

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: P332363

Luminaire Tested: **S123RDIP-S1165D365U835-4F0-1E-UDD-F**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P332363  
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-5,  
Test Lab: INNOVATION CENTER  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: NEO-RAY  
Catalog Number: S123RDIP-S1165D365U835-4F0-1E-UDD-F  
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 1165 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: 5830.3 lumens  
Efficiency: N/A  
Efficacy: 117.1 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

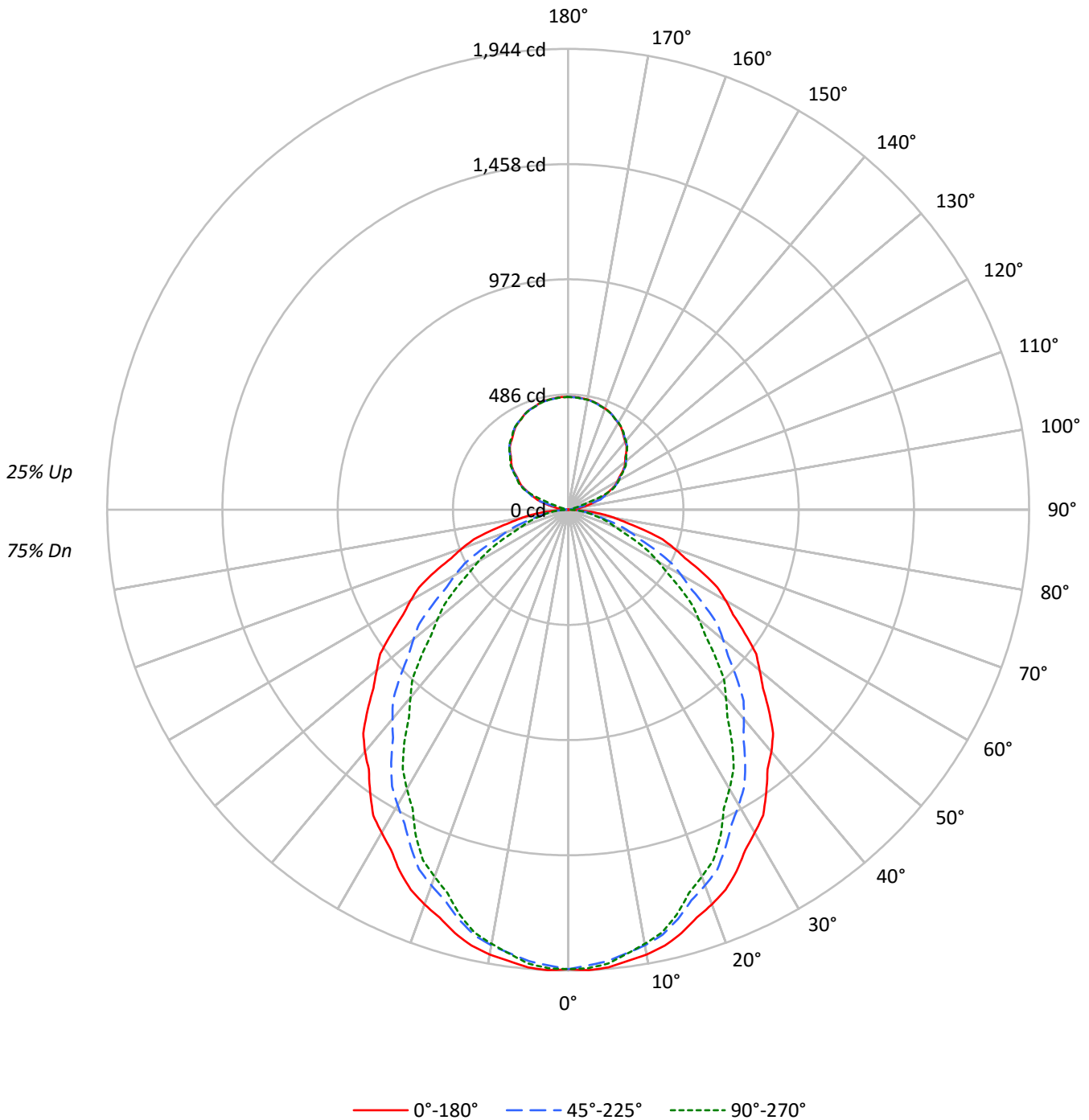
Input Watts (W): 49.8  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	113	113	113	113	108	108	108	108	97	97	97	88	88	88	79	79	79	75
1	104	100	96	92	99	95	92	88	86	84	81	78	76	74	71	69	68	64
2	95	88	81	76	90	84	78	73	76	72	68	69	66	63	63	60	58	55
3	87	77	70	64	83	74	67	62	68	62	58	62	57	54	56	53	50	47
4	80	69	61	55	76	66	59	53	60	55	50	55	50	47	51	47	43	41
5	74	62	54	47	70	59	52	46	54	48	43	50	45	41	46	42	38	35
6	68	56	48	42	65	54	46	40	49	43	38	45	40	36	42	37	34	31
7	63	51	43	37	60	49	41	36	45	39	34	41	36	32	38	34	30	28
8	59	46	38	33	56	45	37	32	41	35	30	38	33	29	35	31	27	25
9	55	42	35	30	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	27	24	30	26	23	21

