

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: P332369-840

Luminaire Tested: **S123RDIP-S1165D585U840-4F0-1E-UDD-F**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332369-840
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-S1165D585U840-4F0-1E-UDD-F
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 1165 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED
HOUSING
UPLIGHT 585 LUMENS PER FOOT, NO LENS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 6788.1 lumens
Efficiency: N/A
Efficacy: 123.2 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

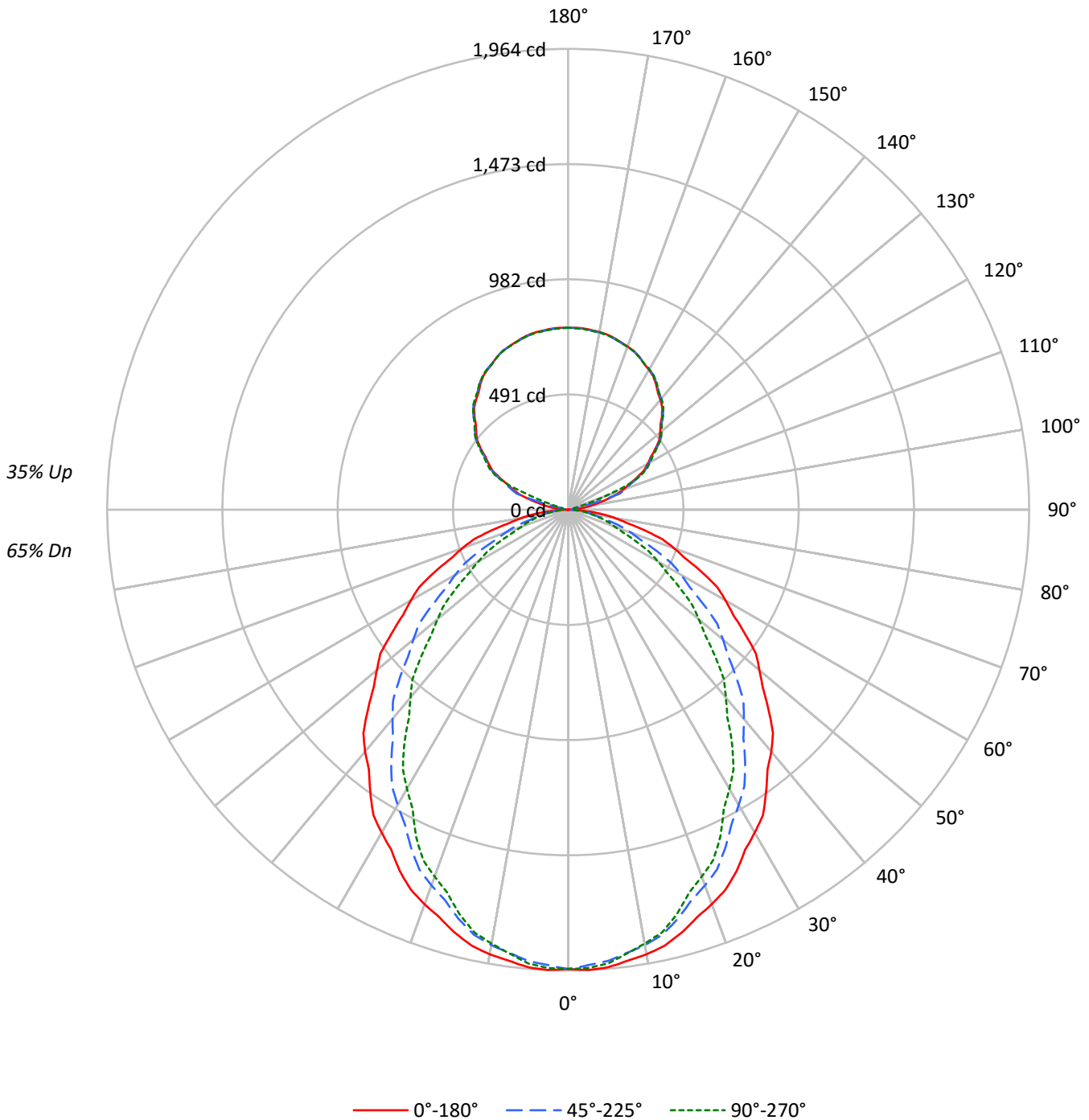
Input Watts (W): 55.1
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	111	111	111	111	104	104	104	104	92	92	92	80	80	80	70	70	70	65
1	102	97	94	90	95	92	88	85	81	79	76	72	70	68	63	61	60	56
2	93	86	79	74	87	81	75	71	72	68	64	63	60	57	56	53	51	47
3	85	76	68	62	80	71	65	60	64	58	54	56	52	49	50	47	44	41
4	78	67	59	53	73	64	57	51	57	51	47	50	46	42	45	41	38	35
5	72	60	52	46	67	57	50	44	51	45	41	46	41	37	40	37	34	31
6	66	54	46	40	62	51	44	39	46	40	36	41	36	33	37	33	30	27
7	62	49	41	36	58	47	39	34	42	36	32	38	33	29	34	30	27	24
8	57	45	37	32	54	43	35	31	39	33	28	35	30	26	31	27	24	22
9	53	41	33	28	50	39	32	27	35	30	26	32	27	24	29	25	22	20
10	50	38	31	26	47	36	29	25	33	27	23	30	25	22	27	23	20	18

