

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: NEO-RAY

Report Number: P332988

Luminaire Tested: **SA4XXRDIP-C1195D365U835-4F0-1E-UDD-F**

Issue Date: 10/7/2019

Test Information

Test Method: LM-79-08
Report Number: P332988
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-6,
Test Lab: INNOVATION CENTER
Issue Date: 10/7/2019
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: SA4XXRDIP-C1195D365U835-4F0-1E-UDD-F
Description: DEFINE 4 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 1195 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED
HOUSING
UPLIGHT 365 LUMENS PER FOOT, NO LENS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 6281.2 lumens
Efficiency: N/A
Efficacy: 126.1 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.09 / 1.24
Luminous Opening: Rectangular (W 0.33' x L: 4' x H: 0')
CIE Type: Semi-Direct

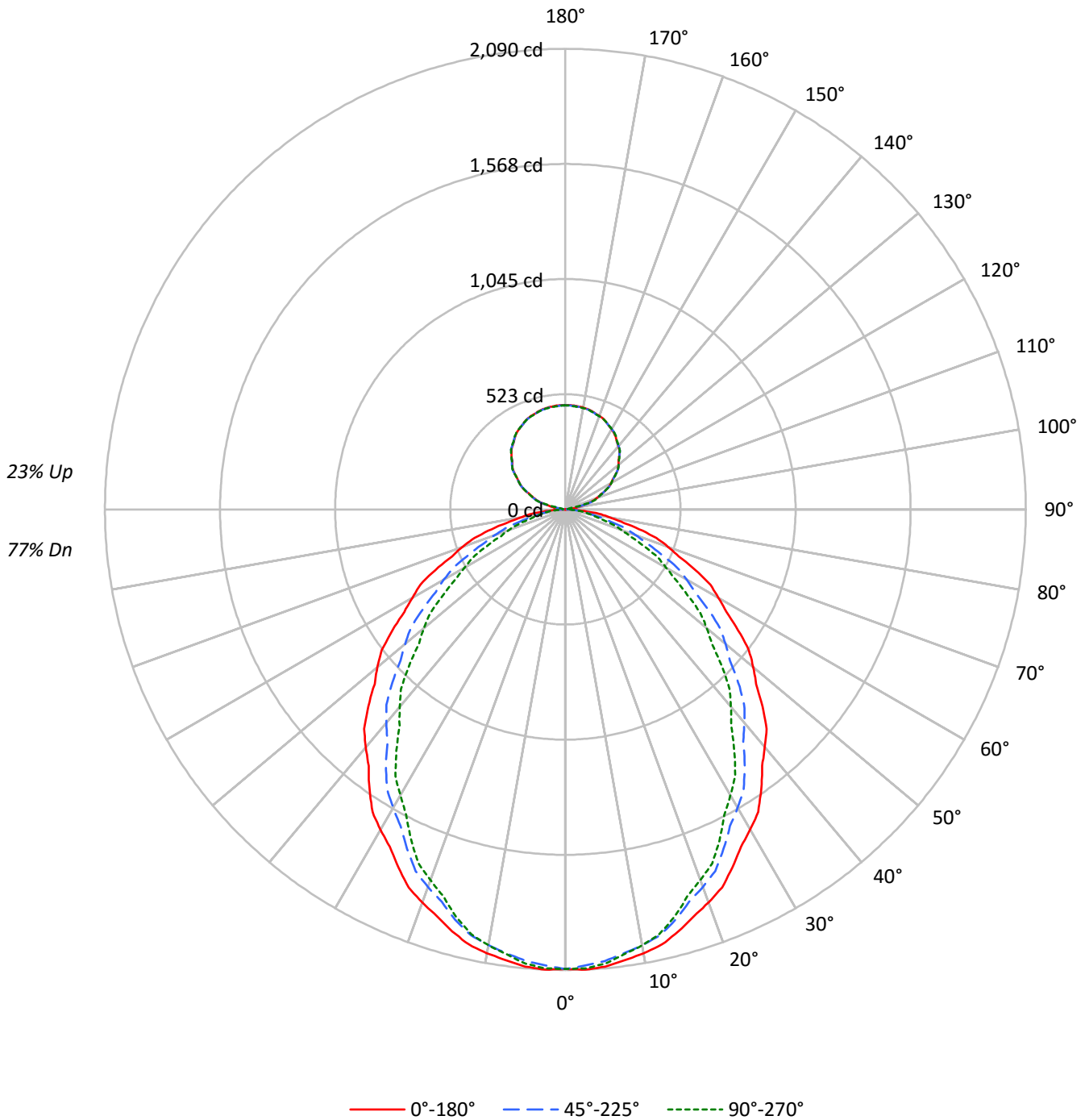
Input Watts (W): 49.8
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	0
RCR																		
0	114	114	114	114	108	108	108	108	98	98	98	89	89	89	81	81	81	77
1	104	100	96	92	99	95	92	89	87	84	82	79	77	75	72	70	69	66
2	95	88	82	76	91	84	78	74	77	72	68	70	67	63	64	61	59	56
3	87	78	70	64	83	74	67	62	68	63	58	62	58	54	57	53	50	47
4	80	69	61	55	76	66	59	53	61	55	50	56	51	47	51	47	44	41
5	74	62	53	47	70	59	52	46	55	48	43	50	45	41	46	42	38	36
6	68	56	47	41	65	54	46	40	50	43	38	46	40	36	42	38	34	32
7	63	51	42	37	60	49	41	36	45	39	34	42	36	32	39	34	30	28
8	59	46	38	33	56	45	37	32	41	35	30	38	33	29	36	31	27	25
9	55	42	35	29	52	41	34	29	38	32	27	35	30	26	33	28	25	23
10	52	39	32	27	49	38	31	26	35	29	25	33	28	24	31	26	23	21

