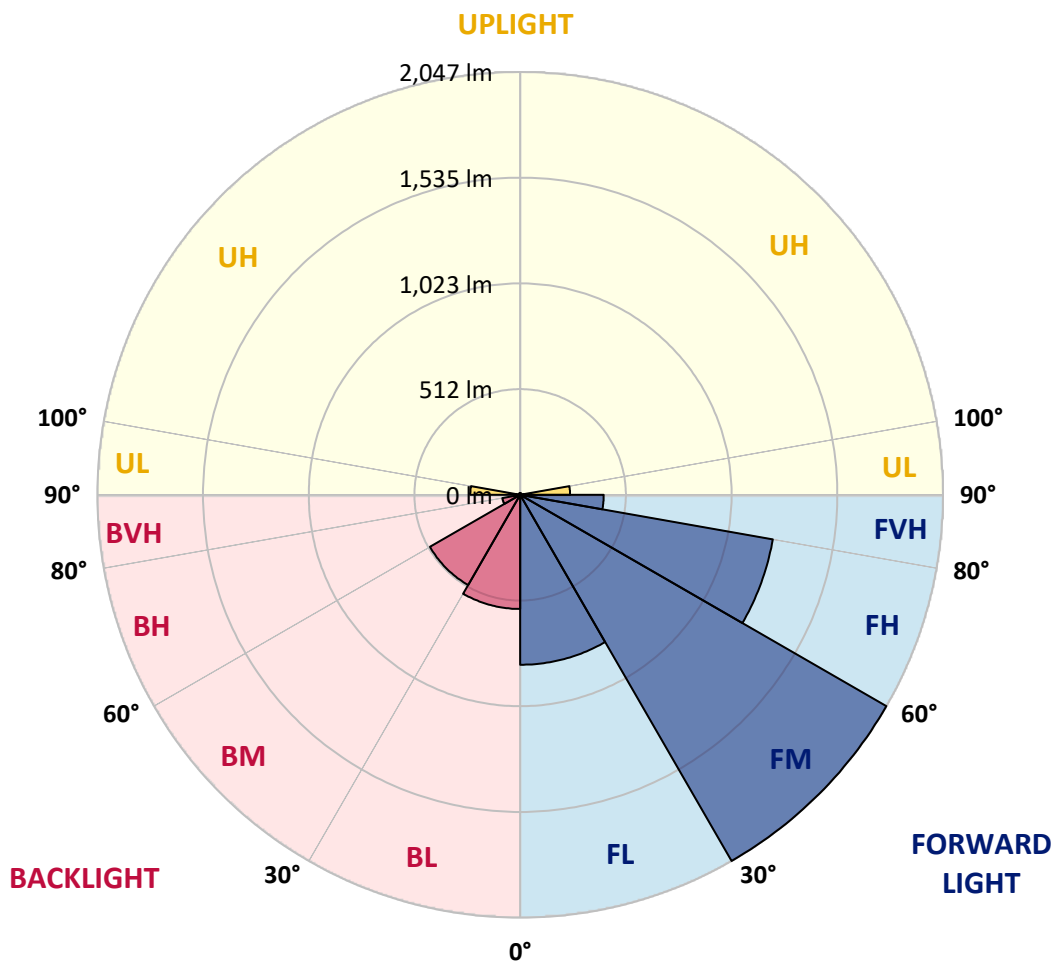
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	822.6	13.3			
FM	(30°-60°)	2046.6	33.0			
FH	(60°-80°)	1241.8	20.0			G1/1800
FVH	(80°-90°)	404.2	6.5			G3/500
BL	(0°-30°)	552.5	8.9	B2/1000		
BM	(30°-60°)	504.0	8.1	B1/1000		
BH	(60°-80°)	88.0	1.4	B0/110		G0/110
BVH	(80°-90°)	7.9	0.1			G0/10
UL	(90°-100°)	241.6	3.9		U3/500	
UH	(100°-180°)	7.7	0.1		U1/10	

BUG Rating: B2-U3-G3

Type IV Short





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CANDELA DISTRIBUTION (FULL):

