

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: P332473

Luminaire Tested: **S123RDIW-S1165D460U835-4F0-1E-UDD-F1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332473
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-9,
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S123RDIW-S1165D460U835-4F0-1E-UDD-F1
Description: DEFINE 3 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 1165 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED
HOUSING
UPLIGHT 460 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 5978.6 lumens
Efficiency: N/A
Efficacy: 114.1 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.06 / 1.22
Luminous Opening: Rectangular (W 0.25' x L: 4' x H: 0')
CIE Type: Semi-Direct

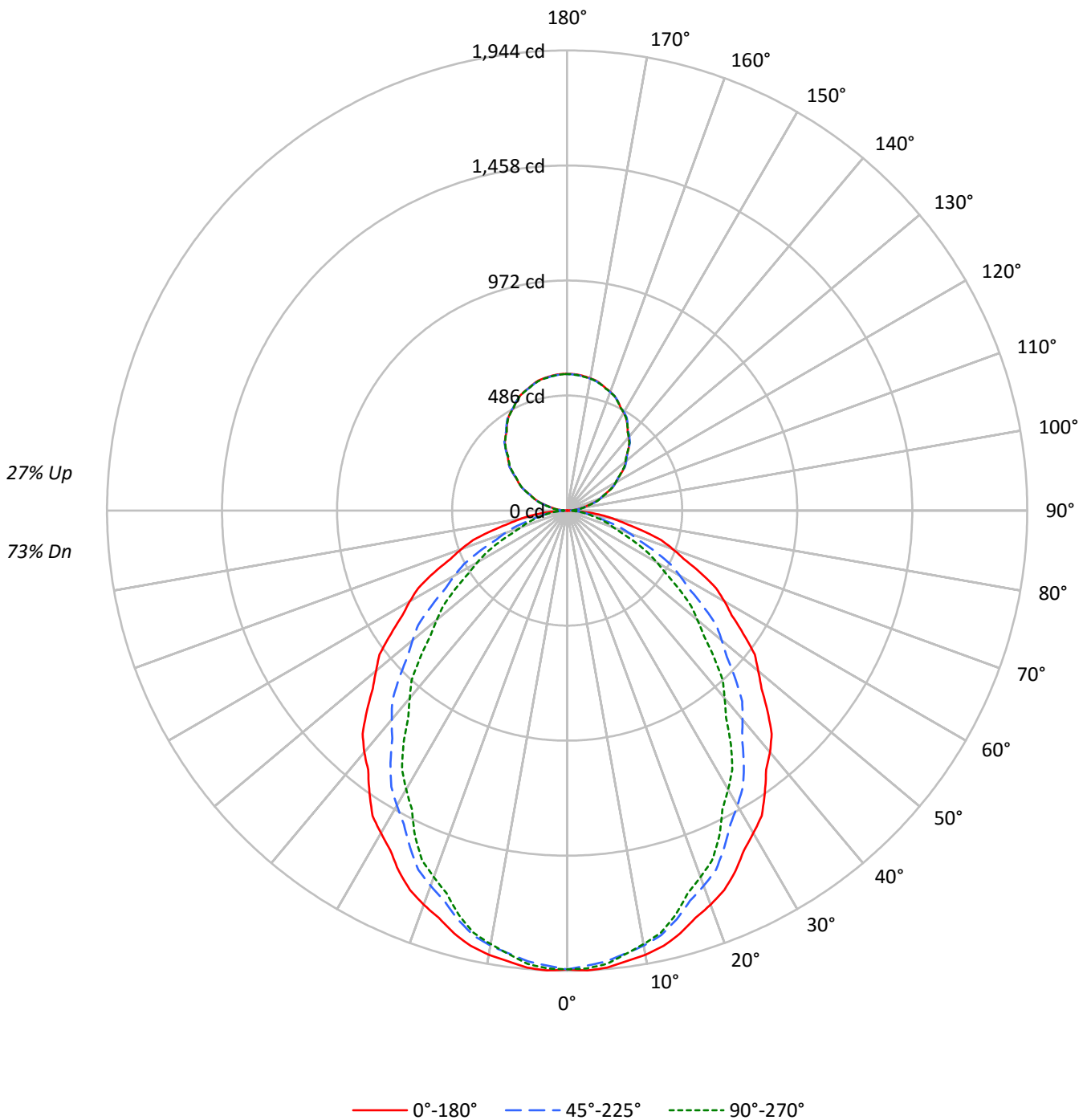
Input Watts (W): 52.4
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P332473

