

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: P332990-935

Luminaire Tested: **S124RDIP-S1195D365U935-4F0-1E-UDD-F4**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332990-935
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-18,
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S124RDIP-S1195D365U935-4F0-1E-UDD-F4
Description: DEFINE 4 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 1195 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: 5275.8 lumens
Efficiency: N/A
Efficacy: 105.9 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.09 / 1.24
Luminous Opening: Rectangular (W 0.33' x L: 4' x H: 0')
CIE Type: Semi-Direct

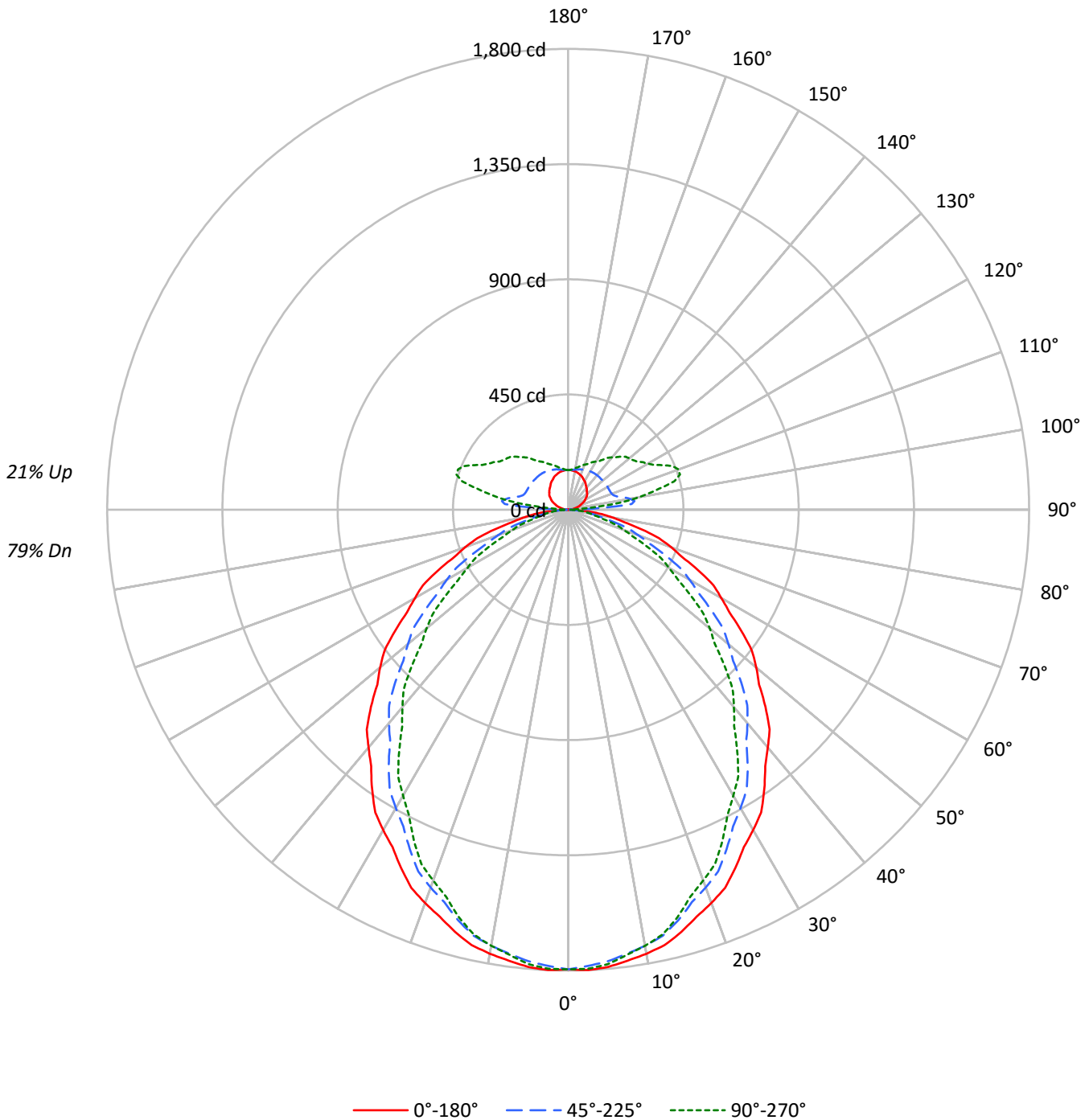
Input Watts (W): 49.8
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	114	114	114	114	109	109	109	109	99	99	99	90	90	90	82	82	82	79
1	105	100	96	93	100	96	93	89	88	85	83	80	78	76	74	72	71	67
2	96	88	82	77	91	84	79	74	78	73	69	71	68	65	65	63	60	57
3	88	78	70	64	83	75	68	62	69	63	59	63	59	55	58	55	52	49
4	80	69	61	55	77	67	59	53	61	55	50	57	52	48	52	48	45	42
5	74	62	54	48	71	60	52	46	55	49	44	51	46	42	47	43	39	37
6	68	56	48	42	65	54	46	41	50	44	39	46	41	37	43	38	35	32
7	64	51	43	37	61	49	41	36	46	39	34	42	37	33	39	35	31	29
8	59	46	38	33	56	45	37	32	42	35	31	39	33	29	36	32	28	26
9	55	43	35	30	53	41	34	29	39	32	28	36	31	27	34	29	25	23
10	52	39	32	27	50	38	31	26	36	30	25	33	28	24	31	27	23	21

