

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: io LED

Report Number: P135709

Luminaire Tested: **LD6A20D010TE ERM6A20930 6LM111H**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P135709
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P23372)
Test Lab: INNOVATION CENTER P2
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: io LED
Catalog Number: LD6A20D010TE ERM6A20930 6LM111H
Description: PORTFOLIO 6 INCH 50 DEGREE CUTOFF RECESSED SINGLE WALL WASH LUMINAIRE
SEMI-SPECULAR CLEAR TRIM AND SPECULAR CLEAR KICKER
Light Source: (1) HIGH LUMEN LED 3000K
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2117.8 lumens
Efficiency: N/A
Efficacy: 64.6 lumens/watt
Spacing Criteria (0/90/45): 0.9 / 0.96 / 0.92
Luminous Opening: Circular (Dia: 0.46' x H: 0')
CIE Type: Direct

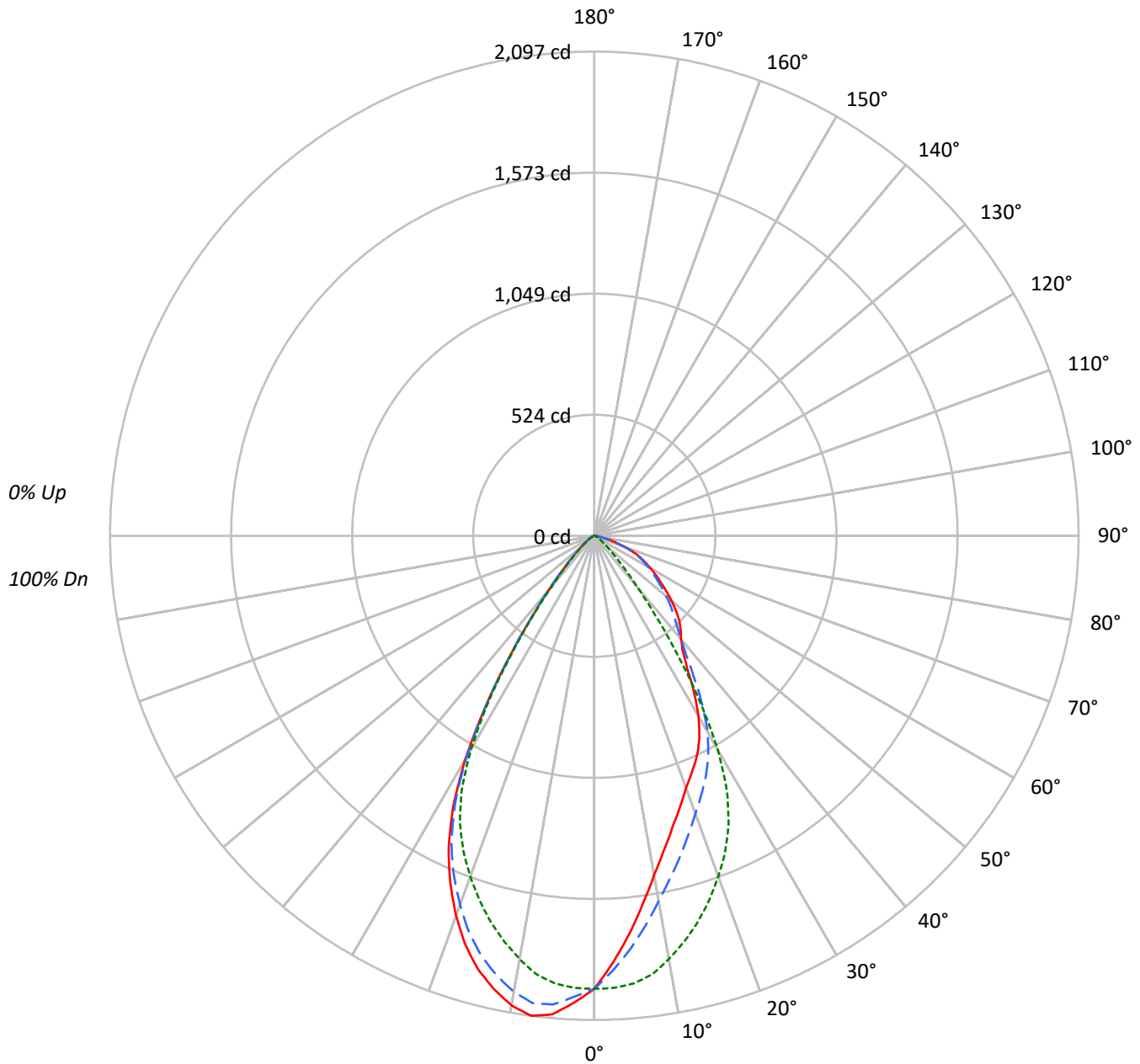
Input Watts (W): 32.8
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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
RW	70	50	30	10	70	50	30	10	50	30	10		50	30	10		50
RCR																	
0	119	119	119	119	116	116	116	116	111	111	111		106	106	106		102
1	112	109	106	104	110	107	104	102	103	101	99		99	97	96		96
2	106	100	95	91	103	98	94	90	95	91	88		92	89	86		89
3	99	92	86	81	97	90	85	81	88	83	79		85	81	78		83
4	93	85	78	73	91	83	77	73	81	76	72		79	75	71		77
5	88	78	72	67	86	77	71	66	75	70	66		74	69	65		72
6	83	73	66	61	81	72	65	61	70	65	60		69	64	60		67
7	78	68	61	56	77	67	61	56	66	60	56		64	59	55		63
8	74	63	57	52	73	63	56	52	62	56	52		60	55	51		59
9	70	59	53	48	69	59	53	48	58	52	48		57	52	48		56
10	67	56	49	45	65	55	49	45	54	49	45		54	48	45		53