	0°	5°	6°	10°	15°	20°	25°	30°	35°	40°	45°
0°	2130.1	2130.1	2130.1	2130.1	2130.1	2130.1	2130.1	2130.1	2130.1	2130.1	2130.1
2.5°	2194.6	2165.9	2137.6	2119.9	2072.3	2026.3	2067.2	2056.2	2075.5	2061.3	2133.3
5°	2174.2	2137.2	2100.3	2087.3	2084.5	2110.9	2184.8	2165.1	2174.6	2163.9	2244.9
7.5°	2080.2	2032.6	2000.8	2006.7	2024.0	1968.5	1994.9	2024.0	2016.5	1963.4	2088.8
10°	2066.0	2026.7	2004.7	2046.0	2001.2	1985.1	2053.1	1978.0	2008.6	1971.3	2012.2
12.5°	1956.0	1921.0	1913.5	1933.9	1877.3	1899.7	1913.9	1945.7	1945.3	2027.9	2033.0
15°	2037.3	2005.5	2026.3	2012.2	2003.5	1956.0	1964.6	1872.2	1866.3	1894.2	1963.0
17.5°	1886.4	1865.1	1866.3	1817.6	1790.8	1790.4	1856.1	1924.9	2005.1	1884.0	1883.2
20°	2054.3	2063.3	2073.1	2051.1	2003.5	1935.5	1911.9	1814.4	1790.4	1872.6	2018.5
22.5°	2008.3	2011.8	2003.5	1966.6	1895.4	1887.9	1963.8	2008.3	1912.3	1764.5	1833.7
25°	2176.5	2181.6	2198.1	2178.5	2116.4	2057.0	1991.3	1891.9	1891.5	1957.1	1837.6
27.5°	2285.0	2263.0	2291.7	2208.4	2112.0	2058.6	2096.3	2084.1	1929.6	1831.7	1940.2
30°	2261.1	2266.6	2298.0	2268.5	2235.5	2208.8	2179.3	2065.7	2018.1	1965.0	1832.5
32.5°	2208.0	2217.4	2251.2	2204.0	2167.1	2135.2	2160.8	2146.3	2053.9	1961.1	1948.9
35°	2267.3	2274.4	2311.4	2250.0	2178.9	2124.6	2126.2	2094.7	2019.7	1999.6	1927.7
37.5°	2271.7	2289.8	2348.7	2296.0	2240.6	2192.6	2147.4	2071.9	1996.1	1947.3	1943.0
40°	2199.3	2220.2	2272.8	2203.7	2137.6	2130.1	2144.7	2091.2	1970.1	1926.1	1882.8
42.5°	2308.6	2326.3	2378.6	2275.6	2169.1	2117.9	2108.9	2064.1	1950.5	1892.7	1841.9
45°	2338.5	2365.2	2408.5	2320.8	2248.9	2201.7	2159.2	2052.3	1937.1	1871.4	1812.9
46°	2361.3	2393.9	2445.1	2364.5	2279.1	2237.1	2175.3	2086.9	1938.7	1860.0	1798.3
47.5°	2318.1	2353.1	2402.2	2341.7	2288.6	2254.4	2226.5	2121.9	1971.7	1857.3	1769.2
50°	2247.3	2272.8	2324.4	2270.5	2209.9	2199.7	2209.5	2162.4	2006.7	1894.2	1748.0