CATALOG NUMBER: S123RDIW-S1165D460U835-4F0-1E-UDD-F1

Luminous Intensity Polar Plot





TEST NUMBER: P332473

CATALOG NUMBER: S123RDIW-S1165D460U835-4F0-1E-UDD-F1

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	113	113	113	113	107	107	107	107	96	96	96	86	86	86	77	77	77	73
1	103	99	95	92	98	94	91	88	85	83	80	77	75	73	69	68	66	63
2	95	87	81	76	90	83	78	73	75	71	67	68	65	62	62	59	57	53
3	87	77	70	64	82	74	67	62	67	62	57	61	56	53	55	52	49	46
4	80	69	61	55	75	66	58	53	60	54	49	54	50	46	49	46	42	40
5	73	62	53	47	69	59	51	46	54	48	43	49	44	40	45	41	37	35
6	68	55	47	41	64	53	46	40	49	42	38	45	39	35	41	36	33	31
7	63	50	42	37	60	48	41	36	44	38	34	41	35	32	37	33	30	27
8	59	46	38	33	56	44	37	32	41	34	30	37	32	28	34	30	27	25
9	55	42	35	29	52	41	33	29	38	31	27	35	29	26	32	27	24	22
10	51	39	32	27	49	37	31	26	35	29	25	32	27	23	30	25	22	20

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	20863	20863	20863
5°	20942	20653	20772
10°	20824	20394	20325
15°	20600	19917	19706
20°	20292	19321	18871
25°	19975	18650	18053
30°	19557	17877	16900
35°	19127	17102	15843
40°	18730	16190	14533
45°	18209	15289	13352
50°	17637	14267	12030
55°	17051	13097	10796
60°	16514	11845	9442
65°	15814	10488	8087
70°	14940	8806	6530
75°	13662	6929	6147
80°	12180	6137	5653
85°	10288	5434	5051



TEST NUMBER: P332473

CATALOG NUMBER: S123RDIW-S1165D460U835-4F0-1E-UDD-F1

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	182.0	3.0
10°-20°	506.4	8.5
20°-30°	729.2	12.2
30°-40°	821.3	13.7
40°-50°	785.8	13.1
50°-60°	643.5	10.8
60°-70°	434.1	7.3
70°-80°	218.4	3.7
80°-90°	59.5	1.0
90°-100°	37.6	0.6
100°-110°	112.5	1.9
110°-120°	191.3	3.2
120°-130°	251.7	4.2
130°-140°	282.9	4.7
140°-150°	278.0	4.7
150°-160°	234.1	3.9
160°-170°	155.8	2.6
170°-180°	54.6	0.9
0°-30°	1417.6	23.7
0°-40°	2238.9	37.4
0°-60°	3668.1	61.4
0°-90°	4380.2	73.3
90°-120°	341.4	5.7
90°-150°	1153.9	19.3
90°-180°	1598.0	26.7
0°-180°	5978.6	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1938	1938	1938	1938	1938	
5°	1938	1930	1911	1925	1922	184
15°	1849	1830	1787	1779	1768	521
25°	1682	1641	1570	1538	1520	773
35°	1456	1397	1302	1236	1206	911
45°	1196	1123	1004	918	877	923
55°	909	828	698	610	575	814
65°	621	532	412	338	318	614
75°	328	252	167	152	148	350
85°	83	50	44	41	41	94
90°	0	5	11	13	14	6
95°	27	30	34	35	35	30
105°	102	103	107	107	108	109
115°	193	194	193	194	193	191
125°	282	283	282	280	279	251
135°	366	368	368	366	365	282
145°	444	445	446	445	444	277
155°	508	508	508	510	507	234
165°	553	552	552	554	552	156
175°	576	574	574	576	573	55
180°	577	577	577	577	577	