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	128009	128009	128009
5°	113409	127456	136271
10°	98854	123339	136787
15°	88298	116963	131295
20°	80633	108981	121498
25°	75714	99037	107416
30°	67898	80441	84049
35°	55783	49786	51068
40°	49745	24485	25839
45°	47996	12207	13046
50°	44222	6486	6942
55°	39969	3890	4152
60°	36626	2688	2688
65°	33468	2099	1760
70°	26972	1736	1297
75°	16687	1134	580
80°	9430	864	0
85°	5090	0	0



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	179.9	8.5
10°-20°	467.3	22.1
20°-30°	594.7	28.1
30°-40°	426.1	20.1
40°-50°	212.5	10.0
50°-60°	128.7	6.1
60°-70°	78.6	3.7
70°-80°	27.1	1.3
80°-90°	2.9	0.1
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°	1241.9	58.6
0°-40°	1668.0	78.8
0°-60°	2009.2	94.9
0°-90°	2117.8	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2117.8	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	1962	1962	1962	1962	1962	
5°	1732	1796	1946	2037	2081	158
15°	1307	1437	1732	1885	1944	368
25°	1052	1145	1376	1465	1492	480
35°	700	755	625	641	641	447
45°	520	486	132	146	141	398
55°	351	331	34	36	36	316
65°	217	210	14	11	11	212
75°	66	59	4	2	2	76
85°	7	4	0	0	0	10
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1962.1	1962.1	1962.1	1962.1	1962.1	1962.1	1962.1	1962.1	1962.1	1962.1	1962.1
2.5°	1850.4	1852.7	1857.2	1852.7	1854.9	1866.3	1861.8	1864.0	1870.9	1882.3	1875.4
5°	1731.7	1734.0	1745.4	1738.5	1743.1	1756.8	1756.8	1765.9	1779.6	1795.6	1795.6
7.5°	1608.5	1613.0	1624.5	1619.9	1626.8	1645.0	1647.2	1661.0	1679.2	1702.0	1713.4
10°	1492.2	1496.7	1508.1	1505.8	1514.9	1533.2	1542.3	1556.1	1578.8	1606.2	1619.9
12.5°	1394.1	1398.6	1407.7	1407.7	1419.1	1437.4	1446.5	1464.8	1487.6	1517.2	1535.5
15°	1307.3	1314.2	1323.3	1323.3	1334.7	1352.9	1364.4	1380.3	1405.4	1437.4	1458.0
17.5°	1232.1	1234.3	1243.4	1243.4	1254.8	1273.1	1284.5	1300.5	1325.6	1355.2	1378.0
20°	1161.4	1163.6	1172.7	1175.0	1184.1	1200.1	1211.5	1227.5	1250.3	1279.9	1300.5