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	16835	16835	16835
5°	16874	16667	16771
10°	16768	16467	16467
15°	16575	16121	16002
20°	16311	15667	15378
25°	15973	15134	14750
30°	15645	14573	13962
35°	15281	13991	13172
40°	14842	13328	12318
45°	14439	12670	11449
50°	13978	11912	10528
55°	13485	11125	9529
60°	12943	10261	8507
65°	12445	9181	7503
70°	11722	7990	6371
75°	10808	6625	5181
80°	9428	5049	4751
85°	7984	4585	4289



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	195.9	3.1
10°-20°	546.3	8.7
20°-30°	788.8	12.6
30°-40°	894.2	14.2
40°-50°	863.5	13.7
50°-60°	718.0	11.4
60°-70°	495.8	7.9
70°-80°	251.3	4.0
80°-90°	65.8	1.0
90°-100°	16.2	0.3
100°-110°	103.0	1.6
110°-120°	197.1	3.1
120°-130°	250.2	4.0
130°-140°	267.7	4.3
140°-150°	250.4	4.0
150°-160°	201.9	3.2
160°-170°	130.2	2.1
170°-180°	44.9	0.7
0°-30°	1531.0	24.4
0°-40°	2425.2	38.6
0°-60°	4006.7	63.8
0°-90°	4819.6	76.7
90°-120°	316.3	5.0
90°-150°	1084.6	17.3
90°-180°	1462.0	23.3
0°-180°	6281.2	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2085	2085	2085	2085	2085	
5°	2082	2075	2057	2072	2070	197
15°	1983	1967	1929	1925	1915	559
25°	1793	1762	1699	1672	1656	826
35°	1550	1498	1420	1367	1336	968
45°	1265	1204	1110	1034	1003	975
55°	958	892	790	710	677	857
65°	652	581	481	415	393	643
75°	346	287	212	177	166	366
85°	86	56	50	46	46	97
90°	1	5	8	10	11	5
95°	19	8	8	10	10	25
105°	106	108	110	113	101	111
115°	199	200	199	200	200	195
125°	279	280	280	281	281	249
135°	346	346	347	348	349	267
145°	399	400	400	401	402	249
155°	438	438	437	438	438	202
165°	462	460	460	463	460	130
175°	472	470	471	474	470	45
180°	472	472	472	472	472	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	2085.4	2085.4	2085.4	2085.4	2085.4	2085.4	2085.4	2085.4	2085.4	2085.4	2085.4
2.5°	2090.5	2089.4	2088.3	2087.1	2086.0	2083.9	2080.8	2077.6	2074.5	2071.4	2074.5
5°	2082.2	2080.8	2079.4	2078.0	2076.6	2073.7	2069.5	2065.2	2061.0	2056.7	2060.2
7.5°	2063.4	2061.9	2060.4	2058.9	2057.4	2053.9	2048.4	2042.9	2037.3	2031.8	2034.1
10°	2045.5	2043.7	2042.0	2040.2	2038.4	2034.3	2028.0	2021.6	2015.2	2008.8	2010.2
12.5°	2022.5	2020.5	2018.4	2016.3	2014.3	2009.5	2002.0	1994.5	1986.9	1979.4	1980.3
15°	1983.2	1980.0	1976.9	1973.7	1970.5	1964.4	1955.6	1946.7	1937.8	1928.9	1928.2
17.5°	1935.7	1931.0	1926.4	1921.8	1917.2	1909.6	1898.9	1888.3	1877.6	1867.0	1865.0
20°	1898.6	1894.0	1889.4	1884.8	1880.2	1871.8	1859.8	1847.7	1835.6	1823.6	1820.7
22.5°	1857.7	1852.6	1847.4	1842.2	1837.0	1828.0	1815.0	1802.1	1789.2	1776.3	1772.0
