

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: P332365

Luminaire Tested: **S123RDIP-S1165D365U835-4F0-1E-UDD-F4**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P332365  
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-17,  
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-F4  
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 1165 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED  
HOUSING  
UPLIGHT 365 LUMENS PER FOOT, BATWING OPTIC  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

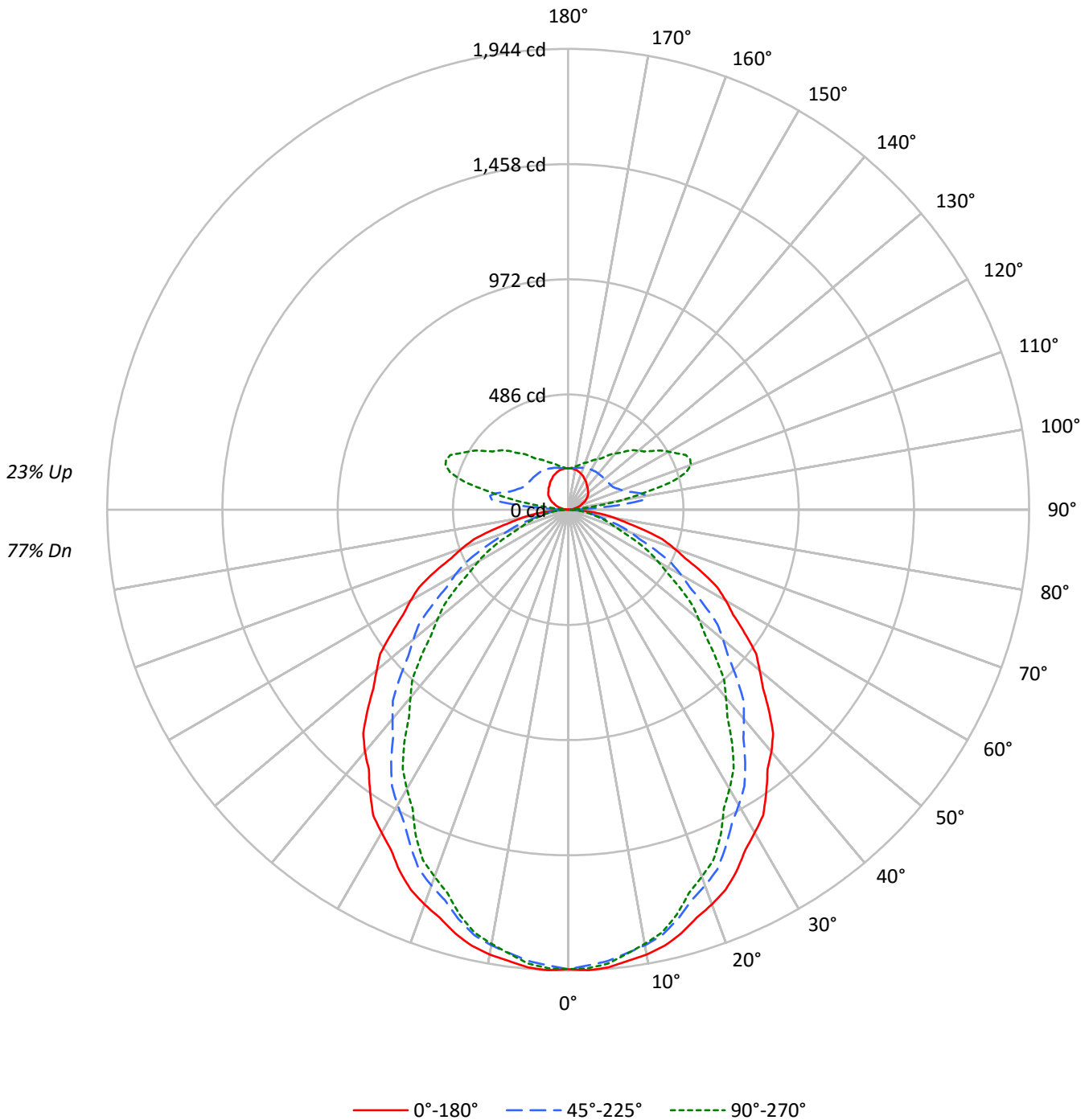
Lumens per Lamp: N/A  
Luminaire Lumens: 5693.2 lumens  
Efficiency: N/A  
Efficacy: 114.3 lumens/watt  
Spacing Criteria (0/90/45): 1.21 / 1.06 / 1.22  
Luminous Opening: Rectangular (W 0.25' x L: 4' x H: 0')  
CIE Type: Semi-Direct