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	14495	14495	14495
5°	14528	14350	14439
10°	14437	14178	14178
15°	14271	13881	13778
20°	14044	13489	13241
25°	13752	13030	12699
30°	13470	12547	12021
35°	13157	12046	11340
40°	12779	11475	10606
45°	12432	10909	9857
50°	12036	10257	9065
55°	11610	9578	8204
60°	11144	8835	7325
65°	10714	7904	6460
70°	10093	6878	5486
75°	9304	5705	4460
80°	8117	4347	4091
85°	6873	3946	3696



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	168.7	3.2
10°-20°	470.4	8.9
20°-30°	679.2	12.9
30°-40°	769.9	14.6
40°-50°	743.4	14.1
50°-60°	618.2	11.7
60°-70°	426.9	8.1
70°-80°	216.4	4.1
80°-90°	56.4	1.1
90°-100°	111.9	2.1
100°-110°	232.8	4.4
110°-120°	208.5	4.0
120°-130°	175.4	3.3
130°-140°	146.3	2.8
140°-150°	111.7	2.1
150°-160°	78.5	1.5
160°-170°	46.2	0.9
170°-180°	15.0	0.3
0°-30°	1318.2	25.0
0°-40°	2088.1	39.6
0°-60°	3449.7	65.4
0°-90°	4149.4	78.6
90°-120°	553.3	10.5
90°-150°	986.7	18.7
90°-180°	1126.0	21.3
0°-180°	5275.8	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1796	1796	1796	1796	1796	
5°	1793	1787	1771	1784	1782	170
15°	1708	1694	1661	1658	1648	481
25°	1544	1517	1463	1440	1426	711
35°	1335	1290	1222	1177	1151	834
45°	1089	1036	956	890	863	839
55°	825	768	680	612	583	738
65°	561	500	414	357	338	554
75°	298	247	183	152	143	315
85°	74	48	43	40	40	83
90°	0	2	6	6	6	4
95°	10	32	248	123	74	11
105°	36	52	200	430	428	38
115°	63	79	178	342	411	62
125°	87	104	177	291	328	78
135°	104	124	176	258	293	80
145°	120	137	175	218	239	75
155°	136	147	170	192	200	63
165°	148	153	163	172	175	42
175°	154	155	156	158	158	15
180°	155	155	155	155	155	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1795.5	1795.5	1795.5	1795.5	1795.5	1795.5	1795.5	1795.5	1795.5	1795.5	1795.5
2.5°	1799.9	1799.0	1798.0	1797.0	1796.0	1794.2	1791.6	1788.8	1786.1	1783.5	1786.1
5°	1792.8	1791.6	1790.4	1789.2	1788.0	1785.5	1781.8	1778.1	1774.5	1770.8	1773.8
7.5°	1776.6	1775.3	1774.0	1772.7	1771.4	1768.4	1763.7	1758.9	1754.1	1749.4	1751.4
10°	1761.2	1759.6	1758.2	1756.6	1755.1	1751.5	1746.1	1740.6	1735.1	1729.6	1730.8
12.5°	1741.4	1739.7	1737.8	1736.0	1734.3	1730.2	1723.7	1717.3	1710.7	1704.3	1705.0
15°	1707.5	1704.8	1702.1	1699.4	1696.6	1691.3	1683.8	1676.1	1668.4	1660.8	1660.2
17.5°	1666.6	1662.6	1658.6	1654.7	1650.7	1644.2	1635.0	1625.8	1616.6	1607.5	1605.8
20°	1634.7	1630.7	1626.8	1622.8	1618.9	1611.6	1601.3	1590.9	1580.5	1570.1	1567.6
22.5°	1599.5	1595.1	1590.6	1586.1	1581.7	1573.9	1562.7	1551.6	1540.5	1529.4	1525.7