25°	1793.2	1786.8	1780.4	1774.1	1767.7	1757.2	1742.7	1728.1	1713.6	1699.0	1693.0
27.5°	1725.5	1717.5	1709.5	1701.5	1693.4	1681.7	1666.1	1650.6	1635.0	1619.5	1612.0
30°	1678.3	1669.4	1660.5	1651.6	1642.8	1630.0	1613.3	1596.6	1580.0	1563.3	1554.4
32.5°	1628.4	1618.4	1608.4	1598.4	1588.4	1574.8	1557.5	1540.3	1523.0	1505.8	1495.5
35°	1550.5	1539.1	1527.8	1516.4	1505.1	1490.5	1472.8	1455.1	1437.3	1419.6	1407.5
37.5°	1467.2	1455.4	1443.7	1432.0	1420.3	1404.6	1385.0	1365.3	1345.7	1326.0	1312.5
40°	1408.4	1396.7	1385.0	1373.3	1361.5	1345.6	1325.4	1305.1	1284.9	1264.7	1249.8
42.5°	1352.2	1339.9	1327.6	1315.3	1303.1	1286.4	1265.3	1244.2	1223.2	1202.1	1186.9
45°	1264.7	1251.5	1238.4	1225.3	1212.2	1194.9	1173.7	1152.4	1131.1	1109.8	1092.4
47.5°	1174.3	1160.7	1147.2	1133.6	1120.1	1102.2	1080.1	1057.9	1035.8	1013.7	995.6
50°	1113.0	1099.1	1085.3	1071.5	1057.6	1039.3	1016.6	993.9	971.2	948.5	930.8
52.5°	1050.4	1036.8	1023.3	1009.7	996.2	977.7	954.5	931.2	907.9	884.6	866.6
55°	958.1	943.9	929.7	915.5	901.3	882.7	859.6	836.6	813.5	790.4	772.0
57.5°	866.7	852.0	837.2	822.5	807.7	789.0	766.3	743.5	720.8	698.1	679.4
60°	801.6	787.4	773.2	759.0	744.8	726.4	703.7	681.0	658.2	635.5	617.1
62.5°	742.8	728.1	713.3	698.6	683.8	664.8	641.5	618.2	594.9	571.7	554.6
65°	651.5	636.2	621.0	605.7	590.5	571.5	548.8	526.1	503.4	480.6	465.4
67.5°	556.6	542.0	527.4	512.8	498.2	480.3	459.2	438.2	417.1	396.0	382.9
70°	496.6	481.7	466.8	451.9	437.0	419.4	399.2	379.0	358.8	338.5	326.8
72.5°	432.7	419.3	405.8	392.3	378.8	362.5	343.4	324.3	305.2	286.1	276.1
75°	346.5	333.4	320.2	307.1	294.0	279.1	262.4	245.7	229.1	212.4	204.2
77.5°	259.0	247.9	236.7	225.6	214.4	202.1	188.6	175.2	161.7	148.2	143.4
80°	202.8	192.5	182.2	171.9	161.6	151.2	140.5	129.9	119.2	108.6	107.5
82.5°	154.3	144.8	135.4	125.9	116.5	108.7	102.6	96.5	90.4	84.3	83.5
85°	86.2	79.1	72.0	64.9	57.8	53.8	52.7	51.6	50.6	49.5	48.8
87.5°	29.6	27.5	25.4	23.3	21.2	20.1	19.9	19.8	19.6	19.4	19.2
90°	1.1	1.9	2.8	3.7	4.5	5.3	5.9	6.5	7.1	7.8	8.2
92.5°	4.5	4.5	4.5	4.6	4.6	5.0	5.6	6.2	6.9	7.5	8.0
95°	19.4	16.8	14.1	11.4	8.8	7.5	7.5	7.6	7.7	7.8	8.2
97.5°	41.3	42.9	44.6	46.3	47.9	44.4	35.6	26.9	18.1	9.3	9.4
100°	58.0	59.4	60.8	62.2	63.6	58.9	48.1	37.2	26.4	15.6	14.2
102.5°	76.6	77.7	78.7	79.7	80.8	80.6	79.2	77.8	76.3	74.9	60.5
105°	106.4	106.8	107.3	107.8	108.3	108.7	109.1	109.5	109.9	110.3	111.0
107.5°	134.0	134.2	134.5	134.7	135.0	135.3	135.9	136.4	136.9	137.5	137.8
110°	152.7	152.9	153.1	153.4	153.6	154.0	154.4	154.9	155.4	155.9	156.0