TEST NUMBER: P332473

CATALOG NUMBER: S123RDIW-S1165D460U835-4F0-1E-UDD-F1

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1938.2	1938.2	1938.2	1938.2	1938.2	1938.2	1938.2	1938.2	1938.2	1938.2	1938.2
2.5°	1944.5	1943.3	1942.2	1941.1	1940.0	1937.7	1934.4	1931.0	1927.7	1924.3	1927.4
5°	1938.2	1936.4	1934.7	1932.9	1931.2	1928.2	1924.0	1919.8	1915.6	1911.4	1914.6
7.5°	1920.2	1918.4	1916.5	1914.6	1912.7	1909.0	1903.6	1898.1	1892.7	1887.2	1889.0
10°	1905.2	1902.7	1900.3	1897.8	1895.4	1891.0	1884.7	1878.4	1872.1	1865.9	1866.2
12.5°	1883.8	1881.1	1878.3	1875.6	1872.9	1867.7	1860.0	1852.3	1844.6	1836.9	1836.7
15°	1848.6	1844.7	1840.9	1837.0	1833.2	1826.4	1816.6	1806.8	1797.0	1787.3	1785.5
17.5°	1804.2	1799.8	1795.3	1790.8	1786.4	1777.9	1765.5	1753.0	1740.6	1728.2	1724.5
20°	1771.5	1766.0	1760.4	1754.8	1749.2	1739.8	1726.5	1713.2	1699.9	1686.7	1682.1
22.5°	1735.1	1728.6	1722.2	1715.8	1709.4	1699.1	1685.0	1670.9	1656.8	1642.6	1637.0
25°	1681.9	1673.2	1664.5	1655.7	1647.0	1634.6	1618.5	1602.5	1586.4	1570.3	1563.0
27.5°	1617.5	1607.9	1598.2	1588.6	1578.9	1565.2	1547.3	1529.4	1511.5	1493.6	1483.4
30°	1573.5	1563.0	1552.5	1542.0	1531.6	1516.5	1497.0	1477.4	1457.9	1438.3	1426.4
32.5°	1529.5	1517.6	1505.7	1493.8	1482.0	1465.7	1445.0	1424.3	1403.6	1383.0	1370.0
35°	1455.6	1443.0	1430.4	1417.9	1405.3	1388.2	1366.5	1344.9	1323.2	1301.5	1286.5
37.5°	1380.8	1366.8	1352.8	1338.8	1324.9	1306.3	1283.2	1260.1	1237.0	1213.8	1196.8
40°	1333.0	1317.6	1302.2	1286.9	1271.5	1251.4	1226.6	1201.8	1177.0	1152.2	1134.0
42.5°	1278.9	1263.5	1248.2	1232.8	1217.4	1196.9	1171.3	1145.6	1120.0	1094.4	1074.5
45°	1196.2	1180.5	1164.8	1149.1	1133.3	1112.0	1085.1	1058.2	1031.3	1004.4	984.5
47.5°	1113.5	1096.3	1079.0	1061.8	1044.5	1022.4	995.5	968.6	941.7	914.9	893.2
50°	1053.2	1036.8	1020.3	1003.9	987.5	965.2	936.9	908.6	880.3	852.0	830.3
52.5°	999.1	981.3	963.5	945.7	927.8	904.9	876.9	848.9	820.9	792.9	770.4
55°	908.6	891.4	874.3	857.2	840.1	816.7	787.0	757.3	727.6	697.9	677.7
57.5°	824.9	806.3	787.6	769.0	750.3	726.1	696.3	666.4	636.6	606.8	587.6
60°	767.1	747.9	728.7	709.5	690.2	666.1	637.1	608.2	579.2	550.2	531.3
62.5°	709.2	690.0	670.8	651.6	632.4	608.3	579.3	550.3	521.3	492.3	474.6
65°	620.9	601.7	582.5	563.3	544.1	520.8	493.6	466.3	439.1	411.8	394.7
67.5°	532.6	513.1	493.7	474.3	454.9	432.1	406.0	379.8	353.7	327.6	314.8
70°	474.7	455.9	437.0	418.1	399.3	377.6	353.2	328.7	304.3	279.8	267.6
72.5°	416.9	398.3	379.7	361.1	342.5	322.1	299.9	277.7	255.5	233.3	223.3
75°	328.5	311.8	295.0	278.2	261.5	243.5	224.3	205.0	185.8	166.6	163.1
77.5°	248.0	232.9	217.7	202.6	187.4	173.6	161.3	148.9	136.5	124.2	122.3
80°	196.5	182.2	167.8	153.5	139.2	128.4	121.0	113.7	106.4	99.0	98.0
82.5°	147.4	135.1	122.7	110.3	98.0	90.1	86.7	83.2	79.8	76.4	75.3
85°	83.3	75.6	67.9	60.3	52.6	48.2	47.2	46.1	45.1	44.0	43.3
87.5°	30.3	27.4	24.5	21.7	18.8	17.5	17.7	18.0	18.3	18.5	18.3
90°	0.5	1.5	2.5	3.5	4.5	5.6	6.9	8.3	9.6	10.9	11.3
92.5°	11.0	11.7	12.3	13.0	13.7	14.4	15.2	15.9	16.7	17.4	17.7
95°	26.7	27.4	28.1	28.9	29.6	30.3	31.1	31.9	32.7	33.5	33.9
97.5°	47.5	48.0	48.5	49.1	49.6	50.1	50.7	51.3	51.9	52.5	52.9
100°	61.6	62.2	62.8	63.4	64.0	64.6	65.1	65.6	66.1	66.6	66.9
102.5°	77.9	78.3	78.7	79.0	79.4	79.9	80.6	81.2	81.9	82.6	82.9
105°	102.0	102.2	102.4	102.6	102.8	103.3	104.2	105.1	106.0	106.9	106.9
107.5°	129.9	130.0	130.1	130.2	130.4	130.6	131.0	131.3	131.7	132.1	132.4
110°	147.3	147.5	147.7	147.9	148.1	148.3	148.5	148.7	148.9	149.1	149.5