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	2.7
10°-20°	511.4	7.5
20°-30°	736.4	10.8
30°-40°	829.4	12.2
40°-50°	793.5	11.7
50°-60°	649.8	9.6
60°-70°	438.4	6.5
70°-80°	220.6	3.2
80°-90°	60.5	0.9
90°-100°	28.2	0.4
100°-110°	134.3	2.0
110°-120°	322.7	4.8
120°-130°	410.9	6.1
130°-140°	439.0	6.5
140°-150°	410.5	6.0
150°-160°	331.2	4.9
160°-170°	213.7	3.1
170°-180°	73.7	1.1
0°-30°	1431.6	21.1
0°-40°	2261.0	33.3
0°-60°	3704.3	54.6
0°-90°	4423.8	65.2
90°-120°	485.2	7.1
90°-150°	1745.7	25.7
90°-180°	2364.0	34.8
0°-180°	6788.1	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	6	14	16	17	6
95°	35	13	18	22	22	43
105°	172	175	126	30	25	182
115°	322	326	331	336	339	318
125°	454	458	461	462	463	405
135°	565	568	571	572	571	435
145°	652	656	657	658	658	408
155°	718	717	718	720	717	331
165°	757	756	755	759	756	214
175°	775	773	773	777	772	74
180°	775	775	775	775	775	



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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	27.8	24.9	22.0	19.2	18.0	18.3	18.6	19.0	19.3	19.1
90°	0.6	1.8	3.1	4.4	5.7	7.2	8.8	10.5	12.1	13.8	14.3
92.5°	10.7	10.4	10.0	9.6	9.3	9.7	11.0	12.2	13.5	14.7	15.6
95°	35.1	29.9	24.6	19.4	14.1	12.2	13.6	15.0	16.5	17.9	18.8
97.5°	70.6	68.3	65.9	63.5	61.2	55.4	46.2	37.0	27.8	18.6	19.6
100°	97.4	99.9	102.5	105.0	107.6	98.9	78.9	59.0	39.0	19.0	20.0
102.5°	127.7	129.6	131.5	133.3	135.1	125.1	103.3	81.5	59.7	37.9	34.7
105°	171.7	173.1	174.5	175.8	177.2	172.2	160.7	149.2	137.6	126.1	103.5
107.5°	217.9	219.0	220.3	221.4	222.5	223.9	225.7	227.5	229.3	231.2	214.6
110°	248.8	249.8	250.9	251.9	252.9	254.2	255.5	256.9	258.3	259.7	255.5



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	278.3	279.2	280.1	281.0	282.0	283.2	284.6	286.0	287.4	288.8	288.9
115°	321.9	322.8	323.5	324.3	325.1	326.0	327.2	328.3	329.4	330.6	331.9
117.5°	364.3	365.2	366.2	367.1	368.0	368.8	369.4	370.0	370.6	371.1	372.2
120°	390.5	391.6	392.8	393.9	395.2	395.9	396.3	396.7	397.1	397.4	398.5
122.5°	417.3	418.2	419.1	420.1	421.0	421.7	422.2	422.7	423.2	423.7	424.4
125°	453.8	454.9	456.0	457.0	458.0	458.8	459.3	459.8	460.3	460.8	461.0
127.5°	489.4	490.4	491.4	492.4	493.4	494.2	494.8	495.5	496.1	496.8	497.2
130°	511.5	512.5	513.5	514.5	515.5	516.3	516.8	517.4	517.9	518.4	518.9
132.5°	532.7	533.7	534.7	535.7	536.7	537.5	537.9	538.3	538.7	539.2	539.7
135°	565.0	565.8	566.5	567.3	568.2	568.8	569.3	569.8	570.3	570.8	571.2
137.5°	592.7	593.7	594.6	595.6	596.5	597.2	597.4	597.7	598.0	598.3	599.0
140°	611.1	611.9	612.7	613.4	614.2	614.8	615.1	615.5	615.9	616.3	616.8
142.5°	628.1	628.9	629.8	630.5	631.3	631.8	632.2	632.6	633.0	633.4	633.8
145°	652.0	652.9	653.8	654.7	655.6	656.2	656.4	656.7	656.9	657.2	657.4
147.5°	674.5	675.1	675.7	676.2	676.8	677.2	677.5	677.7	678.0	678.3	678.5
150°	688.3	688.7	689.0	689.4	689.8	690.1	690.4	690.6	690.9	691.2	691.5
152.5°	700.7	700.9	701.0	701.3	701.5	701.7	701.8	702.0	702.1	702.3	702.7
155°	718.2	718.0	717.7	717.5	717.2	717.2	717.3	717.4	717.5	717.7	718.3
157.5°	731.8	731.8	731.7	731.7	731.7	731.6	731.5	731.4	731.2	731.1	732.0
160°	740.1	740.0	739.9	739.7	739.6	739.5	739.3	739.2	739.1	739.0	739.7
162.5°	748.0	747.6	747.3	747.0	746.6	746.4	746.3	746.2	746.0	745.9	746.8
165°	757.4	757.0	756.7	756.3	755.9	755.6	755.5	755.4	755.3	755.1	756.2
167.5°	764.8	764.3	763.8	763.3	762.8	762.4	762.4	762.4	762.4	762.4	763.6
170°	768.9	768.4	767.9	767.4	766.9	766.6	766.6	766.6	766.6	766.6	767.7
172.5°	771.7	771.1	770.4	769.8	769.2	769.0	769.1	769.2	769.3	769.4	770.4
175°	775.3	774.7	774.0	773.4	772.7	772.4	772.5	772.7	772.8	773.0	773.9
177.5°	776.2	775.7	775.2	774.7	774.2	774.0	774.1	774.2	774.3	774.4	775.2
180°	775.3	775.3	775.3	775.3	775.3	775.3	775.3	775.3	775.3	775.3	775.3