22.5°	1106.6	1111.1	1117.9	1120.2	1124.8	1140.8	1154.4	1165.9	1186.4	1211.5	1232.1
25°	1051.8	1054.1	1060.9	1063.3	1070.1	1081.4	1090.5	1102.0	1120.2	1145.3	1161.4
27.5°	985.6	992.4	994.7	997.1	1003.9	1013.0	1022.1	1031.3	1047.2	1067.8	1081.4
30°	901.3	903.5	910.4	914.9	921.7	930.9	942.3	951.4	965.1	981.1	990.2
32.5°	803.2	805.4	812.2	816.8	828.2	837.4	846.5	853.3	862.4	871.6	871.6
35°	700.4	707.3	709.6	716.4	727.8	737.0	743.8	746.1	750.6	755.2	739.3
37.5°	627.4	632.0	636.5	641.2	650.3	657.1	661.6	661.6	659.4	654.8	634.2
40°	584.1	586.4	590.9	593.2	602.3	606.9	606.9	602.3	593.2	581.8	549.9
42.5°	554.4	556.7	559.0	561.2	565.8	568.1	565.8	556.7	545.3	529.3	492.8
45°	520.2	522.5	524.8	524.8	529.3	529.3	527.0	517.9	504.2	486.0	447.2
47.5°	479.2	481.4	483.7	486.0	488.3	488.3	486.0	476.9	463.1	447.2	406.1
50°	435.7	438.0	440.3	440.3	444.9	444.9	442.7	433.5	422.1	406.1	369.6
52.5°	392.4	394.7	394.7	399.3	399.3	399.3	397.0	387.9	378.8	367.3	333.1
55°	351.4	353.7	353.7	358.2	360.5	358.2	355.9	349.1	339.9	330.8	303.4
57.5°	314.9	317.2	317.2	319.4	321.7	319.4	317.2	312.6	308.0	298.9	276.0
60°	280.7	282.9	282.9	285.2	285.2	282.9	282.9	278.4	273.7	269.2	248.7
62.5°	248.7	248.7	248.7	251.0	251.0	248.7	248.7	244.1	241.8	239.5	223.6
65°	216.8	216.8	216.8	216.8	216.8	212.2	212.2	209.9	207.6	209.9	196.2
67.5°	180.3	180.3	177.9	177.9	177.9	173.4	173.4	173.4	171.1	173.4	162.0
70°	141.4	141.4	139.1	139.1	136.9	132.3	132.3	132.3	130.1	132.3	125.5
72.5°	100.4	102.7	98.1	98.1	95.8	91.3	93.6	91.3	93.6	93.6	89.0
75°	66.2	68.4	63.9	63.9	61.6	59.3	59.3	59.3	61.6	59.3	57.1
77.5°	41.0	43.3	41.0	41.0	38.8	36.5	36.5	36.5	36.5	36.5	34.2
80°	25.1	25.1	25.1	22.8	22.8	20.6	20.6	20.6	20.6	20.6	18.3
82.5°	13.6	13.6	13.6	13.6	13.6	11.4	11.4	11.4	11.4	11.4	9.1
85°	6.8	6.8	6.8	6.8	6.8	4.5	4.5	4.5	4.5	4.5	4.5
87.5°	2.3	2.3	2.3	2.3	2.3	0.0	0.0	0.0	0.0	0.0	0.0
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):

