

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: P332365-840

Luminaire Tested: **S123RDIP-S1165D365U840-4F0-1E-UDD-F4**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P332365-840  
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-S1165D365U840-4F0-1E-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: 5749.4 lumens  
Efficiency: N/A  
Efficacy: 115.4 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

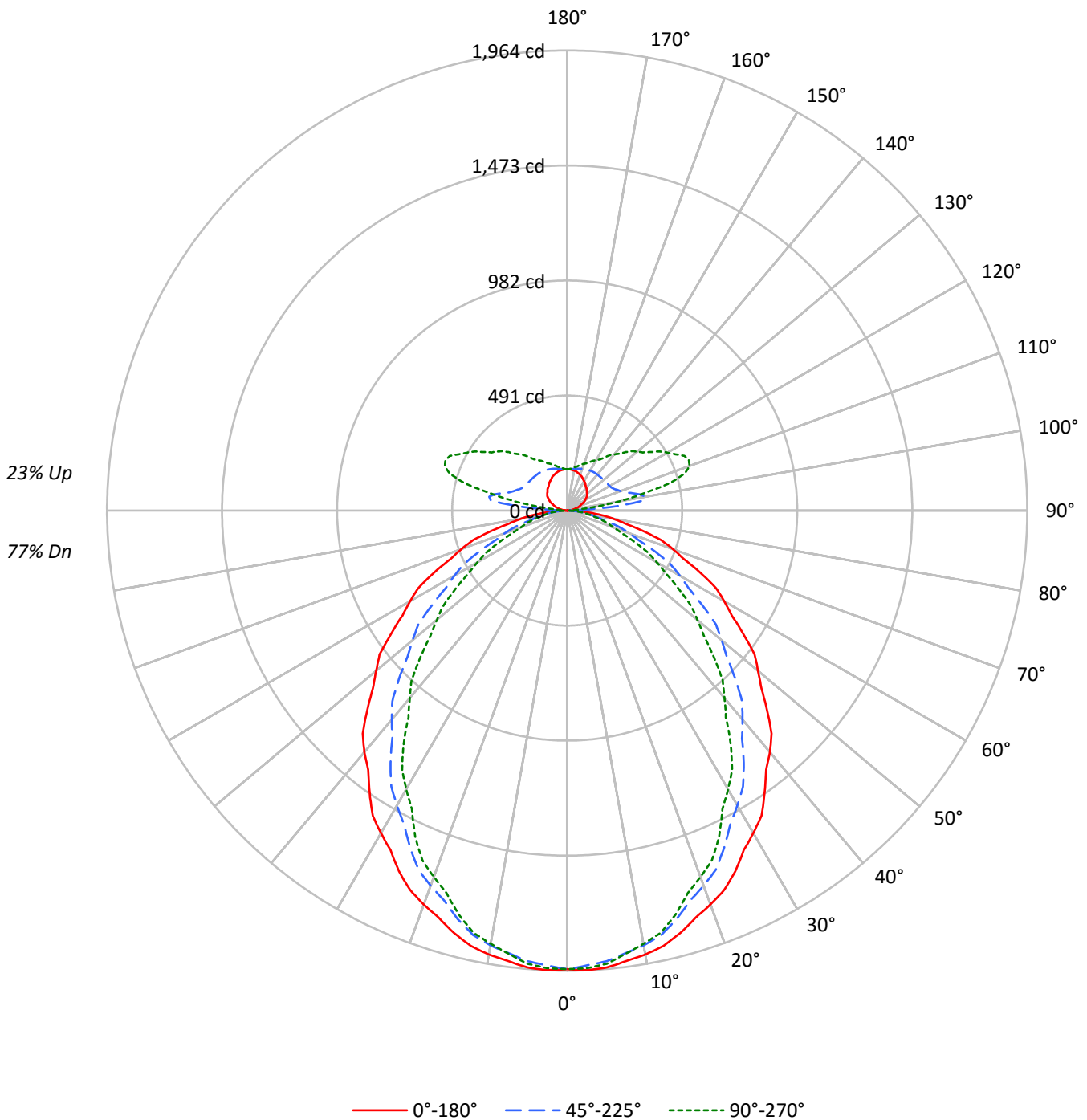
Input Watts (W): 49.8  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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°	21068	21068	21068
5°	21149	20857	20977
10°	21029	20595	20525
15°	20803	20113	19900
20°	20492	19511	19057
25°	20173	18834	18231
30°	19750	18053	17066
35°	19316	17270	16000
40°	18916	16350	14677
45°	18389	15440	13484
50°	17811	14408	12149
55°	17220	13226	10903
60°	16678	11961	9535
65°	15969	10593	8166
70°	15087	8894	6593
75°	13795	6995	6209
80°	12298	6199	5709
85°	10387	5483	5101



