

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: P332364-840

Luminaire Tested: **S123RDIP-S1165D365U840-4F0-1E-UDD-F1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332364-840
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: S123RDIP-S1165D365U840-4F0-1E-UDD-F1
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 1165 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED
HOUSING
UPLIGHT 365 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 5681.7 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

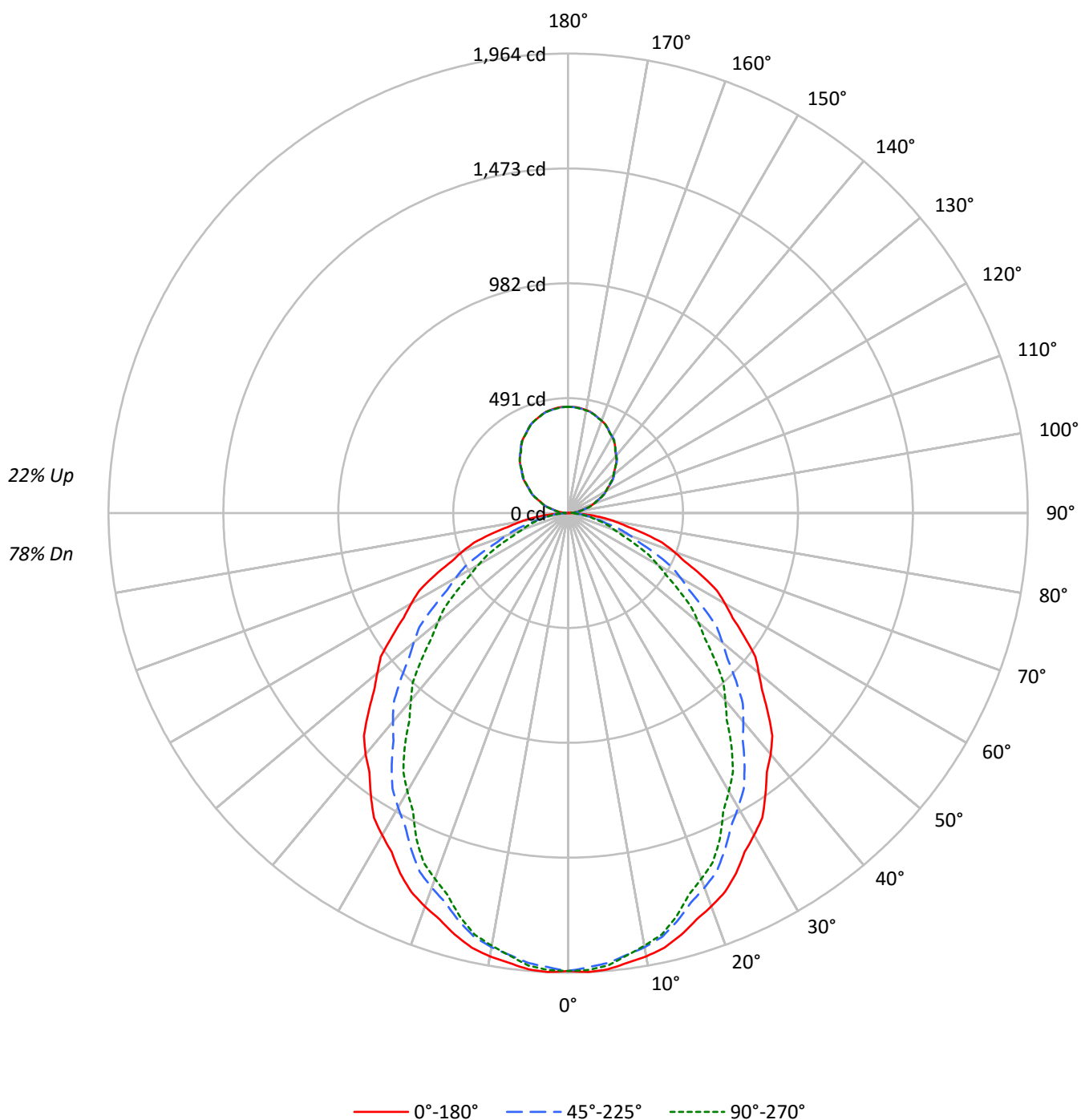
Input Watts (W): 49.8
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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
RW	70	50	30	10	70	50	30	10	50	30	10		50	30	10		50
RCR																	
0	114	114	114	114	109	109	109	109	99	99	99		90	90	90		82
1	105	100	96	93	100	96	92	89	88	85	82		80	78	76		73
2	96	88	82	77	91	84	79	74	77	73	69		71	67	64		65
3	88	78	71	65	83	75	68	63	69	63	59		63	59	55		58
4	80	69	61	55	77	67	59	54	61	55	51		57	52	48		52
5	74	62	54	48	71	60	52	47	55	49	44		51	46	42		47
6	69	56	48	42	65	54	46	41	50	44	39		46	41	37		43
7	64	51	43	37	61	49	42	36	46	39	35		42	37	33		39
8	59	47	39	33	57	45	38	32	42	36	31		39	34	30		36
9	55	43	35	30	53	41	34	29	39	32	28		36	31	27		34
10	52	40	32	27	50	38	31	27	36	30	25		33	28	24		31