**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



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	182.0	3.1
10°-20°	506.4	8.7
20°-30°	729.2	12.5
30°-40°	821.3	14.1
40°-50°	785.8	13.5
50°-60°	643.5	11.0
60°-70°	434.1	7.4
70°-80°	218.4	3.7
80°-90°	59.1	1.0
90°-100°	17.3	0.3
100°-110°	82.4	1.4
110°-120°	198.0	3.4
120°-130°	252.1	4.3
130°-140°	269.3	4.6
140°-150°	251.9	4.3
150°-160°	203.2	3.5
160°-170°	131.1	2.2
170°-180°	45.2	0.8
0°-30°	1417.6	24.3
0°-40°	2238.9	38.4
0°-60°	3668.1	62.9
0°-90°	4379.8	75.1
90°-120°	297.7	5.1
90°-150°	1071.0	18.4
90°-180°	1450.0	24.9
0°-180°	5830.3	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	4	8	10	11	5
95°	22	8	11	13	13	27
105°	105	107	77	18	16	112
115°	198	200	203	206	208	195
125°	278	281	283	283	284	249
135°	347	349	350	351	350	267
145°	400	402	403	404	404	250
155°	441	440	440	442	440	203
165°	465	464	463	466	464	131
175°	476	474	474	476	474	45
180°	476	476	476	476	476	



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**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	27.3	24.4	21.5	18.6	17.2	17.4	17.6	17.8	18.0	17.8
90°	0.4	1.1	1.9	2.7	3.5	4.4	5.4	6.4	7.5	8.5	8.8
92.5°	6.6	6.4	6.1	5.9	5.7	6.0	6.7	7.5	8.3	9.0	9.5
95°	21.6	18.3	15.1	11.9	8.7	7.5	8.4	9.2	10.1	11.0	11.5
97.5°	43.3	41.9	40.4	39.0	37.5	34.0	28.3	22.7	17.0	11.4	12.0
100°	59.7	61.3	62.9	64.4	66.0	60.7	48.4	36.2	23.9	11.7	12.3
102.5°	78.4	79.5	80.6	81.8	82.9	76.8	63.4	50.0	36.6	23.3	21.3
105°	105.3	106.2	107.0	107.9	108.8	105.7	98.6	91.5	84.5	77.4	63.5
107.5°	133.7	134.4	135.1	135.8	136.5	137.4	138.5	139.6	140.7	141.8	131.6
110°	152.7	153.3	153.9	154.5	155.2	155.9	156.8	157.6	158.5	159.4	156.8



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	170.7	171.3	171.9	172.4	173.0	173.7	174.6	175.5	176.3	177.2	177.2
115°	197.5	198.0	198.5	198.9	199.4	200.0	200.7	201.4	202.1	202.8	203.6
117.5°	223.5	224.1	224.6	225.2	225.8	226.3	226.6	227.0	227.4	227.7	228.3
120°	239.6	240.3	241.0	241.7	242.4	242.9	243.1	243.4	243.6	243.8	244.5
122.5°	256.0	256.6	257.1	257.7	258.3	258.7	259.0	259.3	259.6	259.9	260.4
125°	278.5	279.1	279.7	280.3	281.0	281.4	281.8	282.1	282.4	282.7	282.9
127.5°	300.2	300.9	301.5	302.1	302.7	303.2	303.6	304.0	304.4	304.7	305.0
130°	313.8	314.4	315.0	315.7	316.3	316.8	317.1	317.4	317.7	318.0	318.3
132.5°	326.8	327.4	328.1	328.7	329.3	329.7	330.0	330.3	330.5	330.8	331.1
135°	346.7	347.1	347.6	348.1	348.5	348.9	349.2	349.6	349.9	350.2	350.4
137.5°	363.6	364.2	364.8	365.4	366.0	366.4	366.6	366.7	366.9	367.1	367.5
140°	374.9	375.4	375.9	376.3	376.8	377.2	377.4	377.6	377.9	378.1	378.4
142.5°	385.4	385.9	386.3	386.8	387.3	387.6	387.9	388.1	388.3	388.6	388.8
145°	400.0	400.6	401.1	401.7	402.2	402.6	402.7	402.9	403.0	403.2	403.4
147.5°	413.8	414.2	414.5	414.9	415.2	415.5	415.7	415.8	416.0	416.1	416.3
150°	422.3	422.5	422.7	423.0	423.2	423.4	423.6	423.7	423.9	424.0	424.2
152.5°	429.9	430.0	430.1	430.2	430.3	430.5	430.5	430.6	430.7	430.8	431.1
155°	440.7	440.5	440.3	440.2	440.0	440.0	440.1	440.1	440.2	440.3	440.7
157.5°	449.0	449.0	449.0	448.9	448.9	448.9	448.8	448.7	448.6	448.6	449.0
160°	454.1	454.0	453.9	453.8	453.8	453.7	453.6	453.5	453.5	453.4	453.8
162.5°	458.9	458.7	458.5	458.3	458.1	457.9	457.8	457.8	457.7	457.6	458.1
165°	464.7	464.4	464.2	464.0	463.7	463.6	463.5	463.4	463.3	463.3	463.9
167.5°	469.2	468.9	468.6	468.3	467.9	467.8	467.8	467.8	467.8	467.8	468.4
170°	471.7	471.4	471.1	470.8	470.5	470.3	470.3	470.3	470.3	470.3	471.0
172.5°	473.4	473.1	472.7	472.3	471.9	471.8	471.8	471.9	472.0	472.0	472.7
175°	475.6	475.2	474.8	474.5	474.1	473.9	474.0	474.1	474.1	474.2	474.8
177.5°	476.2	475.9	475.6	475.3	474.9	474.8	474.9	474.9	475.0	475.1	475.6
180°	475.6	475.6	475.6	475.6	475.6	475.6	475.6	475.6	475.6	475.6	475.6