	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°	105°
0°	1962.1	1962.1	1962.1	1962.1	1962.1	1962.1	1962.1	1962.1	1962.1	1962.1	1962.1
2.5°	1896.0	1905.1	1898.2	1925.6	1921.1	1941.6	1939.3	1959.9	1957.6	1959.9	1964.4
5°	1823.0	1841.2	1843.5	1877.7	1880.0	1912.0	1918.8	1946.2	1950.8	1959.9	1971.2
7.5°	1743.1	1770.5	1779.6	1818.4	1832.1	1866.3	1880.0	1916.5	1925.6	1941.6	1955.3
10°	1656.4	1688.4	1702.0	1747.7	1765.9	1804.7	1823.0	1861.8	1875.4	1893.7	1909.6
12.5°	1574.3	1608.5	1626.8	1674.6	1699.8	1738.5	1759.1	1800.1	1813.9	1836.6	1852.7
15°	1496.7	1533.2	1553.8	1601.7	1626.8	1670.1	1690.7	1731.7	1747.7	1770.5	1786.5
17.5°	1416.8	1453.3	1476.2	1521.8	1553.8	1590.3	1613.0	1654.2	1670.1	1690.7	1706.6
20°	1339.3	1375.8	1396.3	1441.9	1471.6	1508.1	1528.7	1569.7	1581.1	1601.7	1615.3
22.5°	1266.3	1300.5	1318.7	1366.7	1391.8	1423.7	1444.2	1480.7	1494.4	1510.4	1519.5
25°	1193.3	1222.9	1236.6	1277.7	1298.2	1327.9	1343.8	1375.8	1389.5	1403.2	1414.5
27.5°	1111.1	1127.1	1131.7	1163.6	1179.6	1207.0	1213.8	1243.4	1254.8	1264.0	1273.1
30°	1008.5	1010.7	997.1	1013.0	1019.8	1040.4	1040.4	1067.8	1076.9	1083.7	1092.8
32.5°	878.4	864.7	832.8	828.2	823.6	835.1	830.4	853.3	862.4	867.0	873.9
35°	734.6	705.0	652.5	632.0	618.3	616.0	609.2	625.1	632.0	636.5	641.2
37.5°	609.2	565.8	499.6	463.1	440.3	431.2	422.1	431.2	435.7	440.3	444.9
40°	517.9	463.1	385.6	339.9	308.0	294.3	282.9	287.5	292.0	296.6	298.9
42.5°	451.8	390.2	305.7	251.0	219.1	203.0	191.7	193.9	196.2	198.5	203.0
45°	401.5	335.4	248.7	189.4	157.4	141.4	132.3	132.3	134.6	136.9	139.1
47.5°	360.5	289.8	203.0	146.0	116.4	100.4	91.3	91.3	93.6	93.6	95.8
50°	321.7	251.0	166.5	114.1	86.7	73.0	66.2	63.9	66.2	66.2	68.4
52.5°	289.8	221.3	139.1	91.3	66.2	54.8	47.9	47.9	47.9	47.9	47.9
55°	260.1	193.9	116.4	73.0	52.5	43.3	36.5	34.2	34.2	34.2	34.2
57.5°	237.3	173.4	100.4	61.6	43.3	34.2	29.7	27.4	27.4	27.4	27.4
60°	214.5	152.9	86.7	50.2	34.2	29.7	25.1	20.6	20.6	20.6	20.6
62.5°	191.7	132.3	73.0	43.3	29.7	22.8	20.6	16.0	16.0	16.0	16.0
65°	166.5	114.1	61.6	34.2	22.8	18.3	16.0	13.6	13.6	11.4	11.4
67.5°	136.9	91.3	50.2	29.7	20.6	16.0	13.6	11.4	9.1	9.1	9.1
70°	104.9	68.4	38.8	22.8	16.0	13.6	9.1	9.1	6.8	6.8	6.8
72.5°	75.3	47.9	27.4	18.3	11.4	9.1	9.1	6.8	6.8	6.8	4.5
75°	47.9	31.9	18.3	11.4	9.1	6.8	6.8	4.5	4.5	4.5	4.5
77.5°	29.7	20.6	13.6	9.1	6.8	4.5	4.5	4.5	2.3	2.3	2.3
80°	16.0	11.4	6.8	4.5	4.5	2.3	2.3	2.3	2.3	2.3	2.3
82.5°	9.1	6.8	4.5	2.3	2.3	2.3	2.3	2.3	0.0	0.0	0.0
85°	4.5	2.3	2.3	2.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0
87.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
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):