25°	1543.9	1538.4	1532.9	1527.5	1522.0	1512.9	1500.5	1487.9	1475.4	1462.8	1457.7
27.5°	1485.7	1478.8	1471.9	1465.0	1458.0	1447.9	1434.5	1421.2	1407.7	1394.4	1387.9
30°	1445.0	1437.4	1429.7	1422.0	1414.5	1403.4	1389.1	1374.7	1360.4	1346.0	1338.3
32.5°	1402.1	1393.4	1384.8	1376.2	1367.6	1355.9	1341.0	1326.2	1311.3	1296.5	1287.6
35°	1335.0	1325.2	1315.4	1305.6	1295.9	1283.3	1268.1	1252.8	1237.5	1222.3	1211.9
37.5°	1263.3	1253.1	1243.0	1233.0	1222.9	1209.4	1192.5	1175.5	1158.6	1141.7	1130.1
40°	1212.6	1202.6	1192.5	1182.4	1172.3	1158.6	1141.2	1123.7	1106.3	1088.9	1076.1
42.5°	1164.2	1153.7	1143.1	1132.5	1122.0	1107.6	1089.4	1071.3	1053.2	1035.0	1021.9
45°	1088.9	1077.5	1066.3	1055.0	1043.7	1028.8	1010.6	992.2	973.9	955.5	940.6
47.5°	1011.1	999.4	987.7	976.0	964.4	949.0	930.0	910.9	891.8	872.8	857.2
50°	958.3	946.3	934.4	922.6	910.6	894.8	875.3	855.7	836.2	816.7	801.4
52.5°	904.4	892.7	881.1	869.4	857.7	841.8	821.8	801.8	781.7	761.6	746.1
55°	824.9	812.7	800.5	788.2	776.0	760.0	740.1	720.3	700.4	680.5	664.7
57.5°	746.2	733.6	720.8	708.2	695.4	679.3	659.8	640.2	620.6	601.1	585.0
60°	690.2	678.0	665.7	653.5	641.3	625.4	605.9	586.3	566.7	547.2	531.3
62.5°	639.6	626.9	614.2	601.5	588.8	572.4	552.3	532.3	512.2	492.2	477.5
65°	560.9	547.8	534.7	521.5	508.4	492.1	472.5	453.0	433.4	413.8	400.7
67.5°	479.2	466.7	454.1	441.5	429.0	413.5	395.4	377.3	359.1	341.0	329.7
70°	427.6	414.7	401.9	389.1	376.3	361.1	343.7	326.3	308.9	291.4	281.4
72.5°	372.6	361.0	349.4	337.8	326.1	312.1	295.7	279.2	262.8	246.3	237.7
75°	298.3	287.1	275.7	264.4	253.1	240.3	225.9	211.5	197.3	182.9	175.8
77.5°	223.0	213.4	203.8	194.2	184.6	174.0	162.4	150.8	139.2	127.6	123.5
80°	174.6	165.7	156.9	148.0	139.1	130.2	121.0	111.8	102.6	93.5	92.6
82.5°	132.9	124.7	116.6	108.4	100.3	93.6	88.3	83.1	77.8	72.6	71.9
85°	74.2	68.1	62.0	55.9	49.8	46.3	45.4	44.4	43.6	42.6	42.0
87.5°	25.4	23.5	21.8	19.9	18.0	16.9	17.0	16.7	16.6	16.5	16.2
90°	0.3	0.9	1.8	2.2	2.4	2.4	4.2	4.2	4.9	5.5	5.2
92.5°	3.4	5.1	7.9	11.6	16.1	22.4	37.9	61.5	84.5	96.5	80.4
95°	10.1	10.9	14.0	18.0	25.2	38.1	64.5	114.4	187.2	248.0	255.0
97.5°	18.0	18.0	20.7	24.3	30.6	41.2	61.6	102.9	175.1	261.2	320.4
100°	23.2	23.2	25.2	28.9	34.7	44.4	62.4	96.8	158.9	244.7	322.5
102.5°	28.0	28.5	30.4	33.8	39.3	48.6	64.8	95.1	147.9	223.9	304.3
105°	35.6	36.5	38.1	41.7	47.2	56.0	70.6	95.8	138.4	199.6	271.1
107.5°	44.0	44.6	46.1	50.0	55.3	64.0	77.3	100.4	136.7	186.0	244.4
110°	49.6	50.2	51.7	55.4	60.9	69.1	82.5	103.8	137.2	181.3	231.0



