

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: P332377-840

Luminaire Tested: **S123RDIP-S1165D805U840-4F0-1E-UDD-F4**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332377-840
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-S1165D805U840-4F0-1E-UDD-F4
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 1165 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED
HOUSING
UPLIGHT 805 LUMENS PER FOOT, BATWING OPTIC
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 7359.1 lumens
Efficiency: N/A
Efficacy: 121.2 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

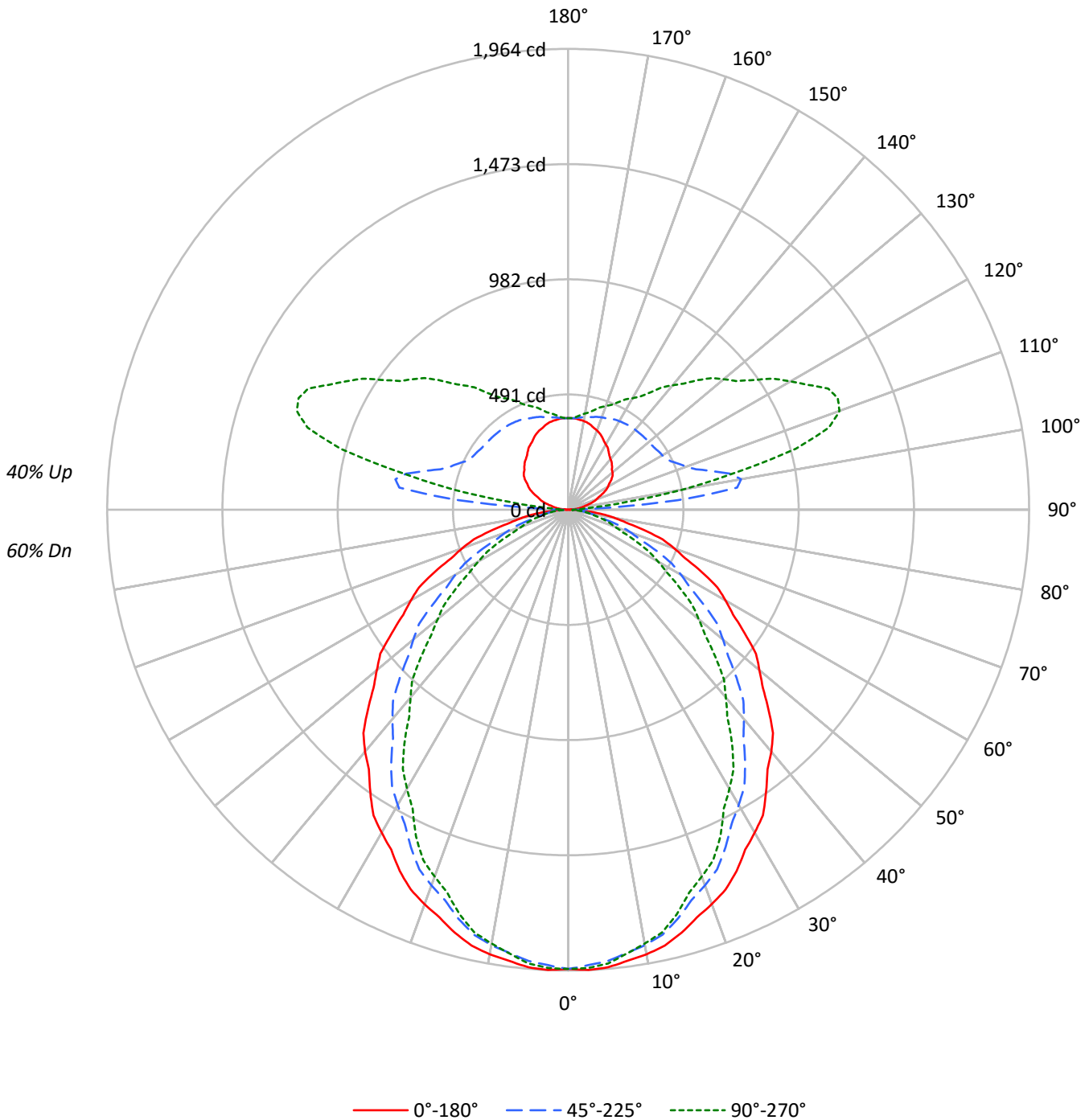
Input Watts (W): 60.7
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	110	110	110	110	102	102	102	102	89	89	89	77	77	77	65	65	65	60
1	100	96	92	89	94	90	87	84	79	76	74	68	66	65	58	57	56	51
2	92	84	78	73	86	79	74	69	69	65	62	60	57	55	52	50	48	44
3	84	75	67	62	78	70	64	58	62	57	52	54	50	47	46	44	41	37
4	77	66	58	52	72	62	55	50	55	49	45	48	44	40	42	38	36	32
5	71	59	51	45	66	56	49	43	49	44	39	43	39	35	38	34	31	28
6	65	53	45	39	61	50	43	38	45	39	34	39	35	31	34	31	28	25
7	61	48	40	35	57	46	38	33	41	35	30	36	31	28	31	28	25	22
8	56	44	36	31	53	42	35	30	37	31	27	33	28	25	29	25	22	20
9	53	40	33	28	49	38	31	27	34	29	25	30	26	22	27	23	20	18
10	49	37	30	25	46	35	29	24	32	26	22	28	24	20	25	21	19	17