52.5°	2258.3	2282.7	2338.1	2297.6	2237.9	2214.7	2170.6	2095.1	1978.4	1907.2	1762.1
55°	2257.5	2258.3	2300.0	2209.5	2073.9	2074.3	2112.8	2094.0	1973.7	1885.6	1735.4
57.5°	2127.4	2143.1	2212.3	2193.0	2114.8	2099.1	2099.5	2051.5	1936.3	1853.7	1710.2
60°	2070.8	2062.9	2128.2	2102.2	2022.8	2031.4	2021.6	1938.3	1845.5	1821.9	1686.6
62.5°	1909.6	1900.9	1967.0	1959.5	1929.2	1938.7	1948.5	1956.7	1847.1	1743.7	1610.8
65°	1902.5	1888.7	1954.0	1911.5	1836.4	1819.1	1819.9	1788.1	1734.6	1717.3	1566.7
67.5°	1869.1	1869.9	1928.0	1911.9	1840.4	1808.1	1776.3	1731.5	1648.5	1602.1	1494.8
70°	1521.1	1506.2	1562.4	1580.1	1623.4	1696.5	1661.9	1601.7	1560.4	1523.1	1414.2
72.5°	1591.1	1572.2	1623.7	1633.2	1662.7	1667.0	1676.0	1715.0	1531.7	1389.4	1264.4
75°	1527.4	1520.7	1558.9	1522.7	1455.1	1448.0	1440.1	1432.3	1370.5	1306.1	1152.3
77.5°	1527.8	1515.6	1550.6	1503.8	1429.9	1404.0	1361.9	1297.8	1229.8	1219.6	1126.8
80°	1370.5	1379.2	1403.6	1403.2	1407.1	1444.9	1389.4	1287.6	1177.9	1104.8	1016.3
82.5°	1357.6	1347.7	1366.2	1343.0	1299.8	1276.6	1214.9	1204.2	1150.0	1045.4	901.1
85°	1230.6	1225.5	1239.2	1234.1	1212.5	1238.1	1194.4	1104.4	1017.5	941.2	825.2
87.5°	1105.2	1103.2	1114.6	1087.1	1055.2	1036.8	992.3	968.7	923.9	851.6	737.6
90°	936.9	932.6	938.5	921.6	899.9	892.5	880.7	867.7	794.2	720.7	629.8
92.5°	878.7	896.0	876.7	875.6	856.3	839.0	791.4	717.5	656.2	604.7	546.1
95°	723.0	723.0	724.2	715.9	699.8	687.2	665.6	629.1	581.9	547.3	484.0
97.5°	658.5	658.9	655.0	648.7	629.8	614.5	593.7	563.8	526.0	482.4	413.2
100°	583.4	585.4	582.7	585.8	573.6	568.9	547.3	508.0	460.4	411.6	350.3
102.5°	533.9	531.9	528.4	523.7	508.4	491.4	469.4	440.3	405.3	360.1	300.8
105°	473.4	475.7	467.9	467.9	457.2	445.1	426.2	395.1	356.6	310.6	263.4
107.5°	431.3	430.5	423.0	421.1	412.4	395.5	378.6	346.8	312.2	274.4	228.8