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	9.0
20°-30°	736.4	13.0
30°-40°	829.4	14.6
40°-50°	793.5	14.0
50°-60°	649.8	11.4
60°-70°	438.4	7.7
70°-80°	220.6	3.9
80°-90°	59.7	1.1
90°-100°	29.6	0.5
100°-110°	88.6	1.6
110°-120°	150.7	2.7
120°-130°	198.2	3.5
130°-140°	222.7	3.9
140°-150°	219.0	3.9
150°-160°	184.3	3.2
160°-170°	122.7	2.2
170°-180°	43.0	0.8
0°-30°	1431.6	25.2
0°-40°	2261.0	39.8
0°-60°	3704.3	65.2
0°-90°	4423.0	77.8
90°-120°	268.8	4.7
90°-150°	908.7	16.0
90°-180°	1259.0	22.2
0°-180°	5681.7	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°	0	4	9	10	11	5
95°	21	24	26	28	28	24
105°	80	81	84	84	85	86
115°	152	153	152	152	152	150
125°	222	223	222	221	219	198
135°	288	290	290	288	288	222
145°	349	350	351	351	349	218
155°	400	400	400	402	399	184
165°	436	435	435	437	434	123
175°	453	452	452	454	451	43
180°	454	454	454	454	454	

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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	27.6	24.6	21.7	18.8	17.4	17.6	17.8	18.0	18.2	18.0
90°	0.4	1.1	1.9	2.7	3.5	4.4	5.5	6.5	7.6	8.6	8.9
92.5°	8.7	9.2	9.7	10.3	10.8	11.3	11.9	12.5	13.1	13.7	13.9
95°	21.1	21.6	22.1	22.7	23.2	23.8	24.5	25.1	25.8	26.5	26.8
97.5°	37.4	37.8	38.3	38.7	39.1	39.5	40.0	40.4	40.9	41.3	41.7
100°	48.6	49.0	49.5	50.0	50.4	50.9	51.3	51.7	52.1	52.4	52.7
102.5°	61.4	61.7	61.9	62.2	62.5	62.9	63.4	64.0	64.5	65.0	65.2
105°	80.3	80.5	80.6	80.8	80.9	81.4	82.1	82.8	83.5	84.2	84.2
107.5°	102.3	102.4	102.5	102.6	102.7	102.8	103.1	103.4	103.7	104.0	104.2
110°	116.0	116.1	116.3	116.4	116.6	116.7	116.9	117.1	117.2	117.4	117.8

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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	130.3	130.4	130.5	130.6	130.7	130.7	130.8	130.8	130.8	130.9	131.2
115°	151.7	151.9	152.2	152.4	152.6	152.7	152.5	152.4	152.2	152.0	152.1
117.5°	173.2	173.4	173.6	173.7	173.9	173.8	173.6	173.4	173.2	173.0	173.0
120°	186.6	187.1	187.6	188.0	188.5	188.5	188.2	187.8	187.4	187.0	186.9
122.5°	200.7	201.0	201.4	201.7	202.1	202.1	201.9	201.7	201.5	201.3	201.1
125°	222.0	222.2	222.5	222.7	223.0	223.0	222.8	222.7	222.5	222.4	222.0
127.5°	241.7	242.2	242.7	243.2	243.7	243.9	243.7	243.5	243.4	243.2	242.8
130°	254.8	255.4	256.1	256.7	257.3	257.5	257.3	257.1	256.8	256.6	256.3
132.5°	267.9	268.6	269.2	269.8	270.4	270.7	270.5	270.3	270.1	270.0	269.6
135°	288.0	288.5	288.9	289.4	289.9	290.1	290.0	289.9	289.8	289.8	289.4
137.5°	306.6	307.0	307.3	307.7	308.1	308.4	308.6	308.8	309.0	309.2	308.9
140°	319.4	319.8	320.2	320.6	321.0	321.2	321.3	321.3	321.4	321.5	321.4
142.5°	331.1	331.5	331.9	332.3	332.6	333.0	333.2	333.3	333.4	333.6	333.5
145°	349.4	349.5	349.7	349.8	350.0	350.2	350.4	350.7	350.9	351.1	351.1
147.5°	365.4	365.7	366.0	366.3	366.5	366.8	367.0	367.2	367.4	367.7	367.7
150°	376.5	376.7	376.8	377.0	377.2	377.3	377.5	377.6	377.8	377.9	377.9
152.5°	385.7	385.9	386.1	386.3	386.6	386.7	386.8	386.9	387.0	387.1	387.2
155°	400.1	400.1	400.1	400.1	400.1	400.1	400.2	400.2	400.3	400.4	400.7
157.5°	412.3	412.2	412.1	412.0	411.9	411.9	412.0	412.0	412.1	412.2	412.5
160°	420.0	419.9	419.7	419.6	419.4	419.3	419.3	419.3	419.3	419.3	419.7
162.5°	426.9	426.7	426.5	426.3	426.0	426.0	426.0	426.1	426.2	426.2	426.6
165°	435.8	435.6	435.3	435.0	434.7	434.6	434.6	434.6	434.6	434.6	435.2
167.5°	442.8	442.5	442.2	441.8	441.5	441.4	441.5	441.5	441.6	441.7	442.1
170°	446.8	446.5	446.2	445.9	445.6	445.4	445.4	445.4	445.4	445.4	446.0
172.5°	450.0	449.6	449.3	449.0	448.7	448.5	448.5	448.5	448.5	448.5	449.0
175°	453.2	452.9	452.6	452.3	452.0	451.8	451.8	451.8	451.8	451.8	452.3
177.5°	454.5	454.3	454.0	453.8	453.5	453.4	453.4	453.4	453.4	453.4	453.8
180°	454.3	454.3	454.3	454.3	454.3	454.3	454.3	454.3	454.3	454.3	454.3