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	2.5
10°-20°	511.4	6.9
20°-30°	736.4	10.0
30°-40°	829.4	11.3
40°-50°	793.5	10.8
50°-60°	649.8	8.8
60°-70°	438.4	6.0
70°-80°	220.6	3.0
80°-90°	61.4	0.8
90°-100°	217.1	2.9
100°-110°	614.6	8.4
110°-120°	604.6	8.2
120°-130°	482.3	6.6
130°-140°	380.2	5.2
140°-150°	283.8	3.9
150°-160°	197.8	2.7
160°-170°	116.2	1.6
170°-180°	37.8	0.5
0°-30°	1431.6	19.5
0°-40°	2261.0	30.7
0°-60°	3704.3	50.3
0°-90°	4424.7	60.1
90°-120°	1436.3	19.5
90°-150°	2582.6	35.1
90°-180°	2934.0	39.9
0°-180°	7359.1	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	95
90°	2	10	20	22	23	6
95°	27	87	468	137	92	29
105°	92	135	635	1110	1004	97
115°	162	202	486	1065	1221	160
125°	225	266	453	821	963	200
135°	264	315	447	676	781	204
145°	301	345	441	555	610	189
155°	342	369	427	486	506	157
165°	373	384	409	434	441	105
175°	389	390	392	398	397	37
180°	390	390	390	390	390	



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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°	30.8	28.0	25.2	22.6	19.8	18.6	19.0	19.5	20.0	20.5	20.0
90°	1.6	3.1	4.7	7.1	8.7	10.3	12.6	15.0	17.4	19.7	19.0
92.5°	9.8	14.5	21.2	27.4	33.9	45.6	66.3	100.3	133.6	121.4	91.6
95°	26.9	29.2	37.9	51.3	71.8	102.6	169.8	287.4	416.9	468.2	379.8
97.5°	45.7	46.6	53.4	65.0	85.2	118.6	182.7	315.4	531.2	725.6	776.3
100°	58.5	59.2	64.7	75.8	94.7	125.5	180.8	297.6	505.3	747.7	903.2
102.5°	71.7	73.1	78.0	88.5	105.5	133.7	183.3	282.5	467.4	706.6	909.6
105°	91.6	93.9	98.7	108.2	123.2	147.6	190.3	271.6	420.8	634.8	861.4
107.5°	112.7	115.1	119.7	129.0	143.1	165.8	203.2	270.8	391.1	571.3	777.1
110°	127.9	130.3	134.2	142.9	156.3	178.4	214.0	274.0	379.8	535.3	724.0



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	141.8	144.2	148.1	156.8	170.3	191.7	224.7	280.2	373.4	511.3	677.9
115°	161.9	165.0	169.8	177.6	191.1	212.4	242.4	290.5	371.1	485.5	622.2
117.5°	181.9	185.5	189.5	196.7	211.8	231.5	261.2	304.2	372.5	470.4	588.5
120°	195.8	198.1	202.1	210.1	225.0	244.8	273.2	314.3	375.1	463.4	570.9
122.5°	207.8	210.2	214.1	222.7	237.0	258.0	285.8	323.7	379.4	459.1	556.3
125°	225.0	226.6	231.4	240.0	255.0	276.3	304.0	338.7	386.1	453.2	537.7
127.5°	238.1	240.4	246.3	255.2	271.8	293.1	319.7	351.0	393.6	450.4	521.3
130°	246.3	248.7	255.8	265.3	281.9	303.2	329.2	359.2	398.7	448.5	512.4
132.5°	252.7	255.7	263.4	274.8	291.3	312.0	337.4	366.8	402.5	447.8	504.2
135°	263.7	266.9	275.6	287.4	304.0	325.3	349.7	376.6	408.2	446.9	493.4
137.5°	274.1	277.4	286.0	298.6	315.0	334.8	358.3	383.8	412.0	445.1	484.1
140°	281.0	285.0	293.0	305.6	321.3	341.0	364.0	387.7	414.5	444.5	478.5
142.5°	288.6	292.0	300.5	311.8	327.7	346.1	368.4	391.4	416.4	443.2	473.4
145°	300.8	303.2	310.3	322.1	335.6	353.8	374.3	395.6	417.7	441.3	466.7
147.5°	313.2	314.6	321.5	331.7	344.7	360.2	379.0	398.1	417.7	438.4	460.0
150°	321.3	322.1	328.4	338.7	349.7	364.0	382.1	398.7	417.7	435.9	455.6
152.5°	329.5	329.7	336.0	345.1	354.8	368.4	384.1	400.0	415.8	432.6	450.5
155°	341.8	341.8	346.6	354.5	363.1	374.3	387.7	400.3	413.7	427.2	442.9
157.5°	351.6	352.2	356.1	363.0	370.4	379.0	389.7	401.1	411.0	422.2	434.4
160°	359.2	359.2	362.4	368.7	374.3	382.1	391.6	401.1	409.8	418.5	428.7
162.5°	365.0	365.0	367.5	372.5	377.4	384.1	392.2	400.4	407.3	414.7	423.0
165°	373.4	372.6	374.3	378.2	381.3	386.9	393.1	398.7	403.4	409.0	415.3
167.5°	379.9	379.0	379.8	382.7	385.0	388.5	393.0	397.5	399.7	403.3	407.9
170°	383.7	382.1	382.9	385.3	386.9	388.5	392.4	395.6	397.2	399.5	403.4
172.5°	386.3	385.3	385.5	387.2	388.1	389.1	392.4	395.0	395.3	396.4	399.0
175°	389.2	388.5	387.7	389.2	389.2	390.0	391.6	393.1	392.4	392.4	393.9
177.5°	390.6	390.0	389.4	390.0	390.0	390.0	390.6	391.9	390.6	390.0	390.6
180°	390.0	390.0	390.0	390.0	390.0	390.0	390.0	390.0	390.0	390.0	390.0