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CANDELA DISTRIBUTION (continued):

	0°	5°	6°	10°	15°	20°	25°	30°	35°	40°	45°
110°	386.9	388.8	381.0	380.2	369.2	353.8	335.8	305.9	273.2	238.3	200.5
112.5°	346.0	347.2	338.9	338.5	329.1	314.5	300.8	273.2	244.9	212.7	180.5
115°	316.1	317.7	308.6	308.6	299.6	283.5	268.5	239.4	212.7	184.0	156.1
117.5°	282.7	281.1	274.0	274.4	265.0	248.5	236.7	211.1	186.0	160.8	136.8
120°	254.4	255.2	246.9	246.1	235.5	221.0	206.8	185.6	164.7	143.1	121.1
122.5°	217.0	217.0	209.2	209.2	199.7	186.0	174.2	152.9	137.2	120.3	103.0
125°	178.5	179.3	171.4	171.8	163.6	152.2	145.5	130.5	117.9	103.8	90.0
127.5°	152.2	153.7	147.4	148.6	142.3	132.5	127.0	112.8	102.6	88.5	76.7
130°	129.3	129.7	125.4	125.4	120.3	112.8	108.1	97.1	87.7	76.7	64.9
132.5°	111.3	111.3	106.5	106.9	101.8	94.8	91.2	81.4	73.5	64.1	55.8
135°	92.8	92.8	89.2	89.2	84.5	78.2	75.5	67.6	60.9	54.3	46.4
137.5°	75.5	75.9	72.3	72.7	69.6	64.9	62.9	56.2	51.1	44.4	38.1
140°	62.5	61.7	59.8	59.8	57.0	53.1	52.3	46.8	42.5	36.6	31.8
142.5°	51.1	51.1	49.1	49.9	47.2	43.6	42.9	38.5	34.6	30.7	26.3
145°	41.7	41.7	40.5	40.5	38.5	35.4	35.0	31.5	28.7	24.8	22.0
147.5°	34.2	34.2	33.0	33.4	31.5	29.5	28.7	25.6	23.2	20.4	18.1
150°	28.7	27.9	27.1	27.1	25.6	23.6	23.6	20.8	19.3	16.9	14.5
152.5°	23.2	22.8	22.4	22.4	20.8	19.7	18.9	17.3	15.7	13.4	11.4
155°	18.5	18.5	18.1	17.7	16.9	15.3	14.9	13.4	11.8	10.2	8.3
157.5°	14.5	14.5	14.2	14.2	13.0	11.8	11.8	10.2	8.6	7.1	5.9
160°	11.4	11.0	10.6	10.6	9.8	8.6	8.3	7.1	5.9	4.7	3.5
162.5°	8.3	7.9	7.9	7.5	6.7	5.9	5.5	4.3	3.5	2.8	2.4
165°	4.7	4.7	4.7	4.3	3.9	3.1	3.1	2.4	1.6	1.6	2.0
167.5°	2.0	2.0	2.0	1.6	1.2	1.2	1.6	1.6	1.6	1.6	2.0
170°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
172.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
175°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
177.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
180°	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°	2130.1	2130.1	2130.1	2130.1	2130.1	2130.1	2130.1	2130.1	2130.1	2130.1	2130.1
2.5°	2081.4	2080.2	2043.2	2022.8	2029.5	2040.5	2046.0	2059.8	2092.0	2130.9	2132.5
5°	2187.5	2169.4	2107.3	2056.6	2022.0	1994.9	1997.2	2020.0	2077.4	2138.4	2097.1
7.5°	2145.9	2228.4	2189.5	2095.5	2062.1	2030.7	2010.2	2020.4	2101.8	2152.1	2031.8
10°	2028.3	2035.0	2073.1	2148.6	2133.7	2089.2	2034.6	2005.1	2113.2	2125.8	1992.9
12.5°	1994.9	1996.1	1955.2	2025.6	2196.6	2095.9	2020.0	1948.9	2084.9	2026.7	1893.5
15°	2027.9	1998.0	1930.8	1942.6	2055.4	2129.7	2007.1	1921.0	2068.4	1964.2	1809.7
17.5°	1896.2	1974.4	1961.1	1910.7	1935.9	2112.4	1991.7	1896.2	2049.5	1891.9	1776.3
20°	1840.0	1849.8	1927.7	1905.2	1869.1	2005.5	1996.5	1856.9	2002.0	1805.4	1769.2