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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	17.6	17.4	17.1	16.9	16.6	16.4	16.2
90°	9.2	9.5	9.8	10.1	10.2	10.4	10.5	10.7
92.5°	14.2	14.4	14.7	14.8	14.7	14.6	14.5	14.4
95°	27.1	27.4	27.7	27.9	27.9	27.9	27.9	27.9
97.5°	42.0	42.4	42.8	42.9	42.9	42.9	42.8	42.8
100°	52.9	53.2	53.4	53.6	53.7	53.9	54.1	54.2
102.5°	65.5	65.7	65.9	66.0	66.0	66.0	65.9	65.9
105°	84.2	84.2	84.2	84.3	84.4	84.6	84.8	84.9
107.5°	104.5	104.7	105.0	105.1	105.0	104.9	104.8	104.7
110°	118.1	118.4	118.7	118.8	118.6	118.5	118.3	118.2

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CATALOG NUMBER: S123RDIP-S1165D365U840-4F0-1E-UDD-F1

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	131.6	132.0	132.4	132.5	132.5	132.5	132.4	132.4
115°	152.2	152.3	152.4	152.4	152.3	152.2	152.1	152.0
117.5°	173.0	173.0	173.0	172.8	172.6	172.4	172.2	172.0
120°	186.8	186.7	186.7	186.5	186.4	186.2	186.1	185.9
122.5°	200.9	200.7	200.5	200.3	200.1	199.8	199.5	199.3
125°	221.7	221.4	221.1	220.8	220.5	220.2	219.7	219.4
127.5°	242.3	241.9	241.4	241.0	240.7	240.2	239.9	239.5
130°	256.0	255.6	255.3	254.9	254.4	253.8	253.3	252.7
132.5°	269.2	268.8	268.5	268.1	267.6	267.2	266.8	266.4
135°	289.1	288.8	288.5	288.3	288.1	287.9	287.8	287.6
137.5°	308.6	308.3	307.9	307.6	307.3	307.0	306.7	306.4
140°	321.3	321.3	321.2	320.9	320.3	319.8	319.2	318.7
142.5°	333.4	333.3	333.3	333.0	332.5	332.1	331.6	331.2
145°	351.0	350.9	350.8	350.6	350.3	350.0	349.7	349.4
147.5°	367.7	367.7	367.7	367.4	367.0	366.5	366.0	365.5
150°	377.9	377.9	377.9	377.7	377.2	376.8	376.3	375.8
152.5°	387.3	387.5	387.6	387.4	387.0	386.6	386.2	385.8
155°	401.0	401.3	401.7	401.5	401.0	400.4	399.9	399.3
157.5°	412.8	413.2	413.5	413.4	413.0	412.6	412.1	411.7
160°	420.1	420.5	420.9	420.9	420.6	420.3	420.0	419.7
162.5°	427.0	427.4	427.8	427.7	427.2	426.7	426.2	425.7
165°	435.7	436.1	436.6	436.6	436.0	435.5	434.8	434.3
167.5°	442.6	443.1	443.6	443.6	443.1	442.6	442.1	441.7
170°	446.5	447.1	447.6	447.6	447.1	446.5	446.0	445.4
172.5°	449.5	450.0	450.5	450.5	449.9	449.4	448.8	448.3
175°	452.7	453.2	453.7	453.6	453.1	452.5	452.0	451.4
177.5°	454.2	454.5	454.9	454.9	454.5	454.0	453.6	453.1
180°	454.3	454.3	454.3	454.3	454.3	454.3	454.3	454.3

(END OF REPORT)