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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°	18.9	18.8	18.6	18.4	18.1	17.9	17.7	17.5
90°	14.8	15.3	15.9	16.3	16.6	16.8	17.1	17.3
92.5°	16.4	17.2	18.0	18.5	18.7	18.8	19.0	19.1
95°	19.7	20.5	21.4	21.9	21.9	21.9	21.9	21.9
97.5°	20.6	21.6	22.6	23.2	23.3	23.4	23.6	23.7
100°	21.0	22.1	23.1	23.6	23.8	23.9	24.0	24.2
102.5°	31.5	28.4	25.2	23.7	23.9	24.2	24.4	24.6
105°	80.8	58.2	35.5	24.3	24.5	24.8	25.0	25.3
107.5°	197.9	181.4	164.7	147.9	130.8	113.7	96.6	79.6
110°	251.4	247.1	242.9	231.6	213.3	195.0	176.7	158.3



TEST NUMBER: P332369-840

CATALOG NUMBER: S123RDIP-S1165D585U840-4F0-1E-UDD-F

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	288.9	289.0	289.1	287.2	283.4	279.4	275.6	271.8
115°	333.2	334.5	335.8	336.6	337.1	337.7	338.2	338.7
117.5°	373.2	374.3	375.3	375.9	376.0	376.1	376.2	376.3
120°	399.5	400.5	401.5	402.0	402.0	402.0	402.0	402.0
122.5°	425.2	425.9	426.6	427.0	427.1	427.2	427.3	427.4
125°	461.3	461.5	461.8	462.1	462.3	462.6	462.8	463.1
127.5°	497.6	498.0	498.4	498.5	498.2	498.0	497.7	497.5
130°	519.4	519.9	520.4	520.6	520.3	520.1	519.8	519.6
132.5°	540.2	540.7	541.2	541.3	540.9	540.5	540.2	539.8
135°	571.6	572.0	572.3	572.3	572.0	571.6	571.2	570.8
137.5°	599.6	600.2	600.8	601.0	600.7	600.5	600.2	600.0
140°	617.3	617.8	618.3	618.4	618.2	617.9	617.7	617.4
142.5°	634.2	634.6	635.0	635.0	634.7	634.3	633.9	633.6
145°	657.7	657.9	658.2	658.3	658.3	658.3	658.3	658.3
147.5°	678.8	679.0	679.3	679.1	678.5	677.9	677.4	676.8
150°	691.7	692.0	692.2	692.2	691.8	691.4	690.9	690.6
152.5°	703.2	703.6	704.1	704.0	703.5	702.9	702.3	701.7
155°	718.9	719.6	720.2	720.1	719.4	718.6	717.9	717.1
157.5°	732.7	733.5	734.3	734.1	733.1	732.2	731.1	730.1
160°	740.5	741.2	742.0	741.9	741.1	740.2	739.3	738.4
162.5°	747.6	748.5	749.4	749.4	748.6	747.8	747.0	746.3
165°	757.2	758.2	759.2	759.3	758.4	757.5	756.6	755.7
167.5°	764.6	765.6	766.6	766.6	765.6	764.6	763.6	762.4
170°	768.7	769.7	770.7	770.7	769.7	768.7	767.7	766.6
172.5°	771.4	772.4	773.5	773.5	772.3	771.2	770.0	768.9
175°	774.8	775.7	776.6	776.5	775.5	774.5	773.5	772.3
177.5°	776.0	776.8	777.6	777.5	776.5	775.5	774.5	773.5
180°	775.3	775.3	775.3	775.3	775.3	775.3	775.3	775.3

(END OF REPORT)