22.5°	1952.4	1826.6	1791.2	1931.6	1825.0	1899.7	1998.8	1805.4	1935.5	1738.5	1749.2
25°	1762.9	1900.1	1736.6	1782.2	1859.2	1817.2	1970.1	1760.2	1867.5	1687.8	1643.0
27.5°	1804.2	1725.2	1828.2	1664.2	1857.7	1738.5	1917.0	1715.0	1788.9	1654.4	1536.1
30°	1878.1	1715.7	1749.9	1677.6	1747.6	1713.0	1847.8	1663.1	1692.2	1601.3	1449.6
32.5°	1786.9	1814.4	1642.6	1711.8	1626.5	1698.1	1768.4	1615.1	1615.5	1528.6	1385.1
35°	1876.5	1742.9	1703.6	1659.5	1584.8	1654.8	1720.5	1585.6	1553.8	1470.0	1337.1
37.5°	1863.6	1767.6	1741.7	1589.9	1590.7	1616.3	1658.3	1542.4	1505.8	1398.5	1262.8
40°	1869.1	1772.8	1683.1	1584.0	1556.5	1544.3	1590.7	1479.5	1432.7	1322.6	1169.6
42.5°	1819.5	1761.0	1659.1	1568.7	1506.2	1472.8	1504.2	1402.4	1347.4	1224.7	1057.6
45°	1757.4	1699.6	1620.6	1504.2	1437.0	1382.0	1398.9	1308.4	1239.6	1106.7	939.6
46°	1735.8	1659.9	1599.4	1479.8	1408.7	1350.1	1355.6	1266.8	1192.8	1060.7	890.9
47.5°	1691.4	1608.8	1551.4	1435.0	1360.7	1306.5	1308.0	1206.6	1135.0	988.8	829.2
50°	1662.3	1543.5	1459.4	1370.2	1275.8	1218.4	1210.9	1103.6	1021.8	874.0	720.7
52.5°	1629.6	1488.5	1404.8	1297.8	1188.9	1128.0	1118.1	1019.5	933.8	784.4	625.5
55°	1596.2	1459.0	1318.3	1217.2	1116.6	1052.9	1032.8	936.5	848.4	687.2	535.1
57.5°	1573.8	1401.6	1261.6	1151.2	1046.6	976.2	965.2	872.0	768.2	608.6	454.5
60°	1540.0	1359.5	1203.5	1076.5	974.6	893.3	874.0	778.1	662.9	487.1	372.7
62.5°	1474.0	1309.6	1152.0	999.0	892.9	822.5	796.5	694.3	557.5	403.0	307.4
65°	1425.2	1270.3	1093.8	924.3	811.1	749.8	728.5	625.1	470.6	322.8	261.1
67.5°	1354.0	1188.5	1054.8	869.7	736.4	676.2	647.5	538.6	385.3	260.3	226.5
70°	1307.6	1129.5	960.5	811.9	664.4	596.4	552.4	438.4	296.4	217.8	197.0
72.5°	1153.5	1028.5	876.7	730.9	596.8	511.9	458.8	343.6	223.7	178.9	170.2
75°	1074.5	948.3	803.2	667.6	538.6	436.0	370.4	257.5	173.8	147.8	143.9
77.5°	995.1	862.6	730.9	601.5	468.3	367.6	289.8	193.0	133.7	121.1	114.8
80°	930.2	787.1	644.4	525.7	410.5	300.4	225.3	142.3	101.8	95.9	89.2
82.5°	804.4	693.5	568.5	448.6	342.4	246.5	172.2	106.9	78.2	73.5	66.8
85°	719.9	600.4	479.3	380.6	279.9	197.0	132.1	79.8	58.2	54.6	48.0
87.5°	628.7	521.7	411.6	312.2	233.5	157.7	102.2	60.5	42.9	40.1	35.4
90°	545.7	451.0	357.4	263.0	189.9	131.7	79.8	45.2	33.0	30.3	27.9
92.5°	481.2	394.7	308.2	223.3	163.2	108.1	64.9	35.8	27.1	24.4	22.4
95°	414.8	350.3	269.3	194.2	138.4	90.0	53.1	29.5	23.2	20.8	19.3
97.5°	353.1	295.7	230.4	163.9	115.2	73.5	44.4	25.9	21.2	19.7	16.9
100°	297.2	243.4	188.7	137.2	94.8	61.3	37.7	24.0	20.8	18.9	15.7
102.5°	248.9	204.0	154.9	109.7	78.2	51.5	33.0	22.4	20.8	18.1	14.2
105°	218.6	174.2	131.3	90.8	65.3	44.0	29.5	21.6	20.8	17.7	13.0
107.5°	189.5	152.9	113.2	78.6	57.0	38.9	27.1	20.8	20.1	16.9	11.8