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	183.8	3.2
10°-20°	511.4	8.9
20°-30°	736.4	12.8
30°-40°	829.4	14.4
40°-50°	793.5	13.8
50°-60°	649.8	11.3
60°-70°	438.4	7.6
70°-80°	220.6	3.8
80°-90°	59.7	1.0
90°-100°	98.1	1.7
100°-110°	277.8	4.8
110°-120°	273.3	4.8
120°-130°	218.0	3.8
130°-140°	171.9	3.0
140°-150°	128.3	2.2
150°-160°	89.4	1.6
160°-170°	52.5	0.9
170°-180°	17.1	0.3
0°-30°	1431.6	24.9
0°-40°	2261.0	39.3
0°-60°	3704.3	64.4
0°-90°	4423.0	76.9
90°-120°	649.2	11.3
90°-150°	1167.3	20.3
90°-180°	1326.0	23.1
0°-180°	5749.4	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1957	1957	1957	1957	1957	
5°	1957	1949	1930	1944	1941	186
15°	1867	1848	1805	1797	1786	526
25°	1698	1657	1586	1553	1535	781
35°	1470	1411	1314	1248	1218	920
45°	1208	1134	1014	927	886	932
55°	918	837	705	616	581	822
65°	627	538	416	342	321	620
75°	332	255	168	153	149	354
85°	84	51	44	41	41	94
90°	1	4	9	10	10	5
95°	12	39	212	62	41	13
105°	41	61	287	502	454	44
115°	73	91	219	481	552	72
125°	102	120	205	371	435	90
135°	119	142	202	306	353	92
145°	136	156	199	251	276	85
155°	154	167	193	219	229	71
165°	169	174	185	196	199	48
175°	176	176	177	180	180	17
180°	176	176	176	176	176	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1957.3	1957.3	1957.3	1957.3	1957.3	1957.3	1957.3	1957.3	1957.3	1957.3	1957.3
2.5°	1963.7	1962.5	1961.4	1960.2	1959.1	1956.8	1953.5	1950.0	1946.7	1943.3	1946.4
5°	1957.3	1955.5	1953.8	1952.0	1950.3	1947.2	1943.0	1938.7	1934.5	1930.3	1933.5
7.5°	1939.1	1937.3	1935.4	1933.5	1931.6	1927.8	1922.4	1916.8	1911.4	1905.8	1907.6
10°	1924.0	1921.5	1919.0	1916.5	1914.1	1909.7	1903.3	1896.9	1890.6	1884.3	1884.6
12.5°	1902.4	1899.7	1896.8	1894.1	1891.4	1886.1	1878.3	1870.6	1862.8	1855.0	1854.8
15°	1866.8	1862.9	1859.1	1855.1	1851.3	1844.4	1834.5	1824.6	1814.7	1804.9	1803.1
17.5°	1822.0	1817.6	1813.0	1808.5	1804.0	1795.4	1782.9	1770.3	1757.8	1745.2	1741.5
20°	1789.0	1783.4	1777.8	1772.1	1766.5	1757.0	1743.5	1730.1	1716.7	1703.3	1698.7
22.5°	1752.2	1745.7	1739.2	1732.7	1726.3	1715.9	1701.6	1687.4	1673.1	1658.8	1653.1
25°	1698.5	1689.7	1680.9	1672.0	1663.2	1650.7	1634.5	1618.3	1602.0	1585.8	1578.4
27.5°	1633.5	1623.8	1614.0	1604.3	1594.5	1580.6	1562.6	1544.5	1526.4	1508.3	1498.0
30°	1589.0	1578.4	1567.8	1557.2	1546.7	1531.5	1511.8	1492.0	1472.3	1452.5	1440.5
32.5°	1544.6	1532.6	1520.6	1508.5	1496.6	1480.2	1459.3	1438.4	1417.4	1396.6	1383.5
35°	1470.0	1457.2	1444.5	1431.9	1419.2	1401.9	1380.0	1358.2	1336.3	1314.3	1299.2
37.5°	1394.4	1380.3	1366.1	1352.0	1338.0	1319.2	1295.9	1272.5	1249.2	1225.8	1208.6
40°	1346.2	1330.6	1315.0	1299.6	1284.0	1263.7	1238.7	1213.7	1188.6	1163.6	1145.2
42.5°	1291.5	1276.0	1260.5	1245.0	1229.4	1208.7	1182.9	1156.9	1131.0	1105.2	1085.1
45°	1208.0	1192.1	1176.3	1160.4	1144.5	1123.0	1095.8	1068.6	1041.5	1014.3	994.2
47.5°	1124.5	1107.1	1089.6	1072.3	1054.8	1032.5	1005.3	978.2	951.0	923.9	902.0
50°	1063.6	1047.0	1030.4	1013.8	997.2	974.7	946.1	917.6	889.0	860.4	838.5
52.5°	1009.0	991.0	973.0	955.0	937.0	913.8	885.6	857.3	829.0	800.7	778.0
55°	917.6	900.2	882.9	865.7	848.4	824.8	794.8	764.8	734.8	704.8	684.4
57.5°	833.0	814.3	795.4	776.6	757.7	733.3	703.2	673.0	642.9	612.8	593.4
60°	774.7	755.3	735.9	716.5	697.0	672.7	643.4	614.2	584.9	555.6	536.5
62.5°	716.2	696.8	677.4	658.0	638.6	614.3	585.0	555.7	526.4	497.2	479.3
65°	627.0	607.6	588.2	568.9	549.5	525.9	498.5	470.9	443.4	415.9	398.6
67.5°	537.9	518.2	498.6	479.0	459.4	436.4	410.0	383.5	357.2	330.8	317.9
70°	479.4	460.4	441.3	422.2	403.2	381.3	356.7	331.9	307.3	282.6	270.2
72.5°	421.0	402.2	383.4	364.7	345.9	325.3	302.9	280.4	258.0	235.6	225.5
75°	331.7	314.9	297.9	280.9	264.1	245.9	226.5	207.0	187.6	168.2	164.7
77.5°	250.4	235.2	219.8	204.6	189.2	175.3	162.9	150.4	137.8	125.4	123.5
80°	198.4	184.0	169.5	155.0	140.6	129.7	122.2	114.8	107.4	100.0	99.0
82.5°	148.9	136.4	123.9	111.4	99.0	91.0	87.6	84.0	80.6	77.2	76.0
85°	84.1	76.3	68.6	60.9	53.1	48.7	47.7	46.6	45.5	44.4	43.7
87.5°	30.6	27.7	24.7	21.8	18.9	17.5	17.7	17.9	18.1	18.3	18.0
90°	0.7	1.4	2.1	3.2	3.9	4.6	5.8	6.8	7.9	8.9	8.6
92.5°	4.4	6.6	9.6	12.3	15.3	20.6	30.0	45.3	60.4	54.8	41.4
95°	12.1	13.2	17.2	23.2	32.5	46.4	76.7	129.9	188.4	211.7	171.7
97.5°	20.7	21.0	24.1	29.4	38.6	53.6	82.6	142.5	240.1	328.0	350.8
100°	26.5	26.8	29.3	34.2	42.8	56.8	81.7	134.5	228.4	338.0	408.3
102.5°	32.4	33.0	35.2	40.0	47.7	60.5	82.9	127.6	211.3	319.4	411.1
105°	41.4	42.5	44.6	48.9	55.6	66.8	86.0	122.8	190.3	286.9	389.3
107.5°	51.0	52.0	54.1	58.3	64.6	74.9	91.9	122.4	176.8	258.2	351.2
110°	57.8	58.9	60.7	64.6	70.7	80.7	96.7	123.8	171.7	242.0	327.3