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	170.8	171.2	171.6	172.0	172.5	172.8	173.0	173.2	173.4	173.7	173.6
115°	198.6	198.9	199.1	199.3	199.6	199.6	199.6	199.5	199.4	199.3	199.5
117.5°	223.7	224.0	224.3	224.7	225.0	225.2	225.4	225.6	225.7	225.9	225.9
120°	240.7	241.0	241.3	241.6	241.9	242.0	242.0	241.9	241.8	241.7	241.9
122.5°	256.5	256.7	256.9	257.1	257.3	257.4	257.5	257.6	257.7	257.9	257.9
125°	279.2	279.5	279.8	280.1	280.5	280.5	280.4	280.2	280.1	279.9	280.1
127.5°	300.7	300.8	300.8	300.9	301.0	301.2	301.6	301.9	302.3	302.7	302.6
130°	314.5	314.6	314.7	314.8	314.9	315.0	315.2	315.5	315.7	316.0	316.0
132.5°	327.3	327.4	327.5	327.7	327.8	328.0	328.3	328.6	328.9	329.2	329.3
135°	346.3	346.3	346.2	346.1	346.0	346.1	346.5	346.8	347.1	347.4	347.6
137.5°	363.2	363.3	363.3	363.3	363.4	363.6	363.9	364.2	364.6	364.9	365.1
140°	374.3	374.4	374.6	374.7	374.9	375.0	375.2	375.4	375.5	375.7	375.9
142.5°	384.2	384.4	384.7	385.0	385.3	385.5	385.6	385.7	385.8	385.9	386.0
145°	399.4	399.6	399.8	400.1	400.3	400.4	400.4	400.4	400.4	400.4	400.5
147.5°	411.4	411.9	412.3	412.8	413.2	413.4	413.3	413.2	413.1	413.1	413.1
150°	420.2	420.5	420.8	421.2	421.5	421.6	421.5	421.4	421.3	421.3	421.3
152.5°	427.6	427.8	428.1	428.3	428.6	428.6	428.5	428.3	428.2	428.1	428.2
155°	437.9	438.0	438.0	438.1	438.2	438.1	437.9	437.6	437.4	437.2	437.5
157.5°	446.6	446.5	446.5	446.4	446.4	446.2	446.0	445.7	445.4	445.2	445.6
160°	451.7	451.4	451.2	451.0	450.7	450.6	450.5	450.4	450.3	450.2	450.7
162.5°	456.2	455.9	455.6	455.3	455.0	454.8	454.7	454.6	454.6	454.5	455.0
165°	461.9	461.5	461.1	460.7	460.3	460.1	460.1	460.1	460.1	460.1	460.8
167.5°	466.4	466.0	465.6	465.2	464.8	464.6	464.5	464.5	464.4	464.4	465.1
170°	469.0	468.5	468.0	467.6	467.1	466.9	467.0	467.1	467.1	467.2	467.8
172.5°	470.7	470.2	469.7	469.3	468.8	468.6	468.7	468.8	468.8	468.9	469.5
175°	472.5	472.0	471.6	471.1	470.6	470.4	470.5	470.6	470.7	470.7	471.5
177.5°	473.4	472.9	472.5	472.0	471.6	471.4	471.6	471.7	471.8	471.9	472.5
180°	472.5	472.5	472.5	472.5	472.5	472.5	472.5	472.5	472.5	472.5	472.5