REPORT NUMBER: P303579
 CATALOG NUMBER: WPMLED15

CANDELA DISTRIBUTION (continued):

	50°	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°
110°	165.9	132.5	99.5	70.4	51.5	35.0	25.2	20.4	19.7	16.1	11.0
112.5°	147.8	115.6	87.3	63.3	46.4	31.1	23.6	19.7	18.5	14.9	9.8
115°	128.6	101.8	77.1	56.6	41.7	27.1	22.0	18.5	17.3	13.8	9.0
117.5°	113.6	90.0	69.2	50.3	35.8	24.0	20.1	17.3	15.7	12.6	8.3
120°	99.1	77.1	59.8	43.2	29.5	21.2	17.7	15.3	13.8	11.0	7.1
122.5°	85.3	67.6	53.1	37.7	25.2	18.9	15.3	13.8	12.6	9.8	6.3
125°	75.5	59.8	46.8	31.5	22.0	16.5	13.4	12.2	11.0	8.6	5.5
127.5°	63.7	51.1	38.9	26.7	18.5	14.2	11.4	10.6	9.4	7.5	4.7
130°	54.3	42.9	32.2	22.4	16.5	12.2	9.8	8.6	7.9	6.3	3.9
132.5°	46.8	36.6	27.5	19.3	14.2	9.8	7.9	7.1	6.3	5.1	3.1
135°	38.5	31.1	23.6	16.5	11.8	7.9	6.3	5.9	5.1	3.9	2.8
137.5°	32.2	25.6	19.7	14.2	9.8	6.3	5.1	4.7	3.9	3.1	2.4
140°	26.7	20.8	16.5	11.4	7.5	4.3	4.3	3.5	3.1	2.8	2.0
142.5°	22.4	17.3	13.8	9.4	5.9	3.5	3.5	2.8	2.8	2.4	2.0
145°	18.5	14.5	11.4	7.1	3.9	2.8	3.1	2.8	2.4	2.4	2.0
147.5°	14.9	11.4	8.6	5.1	2.8	2.8	2.8	2.4	2.4	2.0	1.6
150°	11.8	8.6	6.3	3.5	2.4	2.4	2.4	2.0	2.0	2.0	1.6
152.5°	9.0	6.3	3.9	2.4	2.4	2.4	2.4	2.0	2.0	1.6	1.2
155°	6.3	4.3	2.8	2.0	2.0	2.0	2.0	2.0	1.6	1.6	1.2
157.5°	4.3	2.8	2.0	2.0	2.0	2.0	2.0	1.6	1.6	1.6	1.2
160°	2.8	2.0	2.0	2.0	2.0	2.0	2.0	1.6	1.6	1.6	1.2
162.5°	2.0	2.0	2.0	2.0	2.0	2.0	2.0	1.6	1.6	1.6	1.2
165°	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	1.6	1.6	1.6
167.5°	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	1.6	1.6	1.2
170°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
172.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
175°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
177.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
180°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