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	64.1	65.1	67.0	70.9	77.0	86.6	101.6	126.7	168.7	231.1	306.4
115°	73.1	74.6	76.7	80.3	86.3	96.0	109.6	131.3	167.7	219.4	281.2
117.5°	82.2	83.8	85.6	89.0	95.7	104.6	118.1	137.4	168.3	212.6	266.0
120°	88.5	89.6	91.4	94.9	101.7	110.6	123.5	142.0	169.6	209.4	258.0
122.5°	93.9	95.0	96.7	100.7	107.1	116.6	129.2	146.3	171.5	207.5	251.5
125°	101.7	102.4	104.5	108.5	115.2	124.9	137.4	153.1	174.5	204.8	243.1
127.5°	107.7	108.7	111.4	115.3	122.8	132.5	144.5	158.6	177.9	203.6	235.6
130°	111.4	112.4	115.6	119.9	127.4	137.0	148.9	162.4	180.3	202.7	231.6
132.5°	114.2	115.5	119.1	124.2	131.7	141.1	152.5	165.8	182.0	202.4	227.9
135°	119.2	120.6	124.5	129.9	137.4	147.0	158.0	170.3	184.5	202.0	223.1
137.5°	123.9	125.4	129.3	134.9	142.4	151.3	162.0	173.5	186.2	201.2	218.8
140°	127.0	128.9	132.4	138.1	145.2	154.2	164.5	175.2	187.3	201.0	216.2
142.5°	130.5	132.0	135.8	141.0	148.1	156.4	166.5	176.9	188.2	200.4	214.0
145°	135.9	137.0	140.3	145.6	151.7	159.9	169.2	178.7	188.7	199.4	210.9
147.5°	141.6	142.2	145.3	150.0	155.8	162.8	171.3	180.0	188.7	198.1	207.9
150°	145.2	145.6	148.5	153.1	158.0	164.5	172.7	180.3	188.7	197.0	205.9
152.5°	149.0	149.1	151.9	155.9	160.4	166.5	173.6	180.8	187.9	195.6	203.6
155°	154.5	154.5	156.6	160.3	164.2	169.2	175.2	181.0	187.0	193.1	200.2
157.5°	159.0	159.3	161.0	164.1	167.4	171.3	176.1	181.3	185.8	190.9	196.3
160°	162.4	162.4	163.8	166.6	169.2	172.7	177.0	181.3	185.2	189.1	193.8
162.5°	164.9	164.9	166.1	168.3	170.6	173.6	177.3	181.0	184.1	187.4	191.2
165°	168.7	168.4	169.2	171.0	172.4	174.9	177.7	180.3	182.4	184.9	187.7
167.5°	171.7	171.3	171.7	173.0	174.0	175.6	177.6	179.7	180.7	182.3	184.4
170°	173.4	172.7	173.1	174.1	174.9	175.6	177.3	178.7	179.6	180.6	182.4
172.5°	174.6	174.1	174.2	175.0	175.4	175.8	177.3	178.5	178.6	179.2	180.4
175°	175.9	175.6	175.2	175.9	175.9	176.3	177.0	177.7	177.3	177.3	178.0
177.5°	176.6	176.3	176.0	176.3	176.3	176.3	176.6	177.1	176.6	176.3	176.6
180°	176.3	176.3	176.3	176.3	176.3	176.3	176.3	176.3	176.3	176.3	176.3