	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°	160°
0°	1962.1	1962.1	1962.1	1962.1	1962.1	1962.1	1962.1	1962.1	1962.1	1962.1	1962.1
2.5°	1978.2	1989.5	1982.7	1987.3	2007.7	1998.6	2014.6	2014.6	2032.8	2032.8	2019.2
5°	1991.8	2005.5	2007.7	2014.6	2042.0	2037.4	2055.7	2060.2	2080.8	2085.4	2073.9
7.5°	1982.7	1998.6	2005.5	2016.9	2044.3	2042.0	2062.5	2071.6	2089.9	2096.7	2087.6
10°	1939.3	1957.6	1966.7	1978.2	2007.7	2005.5	2028.3	2039.7	2055.7	2062.5	2055.7
12.5°	1882.3	1902.8	1912.0	1923.4	1953.0	1950.8	1973.5	1985.0	1998.6	2007.7	2000.9
15°	1818.4	1832.1	1848.1	1859.5	1886.9	1884.6	1907.3	1918.8	1930.2	1941.6	1934.7
17.5°	1736.3	1750.0	1765.9	1775.0	1802.4	1802.4	1820.7	1829.8	1845.8	1854.9	1845.8
20°	1642.7	1658.7	1670.1	1676.9	1702.0	1699.8	1718.1	1727.2	1740.8	1747.7	1740.8
22.5°	1544.6	1558.3	1567.4	1572.0	1592.6	1590.3	1603.9	1613.0	1624.5	1631.3	1624.5
25°	1432.8	1441.9	1448.8	1451.0	1469.3	1464.8	1483.0	1483.0	1492.2	1499.0	1492.2
27.5°	1289.0	1296.0	1300.5	1298.2	1311.9	1305.1	1321.0	1309.6	1327.9	1332.5	1325.6
30°	1104.3	1108.8	1113.4	1104.3	1113.4	1104.3	1117.9	1102.0	1117.9	1124.8	1117.9
32.5°	885.2	885.2	889.8	878.4	883.0	873.9	880.7	876.1	880.7	887.5	880.7
35°	650.3	650.3	654.8	648.0	650.3	641.2	645.7	641.2	643.4	648.0	645.7
37.5°	451.8	449.5	456.3	451.8	454.0	449.5	451.8	447.2	449.5	451.8	449.5
40°	305.7	305.7	310.3	308.0	310.3	308.0	310.3	308.0	308.0	308.0	305.7
42.5°	205.3	207.6	209.9	209.9	212.2	209.9	212.2	209.9	209.9	209.9	207.6
45°	141.4	141.4	143.7	143.7	146.0	146.0	146.0	143.7	143.7	143.7	143.7
47.5°	98.1	100.4	100.4	100.4	100.4	100.4	100.4	100.4	100.4	100.4	98.1
50°	68.4	70.7	70.7	70.7	70.7	70.7	70.7	68.4	68.4	68.4	68.4
52.5°	50.2	50.2	50.2	50.2	50.2	50.2	50.2	50.2	50.2	47.9	47.9
55°	36.5	36.5	36.5	36.5	36.5	36.5	36.5	36.5	36.5	36.5	36.5
57.5°	27.4	27.4	27.4	27.4	27.4	27.4	27.4	27.4	27.4	27.4	27.4
60°	20.6	20.6	20.6	20.6	20.6	20.6	20.6	20.6	20.6	20.6	20.6
62.5°	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0
65°	11.4	11.4	11.4	11.4	11.4	11.4	11.4	11.4	11.4	11.4	11.4
67.5°	9.1	9.1	9.1	9.1	9.1	9.1	9.1	9.1	9.1	9.1	9.1
70°	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8
72.5°	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
75°	4.5	4.5	4.5	4.5	4.5	2.3	2.3	2.3	2.3	2.3	2.3
77.5°	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3
80°	0.0	2.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
82.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
85°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
87.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
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):

	165°	170°	175°	180°
0°	1962.1	1962.1	1962.1	1962.1
2.5°	2012.4	2030.6	2023.7	2023.7
5°	2067.1	2087.6	2083.1	2080.8
7.5°	2083.1	2101.3	2096.7	2096.7
10°	2051.1	2069.3	2064.8	2064.8
12.5°	1998.6	2014.6	2012.4	2010.1
15°	1932.5	1948.5	1946.2	1943.9
17.5°	1843.5	1861.8	1859.5	1857.2
20°	1736.3	1752.3	1752.3	1750.0
22.5°	1619.9	1631.3	1633.6	1629.0
25°	1487.6	1496.7	1496.7	1492.2
27.5°	1321.0	1327.9	1327.9	1325.6
30°	1115.7	1117.9	1120.2	1115.7
32.5°	876.1	876.1	880.7	876.1
35°	638.9	638.9	643.4	641.2
37.5°	444.9	444.9	447.2	444.9
40°	303.4	303.4	305.7	303.4
42.5°	207.6	205.3	207.6	207.6
45°	141.4	141.4	143.7	141.4
47.5°	98.1	98.1	98.1	98.1
50°	68.4	68.4	68.4	68.4
52.5°	47.9	47.9	47.9	47.9
55°	34.2	36.5	36.5	36.5
57.5°	25.1	27.4	27.4	27.4
60°	20.6	20.6	20.6	20.6
62.5°	16.0	16.0	16.0	16.0
65°	11.4	11.4	11.4	11.4
67.5°	9.1	9.1	9.1	9.1
70°	6.8	6.8	6.8	6.8
72.5°	4.5	4.5	4.5	4.5
75°	2.3	2.3	2.3	2.3
77.5°	2.3	2.3	2.3	2.3
80°	0.0	0.0	0.0	0.0
82.5°	0.0	0.0	0.0	0.0
85°	0.0	0.0	0.0	0.0
87.5°	0.0	0.0	0.0	0.0
90°	0.0	0.0	0.0	0.0



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— 0°-180° - - 45°-225° - - - 90°-270°













(END OF REPORT)