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	2085.4	2085.4	2085.4	2085.4	2085.4	2085.4	2085.4	2085.4
2.5°	2077.6	2080.8	2083.9	2085.3	2085.0	2084.7	2084.4	2084.2
5°	2063.8	2067.3	2070.9	2072.3	2071.6	2070.9	2070.2	2069.5
7.5°	2036.3	2038.6	2040.9	2041.4	2040.3	2039.2	2038.0	2036.9
10°	2011.6	2013.0	2014.5	2014.5	2013.0	2011.6	2010.2	2008.8
12.5°	1981.1	1982.0	1982.8	1982.2	1980.3	1978.3	1976.3	1974.3
15°	1927.5	1926.8	1926.1	1924.5	1922.0	1919.5	1917.1	1914.6
17.5°	1863.0	1861.0	1859.0	1856.2	1852.4	1848.6	1844.9	1841.1
20°	1817.9	1815.0	1812.2	1808.5	1803.9	1799.3	1794.6	1790.0
22.5°	1767.8	1763.5	1759.3	1755.3	1751.5	1747.7	1744.0	1740.2
25°	1686.9	1680.9	1674.9	1670.1	1666.5	1663.0	1659.4	1655.9
27.5°	1604.6	1597.1	1589.7	1583.4	1578.3	1573.2	1568.1	1563.0
30°	1545.5	1536.7	1527.8	1520.5	1514.8	1509.2	1503.5	1497.8
32.5°	1485.2	1474.9	1464.6	1456.8	1451.4	1446.0	1440.6	1435.2
35°	1395.4	1383.4	1371.3	1362.1	1355.7	1349.3	1342.9	1336.5
37.5°	1299.0	1285.5	1272.1	1262.1	1255.7	1249.3	1243.0	1236.6
40°	1234.9	1220.0	1205.1	1194.4	1188.0	1181.6	1175.3	1168.9
42.5°	1171.7	1156.5	1141.3	1130.4	1123.7	1117.1	1110.4	1103.7
45°	1075.0	1057.6	1040.2	1028.3	1022.0	1015.6	1009.2	1002.8
47.5°	977.6	959.6	941.6	929.0	922.0	915.0	907.9	900.9
50°	913.0	895.3	877.5	865.3	858.6	851.8	845.1	838.3
52.5°	848.6	830.6	812.5	800.0	793.0	786.0	778.9	771.9
55°	753.5	735.1	716.6	704.0	697.3	690.5	683.8	677.0
57.5°	660.7	641.9	623.2	611.3	606.2	601.0	595.9	590.8
60°	598.6	580.2	561.7	549.7	544.0	538.3	532.6	526.9
62.5°	537.6	520.6	503.5	492.7	488.2	483.7	479.1	474.6
65°	450.1	434.9	419.6	409.8	405.6	401.3	397.1	392.8
67.5°	369.8	356.6	343.5	334.6	329.9	325.2	320.5	315.8
70°	315.1	303.4	291.7	284.1	280.5	277.0	273.4	269.9
72.5°	266.1	256.1	246.1	239.5	236.2	233.0	229.7	226.4
75°	196.1	187.9	179.7	174.6	172.5	170.3	168.2	166.1
77.5°	138.7	133.9	129.2	126.5	125.8	125.2	124.6	123.9
80°	106.5	105.4	104.3	103.6	103.3	102.9	102.6	102.2
82.5°	82.8	82.0	81.2	80.6	80.3	79.9	79.6	79.2
85°	48.1	47.4	46.7	46.3	46.3	46.3	46.3	46.3
87.5°	19.1	18.9	18.7	18.7	19.1	19.4	19.7	20.0
90°	8.7	9.2	9.7	10.0	10.1	10.3	10.4	10.6
92.5°	8.4	8.9	9.4	9.6	9.7	9.7	9.7	9.8
95°	8.7	9.2	9.7	9.9	10.0	10.1	10.2	10.2
97.5°	9.4	9.5	9.5	9.6	9.7	9.7	9.8	9.9
100°	12.9	11.5	10.2	9.6	9.7	9.7	9.8	9.9
102.5°	46.1	31.7	17.3	10.1	10.1	10.1	10.2	10.2
105°	111.7	112.4	113.1	112.0	109.2	106.4	103.5	100.7
107.5°	138.2	138.5	138.9	139.2	139.5	139.8	140.1	140.4
110°	156.2	156.3	156.5	156.7	156.9	157.2	157.4	157.6