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1957.3	1957.3	1957.3	1957.3	1957.3	1957.3	1957.3	1957.3
2.5°	1949.5	1952.7	1955.7	1957.0	1956.4	1955.9	1955.3	1954.7
5°	1936.6	1939.8	1943.0	1944.2	1943.5	1942.8	1942.1	1941.4
7.5°	1909.4	1911.2	1912.9	1913.2	1912.0	1910.8	1909.6	1908.3
10°	1885.0	1885.3	1885.7	1885.0	1883.2	1881.5	1879.7	1877.9
12.5°	1854.6	1854.4	1854.2	1853.1	1851.1	1849.0	1846.9	1844.9
15°	1801.4	1799.6	1797.9	1795.7	1793.2	1790.8	1788.3	1785.8
17.5°	1737.8	1733.9	1730.2	1726.6	1722.8	1719.2	1715.6	1711.8
20°	1694.1	1689.5	1685.0	1680.5	1676.3	1672.0	1667.9	1663.7
22.5°	1647.4	1641.7	1636.0	1631.1	1627.2	1623.3	1619.3	1615.4
25°	1571.0	1563.6	1556.2	1550.5	1546.7	1542.8	1538.9	1535.0
27.5°	1487.7	1477.4	1467.1	1459.1	1453.1	1447.2	1441.3	1435.3
30°	1428.5	1416.5	1404.5	1395.7	1390.1	1384.4	1378.8	1373.1
32.5°	1370.4	1357.3	1344.1	1334.6	1328.7	1322.7	1316.9	1310.9
35°	1284.0	1268.9	1253.7	1242.9	1236.6	1230.2	1223.9	1217.6
37.5°	1191.3	1174.2	1156.9	1144.4	1136.6	1128.7	1121.0	1113.1
40°	1126.9	1108.5	1090.3	1077.0	1068.8	1060.8	1052.7	1044.5
42.5°	1065.1	1045.0	1025.0	1011.4	1004.1	996.8	989.6	982.3
45°	974.1	954.0	933.9	919.7	911.2	902.7	894.2	885.8
47.5°	880.1	858.3	836.4	821.7	814.2	806.6	799.0	791.5
50°	816.7	794.8	772.8	757.9	749.8	741.6	733.6	725.5
52.5°	755.3	732.6	709.8	694.8	687.5	680.3	673.1	665.8
55°	663.9	643.4	623.0	609.3	602.2	595.1	588.0	581.0
57.5°	574.1	554.7	535.4	522.7	516.7	510.8	504.7	498.8
60°	517.5	498.5	479.4	466.9	460.9	454.8	448.9	442.9
62.5°	461.3	443.4	425.5	413.4	407.1	400.8	394.6	388.3
65°	381.3	364.1	346.8	336.2	332.3	328.4	324.6	320.6
67.5°	305.0	292.1	279.1	270.6	266.5	262.3	258.1	254.0
70°	257.8	245.5	233.2	225.1	221.2	217.3	213.4	209.5
72.5°	215.4	205.3	195.2	189.3	187.7	186.1	184.5	182.9
75°	161.2	157.6	154.1	152.1	151.4	150.7	150.0	149.3
77.5°	121.6	119.7	117.8	116.4	115.7	115.0	114.3	113.6
80°	97.9	96.8	95.7	94.9	94.2	93.5	92.8	92.1
82.5°	75.0	74.0	72.9	72.3	72.2	72.0	71.9	71.8
85°	43.0	42.3	41.6	41.3	41.3	41.3	41.3	41.3
87.5°	17.8	17.5	17.3	17.2	16.9	16.6	16.4	16.1
90°	8.9	9.3	9.6	10.3	10.0	10.3	10.7	10.3
92.5°	30.1	23.8	21.0	19.2	18.6	17.5	17.9	17.2
95°	128.5	87.1	68.2	55.3	48.6	45.3	42.8	41.4
97.5°	320.2	256.5	210.5	167.8	141.5	125.4	115.7	112.7
100°	420.7	391.8	350.1	299.4	263.4	237.3	223.4	223.8
102.5°	454.1	453.2	428.9	396.8	368.7	348.1	336.5	328.2
105°	463.9	499.6	506.3	497.2	480.7	467.2	455.8	453.9
107.5°	435.8	493.7	525.0	537.8	538.1	533.4	529.6	526.3
110°	409.0	474.6	519.6	544.6	554.6	557.4	556.7	556.0