TEST NUMBER: P332473

CATALOG NUMBER: S123RDIW-S1165D460U835-4F0-1E-UDD-F1

CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	165.4	165.5	165.7	165.8	165.9	166.0	166.0	166.1	166.1	166.1	166.6
115°	192.6	192.9	193.2	193.5	193.8	193.9	193.7	193.5	193.3	193.1	193.2
117.5°	220.0	220.2	220.4	220.6	220.8	220.7	220.5	220.2	220.0	219.7	219.7
120°	237.0	237.6	238.2	238.8	239.4	239.5	239.0	238.5	238.0	237.5	237.4
122.5°	254.8	255.2	255.7	256.1	256.5	256.6	256.4	256.1	255.9	255.6	255.3
125°	281.9	282.2	282.5	282.8	283.1	283.1	282.9	282.7	282.5	282.3	281.9
127.5°	306.9	307.5	308.2	308.8	309.5	309.7	309.5	309.2	309.0	308.8	308.2
130°	323.6	324.4	325.2	326.0	326.8	327.0	326.7	326.4	326.1	325.8	325.4
132.5°	340.2	341.0	341.9	342.7	343.5	343.8	343.5	343.3	343.1	342.9	342.4
135°	365.7	366.3	366.9	367.5	368.1	368.4	368.3	368.2	368.1	368.0	367.6
137.5°	389.3	389.8	390.3	390.8	391.3	391.7	391.9	392.2	392.5	392.7	392.3
140°	405.6	406.1	406.6	407.1	407.6	407.9	408.0	408.1	408.2	408.3	408.2
142.5°	420.5	421.0	421.5	422.0	422.5	422.8	423.0	423.2	423.4	423.5	423.4
145°	443.7	443.9	444.1	444.3	444.5	444.7	445.0	445.3	445.6	445.9	445.8
147.5°	464.0	464.3	464.7	465.0	465.4	465.7	466.0	466.3	466.6	466.9	466.9
150°	478.1	478.3	478.5	478.7	478.9	479.1	479.3	479.5	479.7	479.9	479.9
152.5°	489.7	490.0	490.3	490.5	490.8	491.0	491.1	491.3	491.4	491.5	491.7
155°	508.0	508.0	508.0	508.0	508.0	508.1	508.2	508.3	508.4	508.5	508.9
157.5°	523.6	523.5	523.4	523.2	523.1	523.1	523.2	523.3	523.3	523.4	523.8
160°	533.4	533.2	533.0	532.8	532.6	532.5	532.5	532.5	532.5	532.5	533.0
162.5°	542.1	541.8	541.5	541.2	541.0	540.9	540.9	541.0	541.1	541.2	541.7
165°	553.3	553.0	552.7	552.4	552.1	552.0	552.0	552.0	552.0	552.0	552.6
167.5°	562.3	561.9	561.5	561.1	560.7	560.5	560.6	560.7	560.8	560.8	561.5
170°	567.4	567.0	566.6	566.2	565.8	565.6	565.6	565.6	565.6	565.6	566.3
172.5°	571.4	571.0	570.6	570.2	569.7	569.5	569.5	569.5	569.5	569.5	570.2
175°	575.5	575.1	574.7	574.3	573.9	573.7	573.7	573.7	573.7	573.7	574.3
177.5°	577.3	576.9	576.6	576.3	576.0	575.8	575.8	575.8	575.8	575.8	576.3
180°	576.9	576.9	576.9	576.9	576.9	576.9	576.9	576.9	576.9	576.9	576.9