TEST NUMBER: P332988

CATALOG NUMBER: SA4XXRDIP-C1195D365U835-4F0-1E-UDD-F

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	173.6	173.6	173.5	173.7	174.0	174.3	174.6	174.9
115°	199.6	199.8	200.0	200.0	200.0	200.0	200.0	200.0
117.5°	225.8	225.8	225.8	225.7	225.7	225.7	225.7	225.6
120°	242.0	242.2	242.4	242.4	242.2	242.0	241.9	241.7
122.5°	258.0	258.1	258.2	258.2	258.0	257.9	257.7	257.6
125°	280.4	280.6	280.8	281.0	281.1	281.2	281.2	281.3
127.5°	302.6	302.5	302.5	302.4	302.4	302.3	302.2	302.2
130°	316.1	316.2	316.3	316.3	316.3	316.3	316.3	316.3
132.5°	329.4	329.5	329.6	329.6	329.5	329.4	329.4	329.3
135°	347.7	347.9	348.0	348.2	348.3	348.5	348.7	348.8
137.5°	365.3	365.5	365.6	365.7	365.6	365.6	365.5	365.5
140°	376.1	376.4	376.6	376.8	376.9	376.9	377.0	377.1
142.5°	386.2	386.4	386.5	386.6	386.7	386.7	386.7	386.7
145°	400.6	400.7	400.7	400.8	401.0	401.2	401.3	401.5
147.5°	413.2	413.3	413.3	413.4	413.5	413.5	413.6	413.7
150°	421.3	421.3	421.3	421.3	421.4	421.5	421.5	421.6
152.5°	428.3	428.4	428.6	428.6	428.5	428.5	428.5	428.4
155°	437.8	438.1	438.4	438.5	438.2	438.0	437.8	437.5
157.5°	446.0	446.4	446.8	446.8	446.4	446.0	445.6	445.2
160°	451.2	451.7	452.1	452.1	451.7	451.2	450.7	450.2
162.5°	455.4	455.9	456.4	456.3	455.8	455.3	454.7	454.2
165°	461.4	462.0	462.7	462.6	461.9	461.2	460.5	459.8
167.5°	465.8	466.5	467.1	467.1	466.3	465.5	464.7	464.0
170°	468.5	469.1	469.7	469.6	468.9	468.1	467.3	466.5
172.5°	470.2	470.8	471.4	471.3	470.5	469.6	468.8	467.9
175°	472.2	472.9	473.6	473.5	472.5	471.6	470.6	469.7
177.5°	473.0	473.5	474.0	473.8	473.1	472.3	471.6	470.8
180°	472.5	472.5	472.5	472.5	472.5	472.5	472.5	472.5

(END OF REPORT)