TEST NUMBER: P332365-840

CATALOG NUMBER: S123RDIP-S1165D365U840-4F0-1E-UDD-F4

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	382.4	449.5	499.9	532.0	550.3	559.2	561.9	562.0
115°	347.2	409.3	461.8	500.7	527.5	543.1	550.3	552.1
117.5°	321.7	375.4	422.4	461.9	489.9	507.9	518.1	520.5
120°	308.3	356.5	399.3	435.4	463.5	483.5	492.1	494.2
122.5°	297.8	341.3	381.0	414.5	439.6	457.6	467.0	469.7
125°	283.7	322.7	356.9	385.5	408.3	423.9	432.9	435.4
127.5°	271.5	306.1	337.0	363.0	383.3	396.8	404.9	407.1
130°	263.7	295.9	324.8	349.0	367.9	380.8	388.3	391.1
132.5°	256.6	286.1	313.1	336.2	354.0	366.8	373.4	375.5
135°	246.9	272.3	295.5	315.8	333.4	344.1	350.4	352.9
137.5°	238.1	258.9	278.9	296.6	311.2	322.1	327.5	329.2
140°	233.1	251.3	268.3	283.7	297.3	307.3	313.0	312.7
142.5°	228.2	243.8	258.6	272.0	283.6	292.5	297.5	297.2
145°	222.4	234.1	245.5	255.9	264.8	272.3	275.2	275.9
147.5°	217.5	226.9	236.1	243.5	250.2	255.3	258.0	258.3
150°	214.1	222.4	229.8	236.6	242.0	245.9	248.0	248.0
152.5°	211.0	218.0	224.7	230.4	234.5	238.1	239.4	239.4
155°	206.3	212.0	217.3	221.6	224.8	227.7	228.4	228.7
157.5°	201.3	206.0	210.2	213.6	216.3	218.4	219.0	218.9
160°	198.4	202.4	205.9	208.4	210.9	213.1	213.1	212.7
162.5°	195.0	198.3	201.7	203.9	205.5	207.3	207.3	207.0
165°	190.6	192.7	195.2	197.0	198.4	199.9	199.4	199.4
167.5°	186.7	188.3	189.8	191.1	191.7	192.7	192.4	192.4
170°	184.1	185.2	186.6	187.3	187.7	188.4	188.0	188.0
172.5°	181.9	182.7	183.8	184.2	184.3	185.0	184.4	184.1
175°	178.7	179.2	179.9	179.9	179.9	180.3	179.9	179.6
177.5°	176.8	177.1	177.4	177.4	177.1	177.4	176.8	176.8
180°	176.3	176.3	176.3	176.3	176.3	176.3	176.3	176.3

(END OF REPORT)