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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°	19.9	19.8	19.7	19.7	19.2	19.1	19.0	18.6
90°	19.7	20.5	21.3	22.9	22.1	22.9	23.7	22.9
92.5°	66.4	52.7	46.6	42.5	41.1	38.7	39.5	38.1
95°	284.3	192.7	150.8	122.4	107.3	100.3	94.7	91.6
97.5°	708.5	567.5	465.6	371.2	313.0	277.4	256.1	249.3
100°	930.9	866.9	774.6	662.4	582.7	525.0	494.2	495.0
102.5°	1004.7	1002.7	948.9	877.8	815.8	770.1	744.4	726.2
105°	1026.4	1105.3	1120.3	1099.8	1063.5	1033.5	1008.2	1004.3
107.5°	964.2	1092.4	1161.5	1189.6	1190.3	1180.2	1171.6	1164.4
110°	904.8	1050.1	1149.5	1204.9	1226.9	1233.2	1231.6	1230.1



TEST NUMBER: P332377-840

CATALOG NUMBER: S123RDIP-S1165D805U840-4F0-1E-UDD-F4

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	846.1	994.5	1106.0	1177.0	1217.5	1237.1	1243.0	1243.3
115°	768.2	905.5	1021.7	1107.7	1166.9	1201.6	1217.5	1221.4
117.5°	711.9	830.4	934.6	1022.0	1083.7	1123.5	1146.2	1151.7
120°	682.2	788.7	883.5	963.2	1025.6	1069.9	1088.7	1093.5
122.5°	658.8	755.3	843.0	917.2	972.5	1012.3	1033.2	1039.2
125°	627.6	713.8	789.5	852.7	903.2	938.0	957.7	963.2
127.5°	600.6	677.2	745.7	803.1	848.1	877.8	895.6	900.7
130°	583.5	654.5	718.5	772.1	814.1	842.4	859.0	865.4
132.5°	567.6	633.1	692.6	743.8	783.0	811.5	826.2	830.6
135°	546.3	602.4	653.7	698.7	737.4	761.1	775.3	780.8
137.5°	526.9	572.9	617.1	656.1	688.6	712.7	724.7	728.3
140°	515.5	555.8	593.7	627.6	657.7	679.7	692.5	691.7
142.5°	504.8	539.4	572.3	601.8	627.3	646.9	658.3	657.5
145°	491.9	518.0	543.2	566.1	585.8	602.4	608.7	610.3
147.5°	481.3	502.0	522.4	538.7	553.6	564.8	570.9	571.5
150°	473.7	491.9	508.5	523.4	535.3	544.0	548.8	548.8
152.5°	466.8	482.4	497.1	509.6	518.9	526.9	529.8	529.8
155°	456.4	469.0	480.8	490.3	497.4	503.7	505.3	506.0
157.5°	445.2	455.9	465.0	472.4	478.6	483.3	484.6	484.4
160°	439.0	447.7	455.6	461.1	466.7	471.3	471.3	470.6
162.5°	431.4	438.8	446.1	451.0	454.6	458.7	458.7	458.0
165°	421.6	426.4	431.9	435.9	439.0	442.1	441.3	441.3
167.5°	413.0	416.7	419.9	422.7	424.1	426.4	425.6	425.6
170°	407.4	409.8	412.9	414.5	415.3	416.9	416.1	416.1
172.5°	402.3	404.0	406.6	407.6	407.7	409.3	407.9	407.3
175°	395.6	396.4	397.9	397.9	397.9	398.7	397.9	397.2
177.5°	391.3	391.9	392.5	392.5	391.9	392.5	391.3	391.3
180°	390.0	390.0	390.0	390.0	390.0	390.0	390.0	390.0

(END OF REPORT)