REPORT NUMBER: P303579
 CATALOG NUMBER: WPMLED15

CANDELA DISTRIBUTION (continued):

	105°	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°
0°	2130.1	2130.1	2130.1	2130.1	2130.1	2130.1	2130.1	2130.1	2130.1	2130.1	2130.1
2.5°	2204.8	2146.6	2121.9	2086.1	2149.0	2062.9	2051.9	2049.5	2029.5	2011.8	1972.1
5°	2099.1	2014.1	1985.8	1934.7	1980.3	1880.9	1853.0	1847.8	1867.5	1912.7	1942.6
7.5°	2026.7	1915.9	1841.2	1823.9	1954.0	1924.5	1851.8	1811.7	1794.4	1764.5	1693.7
10°	1949.7	1839.6	1866.3	1855.3	1854.1	1722.8	1647.7	1711.4	1763.3	1756.2	1725.2
12.5°	1869.1	1905.6	1816.8	1671.7	1689.8	1735.0	1689.0	1655.6	1535.3	1490.9	1437.8
15°	1864.0	1816.8	1660.3	1644.2	1724.4	1588.8	1456.7	1464.1	1492.4	1479.8	1381.6
17.5°	1851.8	1659.9	1641.4	1610.8	1515.2	1429.9	1451.5	1349.3	1264.0	1225.9	1180.7
20°	1708.7	1604.1	1591.5	1431.5	1450.0	1361.1	1240.0	1194.0	1118.9	1012.4	964.4
22.5°	1593.9	1590.3	1433.1	1363.5	1317.9	1193.6	1107.9	974.2	943.2	893.3	834.3
25°	1544.3	1459.0	1344.2	1252.6	1170.0	1038.7	904.7	897.6	811.9	750.9	756.4
27.5°	1494.8	1347.0	1264.0	1109.9	1027.7	868.5	850.8	748.2	742.3	681.0	612.1
30°	1375.3	1262.4	1128.0	994.3	866.1	827.6	711.2	709.3	612.1	594.5	533.5
32.5°	1251.4	1177.1	1003.7	853.2	826.8	700.6	669.2	581.1	541.8	497.7	456.5
35°	1166.9	1054.8	902.7	770.2	716.7	653.0	563.8	510.7	467.5	425.8	406.9
37.5°	1098.5	958.1	799.7	723.8	637.7	558.7	493.4	445.1	398.7	378.2	340.5
40°	1003.7	870.8	737.6	647.5	579.9	495.8	432.1	383.3	347.6	318.1	279.1
42.5°	900.3	771.0	660.9	567.3	489.5	420.3	371.1	327.9	290.2	252.4	228.0
45°	783.2	679.4	596.4	497.7	423.4	371.5	324.4	273.6	228.8	208.4	180.1
46°	741.5	642.0	556.3	456.8	397.5	351.5	299.6	249.7	213.5	188.3	164.7
47.5°	676.2	583.1	511.5	406.9	368.8	323.2	267.7	219.0	186.8	163.2	144.3
50°	584.2	508.0	425.8	360.1	318.9	274.8	218.2	178.9	151.0	135.6	121.5
52.5°	497.3	431.7	364.1	307.4	271.3	218.6	178.5	146.3	126.6	115.2	106.2
55°	423.0	366.8	311.8	267.0	219.8	180.1	147.4	121.9	108.5	100.3	93.6
57.5°	362.1	317.7	273.2	229.6	180.1	148.6	121.5	103.4	92.4	86.9	82.2
60°	304.3	278.0	237.9	184.8	146.3	121.9	99.1	87.3	79.8	74.3	71.9
62.5°	256.7	241.8	200.5	151.0	119.5	99.1	80.2	72.3	66.8	62.5	61.7
65°	222.9	208.0	163.9	123.1	97.1	78.6	64.9	59.0	54.6	52.3	50.7
67.5°	196.2	174.2	134.1	99.9	77.1	60.5	51.1	45.6	42.1	40.9	39.3
70°	171.4	144.7	110.5	79.4	59.8	46.8	39.3	34.2	31.5	28.7	28.3
72.5°	145.1	117.6	88.1	64.1	46.4	36.2	27.9	23.2	20.4	18.1	17.3
75°	117.9	93.2	68.0	49.1	34.2	25.6	17.3	12.2	8.3	2.0	0.4
77.5°	92.4	72.7	51.1	35.8	22.8	14.5	6.7	0.8	0.0	0.0	0.0
80°	69.6	53.9	38.1	24.8	13.8	6.3	1.6	0.0	0.0	0.0	0.0
82.5°	52.3	39.3	26.7	17.3	9.4	4.3	0.8	0.0	0.0	0.0	0.0
85°	38.5	29.1	19.7	12.6	6.7	2.8	0.4	0.0	0.0	0.0	0.0
87.5°	27.9	21.6	14.9	9.4	4.7	2.0	0.4	0.0	0.0	0.0	0.0
90°	22.0	17.3	11.8	7.5	3.9	1.6	0.4	0.0	0.0	0.0	0.0
92.5°	18.5	14.2	9.8	6.7	3.1	1.6	0.4	0.0	0.0	0.0	0.0
95°	16.1	12.2	8.3	5.1	2.8	1.6	0.4	0.0	0.0	0.0	0.0
97.5°	13.4	10.2	7.1	4.3	2.0	1.2	0.4	0.0	0.0	0.0	0.0
100°	11.8	8.6	5.9	3.5	1.6	0.8	0.4	0.0	0.0	0.0	0.0
102.5°	10.6	7.9	5.1	2.8	1.2	0.8	0.0	0.0	0.0	0.0	0.0
105°	9.0	6.7	4.3	2.4	1.2	0.8	0.0	0.0	0.0	0.0	0.0
107.5°	8.3	5.9	3.5	2.0	1.2	0.8	0.0	0.0	0.0	0.0	0.0