TEST NUMBER: P332473

CATALOG NUMBER: S123RDIW-S1165D460U835-4F0-1E-UDD-F1

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1938.2	1938.2	1938.2	1938.2	1938.2	1938.2	1938.2	1938.2
2.5°	1930.5	1933.6	1936.6	1937.9	1937.3	1936.8	1936.2	1935.6
5°	1917.7	1920.9	1924.0	1925.2	1924.5	1923.8	1923.1	1922.4
7.5°	1890.7	1892.5	1894.2	1894.5	1893.3	1892.1	1890.9	1889.7
10°	1866.6	1866.9	1867.3	1866.6	1864.8	1863.1	1861.3	1859.6
12.5°	1836.5	1836.3	1836.1	1835.0	1833.0	1830.9	1828.9	1826.9
15°	1783.8	1782.0	1780.3	1778.2	1775.7	1773.3	1770.8	1768.4
17.5°	1720.8	1717.0	1713.3	1709.7	1706.0	1702.4	1698.8	1695.1
20°	1677.6	1673.0	1668.5	1664.1	1659.9	1655.7	1651.6	1647.4
22.5°	1631.3	1625.7	1620.0	1615.2	1611.3	1607.4	1603.5	1599.6
25°	1555.7	1548.3	1541.0	1535.4	1531.6	1527.7	1523.9	1520.0
27.5°	1473.2	1463.0	1452.8	1444.8	1438.9	1433.1	1427.2	1421.3
30°	1414.5	1402.7	1390.8	1382.1	1376.5	1370.9	1365.3	1359.7
32.5°	1357.0	1344.0	1331.0	1321.6	1315.7	1309.8	1304.0	1298.1
35°	1271.5	1256.5	1241.5	1230.8	1224.5	1218.2	1211.9	1205.7
37.5°	1179.7	1162.7	1145.6	1133.2	1125.5	1117.7	1110.0	1102.2
40°	1115.9	1097.7	1079.6	1066.5	1058.4	1050.4	1042.4	1034.3
42.5°	1054.7	1034.8	1015.0	1001.5	994.3	987.1	979.9	972.7
45°	964.6	944.7	924.8	910.7	902.3	893.9	885.5	877.1
47.5°	871.5	849.9	828.2	813.7	806.2	798.7	791.2	783.8
50°	808.7	787.0	765.3	750.5	742.5	734.4	726.4	718.4
52.5°	747.9	725.4	702.9	688.0	680.8	673.7	666.5	659.3
55°	657.4	637.1	616.9	603.3	596.3	589.3	582.3	575.3
57.5°	568.5	549.3	530.2	517.6	511.7	505.8	499.8	493.9
60°	512.4	493.6	474.7	462.3	456.4	450.4	444.5	438.6
62.5°	456.8	439.1	421.3	409.4	403.1	396.9	390.7	384.5
65°	377.6	360.5	343.4	332.9	329.1	325.2	321.4	317.5
67.5°	302.0	289.2	276.4	268.0	263.9	259.7	255.6	251.5
70°	255.3	243.1	230.9	222.9	219.0	215.2	211.3	207.5
72.5°	213.3	203.3	193.3	187.5	185.9	184.3	182.7	181.1
75°	159.6	156.1	152.6	150.6	149.9	149.2	148.5	147.8
77.5°	120.4	118.5	116.6	115.3	114.6	113.9	113.2	112.5
80°	96.9	95.9	94.8	94.0	93.3	92.6	91.9	91.2
82.5°	74.3	73.3	72.2	71.6	71.5	71.3	71.2	71.1
85°	42.6	41.9	41.2	40.9	40.9	40.9	40.9	40.9
87.5°	18.1	17.9	17.7	17.5	17.3	17.0	16.8	16.6
90°	11.7	12.1	12.5	12.8	13.0	13.2	13.4	13.6
92.5°	18.0	18.4	18.7	18.8	18.7	18.5	18.4	18.3
95°	34.3	34.7	35.1	35.3	35.3	35.3	35.3	35.3
97.5°	53.4	53.9	54.3	54.5	54.5	54.5	54.4	54.4
100°	67.2	67.5	67.8	68.1	68.3	68.5	68.7	68.9
102.5°	83.2	83.5	83.8	83.9	83.9	83.8	83.8	83.7
105°	106.9	106.9	106.9	107.0	107.3	107.5	107.7	107.9
107.5°	132.7	133.0	133.3	133.4	133.3	133.2	133.1	133.0
110°	149.9	150.3	150.7	150.8	150.6	150.4	150.2	150.0