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	114	114	114	114	108	108	108	108	98	98	98	89	89	89	81	81	81	77
1	104	100	96	93	99	96	92	89	87	84	82	79	77	76	72	71	69	66
2	95	88	82	77	91	84	79	74	77	73	69	70	67	64	64	62	59	56
3	87	78	70	64	83	75	68	62	68	63	58	63	58	55	57	54	51	48
4	80	69	61	55	76	66	59	53	61	55	50	56	51	47	52	48	44	42
5	74	62	54	48	70	60	52	46	55	49	44	51	45	41	47	42	39	36
6	68	56	48	42	65	54	46	41	50	43	39	46	41	37	43	38	35	32
7	64	51	43	37	60	49	42	36	45	39	34	42	37	33	39	34	31	29
8	59	47	39	33	56	45	37	32	42	35	31	39	33	29	36	31	28	26
9	55	43	35	30	53	41	34	29	38	32	28	36	30	27	33	29	25	23
10	52	39	32	27	49	38	31	26	36	30	25	33	28	24	31	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	3.2
10°-20°	506.4	8.9
20°-30°	729.2	12.8
30°-40°	821.3	14.4
40°-50°	785.8	13.8
50°-60°	643.5	11.3
60°-70°	434.1	7.6
70°-80°	218.4	3.8
80°-90°	59.1	1.0
90°-100°	97.2	1.7
100°-110°	275.1	4.8
110°-120°	270.6	4.8
120°-130°	215.9	3.8
130°-140°	170.2	3.0
140°-150°	127.0	2.2
150°-160°	88.5	1.6
160°-170°	52.0	0.9
170°-180°	16.9	0.3
0°-30°	1417.6	24.9
0°-40°	2238.9	39.3
0°-60°	3668.1	64.4
0°-90°	4379.8	76.9
90°-120°	642.9	11.3
90°-150°	1155.9	20.3
90°-180°	1313.0	23.1
0°-180°	5693.2	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°	1	4	9	10	10	5
95°	12	39	210	61	41	13
105°	41	61	284	497	450	44
115°	72	90	217	477	547	72
125°	101	119	203	368	431	89
135°	118	141	200	303	350	91
145°	135	154	198	248	273	84
155°	153	165	191	217	226	70
165°	167	172	183	194	198	47
175°	174	174	176	178	178	17
180°	175	175	175	175	175	



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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	27.4	24.5	21.6	18.7	17.3	17.5	17.7	17.9	18.1	17.8
90°	0.7	1.4	2.1	3.2	3.9	4.6	5.7	6.7	7.8	8.8	8.5
92.5°	4.4	6.5	9.5	12.2	15.2	20.4	29.7	44.9	59.8	54.3	41.0
95°	12.0	13.1	17.0	23.0	32.2	45.9	76.0	128.6	186.6	209.6	170.0
97.5°	20.5	20.8	23.9	29.1	38.2	53.1	81.8	141.1	237.8	324.8	347.4
100°	26.2	26.5	29.0	33.9	42.4	56.2	80.9	133.2	226.2	334.7	404.3
102.5°	32.1	32.7	34.9	39.6	47.2	59.9	82.1	126.4	209.2	316.3	407.1
105°	41.0	42.1	44.2	48.4	55.1	66.1	85.2	121.6	188.4	284.1	385.5
107.5°	50.5	51.5	53.6	57.7	64.0	74.2	91.0	121.2	175.1	255.7	347.8
110°	57.2	58.3	60.1	64.0	70.0	79.9	95.8	122.6	170.0	239.6	324.1



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	63.5	64.5	66.3	70.2	76.2	85.8	100.6	125.5	167.1	228.8	303.4
115°	72.4	73.9	76.0	79.5	85.5	95.1	108.5	130.0	166.1	217.3	278.5
117.5°	81.4	83.0	84.8	88.1	94.8	103.6	116.9	136.1	166.7	210.5	263.4
120°	87.6	88.7	90.5	94.0	100.7	109.5	122.3	140.6	167.9	207.4	255.5
122.5°	93.0	94.1	95.8	99.7	106.1	115.5	127.9	144.9	169.8	205.5	249.0
125°	100.7	101.4	103.5	107.4	114.1	123.7	136.1	151.6	172.8	202.8	240.7
127.5°	106.6	107.6	110.3	114.2	121.6	131.2	143.1	157.1	176.2	201.6	233.3
130°	110.3	111.3	114.5	118.7	126.2	135.7	147.4	160.8	178.5	200.7	229.3
132.5°	113.1	114.4	117.9	123.0	130.4	139.7	151.0	164.2	180.2	200.4	225.7
135°	118.0	119.4	123.3	128.6	136.1	145.6	156.5	168.6	182.7	200.0	220.9
137.5°	122.7	124.2	128.0	133.6	141.0	149.8	160.4	171.8	184.4	199.2	216.7
140°	125.8	127.6	131.1	136.8	143.8	152.7	162.9	173.5	185.5	199.0	214.1
142.5°	129.2	130.7	134.5	139.6	146.7	154.9	164.9	175.2	186.4	198.4	211.9
145°	134.6	135.7	138.9	144.2	150.2	158.3	167.5	177.0	186.9	197.5	208.8
147.5°	140.2	140.8	143.9	148.5	154.3	161.2	169.6	178.2	186.9	196.2	205.9
150°	143.8	144.2	147.0	151.6	156.5	162.9	171.0	178.5	186.9	195.1	203.9
152.5°	147.5	147.6	150.4	154.4	158.8	164.9	171.9	179.0	186.1	193.7	201.6
155°	153.0	153.0	155.1	158.7	162.6	167.5	173.5	179.2	185.2	191.2	198.2
157.5°	157.4	157.7	159.4	162.5	165.8	169.6	174.4	179.5	184.0	189.0	194.4
160°	160.8	160.8	162.2	165.0	167.5	171.0	175.3	179.5	183.4	187.3	191.9
162.5°	163.3	163.3	164.5	166.7	168.9	171.9	175.6	179.2	182.3	185.6	189.3
165°	167.1	166.8	167.5	169.3	170.7	173.2	176.0	178.5	180.6	183.1	185.9
167.5°	170.0	169.6	170.0	171.3	172.3	173.9	175.9	177.9	178.9	180.5	182.6
170°	171.7	171.0	171.4	172.4	173.2	173.9	175.6	177.0	177.8	178.8	180.6
172.5°	172.9	172.4	172.5	173.3	173.7	174.1	175.6	176.8	176.9	177.4	178.6
175°	174.2	173.9	173.5	174.2	174.2	174.6	175.3	176.0	175.6	175.6	176.3
177.5°	174.9	174.6	174.3	174.6	174.6	174.6	174.9	175.4	174.9	174.6	174.9
180°	174.6	174.6	174.6	174.6	174.6	174.6	174.6	174.6	174.6	174.6	174.6