REPORT NUMBER: P303579
 CATALOG NUMBER: WPMLED15

REPORT N
 CATALOG

CANDELA DISTRIBUTION (continued):

CANDELA

	105°	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°	
110°	7.5	5.1	3.1	1.6	0.8	0.4	0.0	0.0	0.0	0.0	0.0	0°
112.5°	6.7	4.3	2.4	1.6	0.8	0.4	0.0	0.0	0.0	0.0	0.0	2.5°
115°	5.9	3.5	2.0	1.2	0.8	0.4	0.0	0.0	0.0	0.0	0.0	5°
117.5°	5.5	3.1	2.0	1.2	0.8	0.4	0.0	0.0	0.0	0.0	0.0	7.5°
120°	4.7	2.8	1.6	1.2	0.8	0.4	0.0	0.0	0.0	0.0	0.0	10°
122.5°	3.9	2.4	1.6	1.2	0.8	0.4	0.0	0.0	0.0	0.0	0.0	12.5°
125°	3.5	2.0	1.6	1.2	0.4	0.4	0.0	0.0	0.0	0.0	0.0	15°
127.5°	2.8	2.0	1.6	1.2	0.4	0.4	0.0	0.0	0.0	0.0	0.0	17.5°
130°	2.4	2.0	1.2	0.8	0.4	0.4	0.0	0.0	0.0	0.0	0.0	20°
132.5°	2.4	1.6	1.2	0.8	0.4	0.4	0.0	0.0	0.0	0.0	0.0	22.5°
135°	2.0	1.6	1.2	0.8	0.4	0.4	0.0	0.0	0.0	0.0	0.0	25°
137.5°	2.0	1.6	1.2	0.8	0.4	0.4	0.0	0.0	0.0	0.0	0.0	27.5°
140°	2.0	1.6	1.2	0.8	0.4	0.4	0.0	0.0	0.0	0.0	0.0	30°
142.5°	1.6	1.2	1.2	0.8	0.4	0.4	0.4	0.0	0.0	0.0	0.0	32.5°
145°	1.6	1.2	0.8	0.8	0.4	0.4	0.4	0.0	0.0	0.0	0.0	35°
147.5°	1.6	1.2	0.8	0.8	0.4	0.4	0.4	0.0	0.0	0.0	0.0	37.5°
150°	1.2	1.2	0.8	0.8	0.4	0.4	0.4	0.0	0.0	0.0	0.0	40°
152.5°	1.2	0.8	0.8	0.8	0.4	0.4	0.4	0.0	0.0	0.0	0.0	42.5°
155°	1.2	1.2	0.8	0.8	0.4	0.4	0.4	0.0	0.0	0.0	0.0	45°
157.5°	1.2	0.8	0.8	0.8	0.4	0.4	0.4	0.0	0.0	0.0	0.0	46°
160°	1.2	1.2	0.8	0.8	0.4	0.4	0.4	0.0	0.0	0.0	0.0	47.5°
162.5°	1.2	1.2	1.2	0.8	0.4	0.4	0.4	0.4	0.0	0.0	0.0	50°
165°	1.6	1.2	1.2	0.8	0.8	0.4	0.4	0.4	0.4	0.0	0.0	52.5°
167.5°	1.2	1.2	1.2	0.8	0.4	0.4	0.4	0.4	0.0	0.0	0.0	55°
170°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	57.5°
172.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	60°
175°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	62.5°
177.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	65°
180°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	67.5°
												70°
												72.5°
												75°
												77.5°
												80°
												82.5°
												85°
												87.5°
												90°
												92.5°
												95°
												97.5°
												100°
												102.5°
												105°
												107.5°



NUMBER: P303579
 NUMBER: WPMLED15

REPORT NUMBER: P
 CATALOG NUMBER:

DISTRIBUTION (continued):

160°	165°	170°	175°	180°
2130.1	2130.1	2130.1	2130.1	2130.1
1976.4	1987.4	2021.6	1952.0	1979.6
1961.5	1944.2	1960.7	1909.6	1925.7
1698.1	1710.6	1711.0	1664.6	1687.8
1679.6	1672.5	1649.3	1590.3	1585.2
1494.4	1504.2	1547.5	1497.1	1501.1
1292.7	1270.3	1269.5	1209.4	1216.4
1157.5	1115.8	1078.4	1002.6	1012.4
955.4	917.2	890.5	852.8	863.0
780.0	765.9	772.9	762.3	775.7
721.1	687.2	661.3	620.8	629.1
590.1	600.4	565.8	534.3	533.5
505.2	491.1	473.4	443.1	447.8
430.5	430.5	417.5	397.5	396.7
383.7	365.2	344.8	329.5	334.6
320.8	300.4	284.6	273.2	277.2
262.6	244.5	236.3	226.1	229.6
217.0	203.3	185.6	174.6	175.3
166.3	156.5	144.3	136.0	140.0
153.3	140.8	132.5	125.4	129.3
135.2	127.4	119.5	114.0	116.4
116.8	112.4	106.5	103.4	105.4
103.8	99.9	97.1	95.5	98.3
92.4	91.2	92.0	92.0	95.5
83.3	84.5	85.7	84.1	86.9
74.7	74.7	72.7	71.6	73.5
63.3	62.9	63.7	64.9	67.2
52.3	54.6	55.0	54.6	55.8
42.1	43.2	42.5	42.1	42.9
31.1	29.9	30.3	30.3	30.7
16.9	15.3	13.4	10.2	9.0
0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0

CANDELA DISTRIBUTION:

	160°
110°	0.0
112.5°	0.0
115°	0.0
117.5°	0.0
120°	0.0
122.5°	0.0
125°	0.0
127.5°	0.0
130°	0.0
132.5°	0.0
135°	0.0
137.5°	0.0
140°	0.0
142.5°	0.0
145°	0.0
147.5°	0.0
150°	0.0
152.5°	0.0
155°	0.0
157.5°	0.0
160°	0.0
162.5°	0.0
165°	0.0
167.5°	0.0
170°	0.0
172.5°	0.0
175°	0.0
177.5°	0.0
180°	0.0



'303579
 WPMLED15

TION (continued):

165°	170°	175°	180°
0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0

(END OF REPORT)