TEST NUMBER: P332473

CATALOG NUMBER: S123RDIW-S1165D460U835-4F0-1E-UDD-F1

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	167.1	167.6	168.1	168.3	168.2	168.2	168.2	168.1
115°	193.3	193.4	193.5	193.5	193.4	193.3	193.2	193.1
117.5°	219.7	219.6	219.6	219.5	219.2	218.9	218.6	218.3
120°	237.3	237.2	237.1	236.9	236.7	236.5	236.3	236.1
122.5°	255.1	254.8	254.5	254.3	254.0	253.7	253.4	253.1
125°	281.5	281.1	280.7	280.3	279.9	279.5	279.1	278.7
127.5°	307.7	307.1	306.5	306.0	305.6	305.1	304.6	304.2
130°	325.0	324.6	324.2	323.7	323.0	322.3	321.6	320.8
132.5°	341.9	341.4	340.9	340.4	339.9	339.3	338.8	338.2
135°	367.2	366.8	366.4	366.1	365.9	365.7	365.5	365.3
137.5°	391.9	391.5	391.0	390.6	390.2	389.9	389.5	389.1
140°	408.1	408.0	407.9	407.5	406.8	406.1	405.4	404.7
142.5°	423.3	423.2	423.1	422.8	422.3	421.7	421.2	420.6
145°	445.7	445.6	445.5	445.3	444.9	444.5	444.1	443.7
147.5°	466.9	466.9	466.9	466.6	466.0	465.3	464.7	464.1
150°	479.9	479.9	479.9	479.6	479.0	478.4	477.8	477.2
152.5°	491.8	492.0	492.2	492.0	491.5	490.9	490.4	489.9
155°	509.3	509.7	510.1	509.9	509.2	508.5	507.8	507.1
157.5°	524.3	524.7	525.1	525.0	524.5	523.9	523.3	522.8
160°	533.5	534.0	534.5	534.5	534.1	533.7	533.3	532.9
162.5°	542.2	542.7	543.2	543.1	542.5	541.8	541.2	540.5
165°	553.2	553.8	554.4	554.3	553.6	552.9	552.2	551.5
167.5°	562.1	562.7	563.3	563.3	562.7	562.1	561.5	560.8
170°	567.0	567.7	568.4	568.4	567.7	567.0	566.3	565.6
172.5°	570.8	571.4	572.0	572.0	571.3	570.6	569.9	569.2
175°	574.9	575.5	576.1	576.1	575.4	574.7	574.0	573.3
177.5°	576.8	577.3	577.7	577.7	577.1	576.6	576.0	575.4
180°	576.9	576.9	576.9	576.9	576.9	576.9	576.9	576.9

(END OF REPORT)