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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	17.3	17.1	17.0	16.7	16.4	16.2	15.9
90°	8.8	9.2	9.5	10.2	9.9	10.2	10.6	10.2
92.5°	29.8	23.6	20.8	19.0	18.4	17.3	17.7	17.0
95°	127.2	86.2	67.5	54.8	48.1	44.9	42.4	41.0
97.5°	317.1	254.0	208.4	166.2	140.1	124.2	114.6	111.6
100°	416.6	388.0	346.7	296.5	260.8	235.0	221.2	221.6
102.5°	449.7	448.8	424.7	392.9	365.1	344.7	333.2	325.0
105°	459.4	494.7	501.4	492.3	476.0	462.6	451.3	449.5
107.5°	431.5	488.9	519.9	532.5	532.8	528.2	524.4	521.2
110°	405.0	470.0	514.5	539.3	549.2	552.0	551.3	550.6





TEST NUMBER: P332365

CATALOG NUMBER: S123RDIP-S1165D365U835-4F0-1E-UDD-F4

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	378.7	445.1	495.0	526.8	544.9	553.7	556.4	556.5
115°	343.8	405.3	457.3	495.8	522.3	537.8	544.9	546.7
117.5°	318.6	371.7	418.3	457.4	485.1	502.9	513.0	515.4
120°	305.3	353.0	395.4	431.1	459.0	478.8	487.3	489.4
122.5°	294.9	338.0	377.3	410.5	435.3	453.1	462.4	465.1
125°	280.9	319.5	353.4	381.7	404.3	419.8	428.7	431.1
127.5°	268.8	303.1	333.7	359.5	379.6	392.9	400.9	403.1
130°	261.1	293.0	321.6	345.6	364.3	377.1	384.5	387.3
132.5°	254.1	283.3	310.0	332.9	350.5	363.2	369.8	371.8
135°	244.5	269.6	292.6	312.7	330.1	340.7	347.0	349.5
137.5°	235.8	256.4	276.2	293.7	308.2	319.0	324.3	326.0
140°	230.8	248.8	265.7	280.9	294.4	304.3	309.9	309.6
142.5°	226.0	241.4	256.1	269.3	280.8	289.6	294.6	294.3
145°	220.2	231.8	243.1	253.4	262.2	269.6	272.5	273.2
147.5°	215.4	224.7	233.8	241.1	247.8	252.8	255.5	255.8
150°	212.0	220.2	227.6	234.3	239.6	243.5	245.6	245.6
152.5°	208.9	215.9	222.5	228.1	232.2	235.8	237.1	237.1
155°	204.3	209.9	215.2	219.4	222.6	225.5	226.2	226.5
157.5°	199.3	204.0	208.1	211.5	214.2	216.3	216.9	216.8
160°	196.5	200.4	203.9	206.4	208.8	211.0	211.0	210.6
162.5°	193.1	196.4	199.7	201.9	203.5	205.3	205.3	205.0
165°	188.7	190.8	193.3	195.1	196.5	197.9	197.5	197.5
167.5°	184.9	186.5	187.9	189.2	189.8	190.8	190.5	190.5
170°	182.3	183.4	184.8	185.5	185.9	186.6	186.2	186.2
172.5°	180.1	180.9	182.0	182.4	182.5	183.2	182.6	182.3
175°	177.0	177.4	178.1	178.1	178.1	178.5	178.1	177.8
177.5°	175.1	175.4	175.7	175.7	175.4	175.7	175.1	175.1
180°	174.6	174.6	174.6	174.6	174.6	174.6	174.6	174.6

(END OF REPORT)