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**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°	17.6	17.4	17.2	16.9	16.7	16.4	16.2	16.0
90°	9.1	9.4	9.7	10.0	10.1	10.3	10.4	10.6
92.5°	10.1	10.6	11.1	11.4	11.4	11.5	11.6	11.7
95°	12.1	12.6	13.2	13.4	13.4	13.4	13.4	13.4
97.5°	12.6	13.3	13.9	14.2	14.3	14.4	14.5	14.6
100°	12.9	13.5	14.2	14.5	14.6	14.7	14.8	14.8
102.5°	19.4	17.4	15.5	14.6	14.7	14.8	15.0	15.1
105°	49.6	35.7	21.8	14.9	15.1	15.2	15.4	15.5
107.5°	121.5	111.3	101.1	90.7	80.3	69.8	59.3	48.8
110°	154.2	151.6	149.0	142.1	130.9	119.6	108.4	97.2





TEST NUMBER: P332363

CATALOG NUMBER: S123RDIP-S1165D365U835-4F0-1E-UDD-F

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	177.3	177.3	177.4	176.2	173.8	171.5	169.1	166.7
115°	204.4	205.2	206.0	206.5	206.8	207.2	207.5	207.8
117.5°	229.0	229.6	230.2	230.6	230.6	230.7	230.8	230.8
120°	245.1	245.7	246.3	246.7	246.7	246.7	246.7	246.7
122.5°	260.8	261.3	261.7	261.9	262.0	262.1	262.1	262.2
125°	283.0	283.2	283.3	283.5	283.6	283.8	284.0	284.1
127.5°	305.2	305.5	305.8	305.8	305.6	305.5	305.3	305.2
130°	318.7	319.0	319.3	319.4	319.2	319.1	318.9	318.7
132.5°	331.4	331.7	332.0	332.1	331.8	331.6	331.4	331.2
135°	350.7	350.9	351.1	351.1	350.9	350.7	350.4	350.2
137.5°	367.8	368.2	368.6	368.7	368.5	368.4	368.2	368.1
140°	378.7	379.0	379.4	379.4	379.3	379.1	379.0	378.8
142.5°	389.1	389.3	389.6	389.6	389.4	389.1	388.9	388.7
145°	403.5	403.7	403.8	403.9	403.9	403.9	403.9	403.9
147.5°	416.4	416.6	416.8	416.7	416.3	415.9	415.6	415.2
150°	424.4	424.5	424.7	424.6	424.4	424.2	423.9	423.7
152.5°	431.4	431.7	432.0	431.9	431.6	431.2	430.8	430.5
155°	441.1	441.5	441.9	441.8	441.4	440.9	440.4	439.9
157.5°	449.5	450.0	450.5	450.4	449.8	449.2	448.5	447.9
160°	454.3	454.8	455.3	455.2	454.7	454.1	453.6	453.0
162.5°	458.7	459.2	459.7	459.8	459.3	458.8	458.3	457.8
165°	464.5	465.2	465.8	465.8	465.3	464.7	464.2	463.6
167.5°	469.0	469.7	470.3	470.3	469.7	469.0	468.4	467.8
170°	471.6	472.2	472.8	472.8	472.2	471.6	471.0	470.3
172.5°	473.3	473.9	474.5	474.5	473.8	473.1	472.4	471.7
175°	475.3	475.9	476.4	476.4	475.8	475.1	474.5	473.9
177.5°	476.1	476.6	477.1	477.0	476.4	475.8	475.1	474.5
180°	475.6	475.6	475.6	475.6	475.6	475.6	475.6	475.6

(END OF REPORT)