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	54.9	55.5	57.3	60.7	66.2	74.4	87.3	107.5	138.7	179.2	223.4
115°	62.7	63.6	65.7	68.8	74.6	82.7	95.0	113.2	141.5	178.1	216.4
117.5°	70.7	71.5	73.4	76.8	82.2	90.7	102.3	119.1	144.5	177.7	213.2
120°	76.1	76.7	78.8	82.1	87.3	95.8	107.5	123.2	146.7	177.7	211.5
122.5°	80.9	81.5	83.7	86.8	92.5	100.7	112.3	127.2	148.9	177.5	209.6
125°	87.3	88.5	90.4	93.8	99.5	108.1	119.0	132.9	152.1	177.1	206.3
127.5°	93.0	93.9	96.2	100.0	106.0	114.6	125.2	138.0	154.8	176.4	202.0
130°	96.2	97.4	99.8	104.4	110.1	119.0	129.3	141.2	156.7	176.2	199.3
132.5°	99.4	100.3	103.5	107.8	114.1	122.3	132.8	144.4	158.4	176.0	196.9
135°	103.8	105.0	108.1	113.2	119.6	127.5	137.5	148.5	161.0	175.6	193.2
137.5°	108.2	109.3	112.7	117.6	124.2	131.8	141.2	151.4	162.5	175.6	190.1
140°	111.4	112.3	115.6	120.8	127.2	134.5	143.6	153.3	163.7	175.3	188.4
142.5°	114.8	115.7	118.8	123.7	129.8	136.9	145.9	154.8	164.7	175.3	186.9
145°	119.6	120.5	123.6	127.8	133.6	140.3	148.2	156.4	165.2	174.7	184.4
147.5°	125.0	125.3	128.0	132.3	137.2	143.2	150.6	157.8	165.6	173.6	182.2
150°	128.4	128.7	131.1	134.8	139.4	145.2	151.9	158.5	165.6	172.8	180.5
152.5°	131.6	131.6	134.1	137.5	141.5	146.9	152.8	159.0	165.1	171.6	178.5
155°	136.0	136.3	138.2	141.2	144.6	149.1	154.3	159.5	164.4	169.8	175.6
157.5°	140.3	140.3	142.1	144.4	147.3	150.9	155.3	159.5	163.5	167.9	172.6
160°	143.0	143.0	144.2	146.4	148.8	152.1	155.8	159.5	162.8	166.4	170.4
162.5°	145.4	145.3	146.2	148.1	150.2	152.9	156.3	159.5	162.0	165.0	168.5
165°	148.2	148.2	148.8	150.3	151.9	153.7	156.4	158.9	160.7	162.8	165.2
167.5°	150.9	150.6	150.9	152.1	152.9	154.4	156.4	158.1	159.2	160.6	162.3
170°	152.1	151.9	152.1	153.1	153.7	154.5	156.1	157.6	158.3	159.1	160.4
172.5°	153.3	153.1	153.1	153.8	154.1	154.8	155.8	157.1	157.3	157.6	158.7
175°	154.5	154.3	154.3	154.5	154.9	154.9	155.5	156.4	156.1	156.1	156.7
177.5°	155.2	154.9	154.6	154.9	154.9	154.9	155.2	155.6	155.2	155.2	155.4
180°	154.9	154.9	154.9	154.9	154.9	154.9	154.9	154.9	154.9	154.9	154.9



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1795.5	1795.5	1795.5	1795.5	1795.5	1795.5	1795.5	1795.5
2.5°	1788.8	1791.6	1794.2	1795.4	1795.2	1794.9	1794.7	1794.5
5°	1776.9	1779.9	1783.0	1784.3	1783.6	1783.0	1782.4	1781.8
7.5°	1753.3	1755.2	1757.2	1757.6	1756.7	1755.8	1754.7	1753.8
10°	1732.0	1733.2	1734.5	1734.5	1733.2	1732.0	1730.8	1729.6
12.5°	1705.7	1706.5	1707.2	1706.7	1705.0	1703.3	1701.6	1699.9
15°	1659.6	1659.0	1658.4	1657.0	1654.8	1652.7	1650.6	1648.5
17.5°	1604.0	1602.3	1600.6	1598.2	1594.9	1591.6	1588.5	1585.2
20°	1565.2	1562.7	1560.3	1557.1	1553.2	1549.2	1545.2	1541.2
22.5°	1522.1	1518.4	1514.8	1511.3	1508.0	1504.8	1501.6	1498.3
25°	1452.4	1447.3	1442.1	1438.0	1434.9	1431.8	1428.7	1425.7
27.5°	1381.6	1375.1	1368.7	1363.3	1358.9	1354.5	1350.1	1345.7
30°	1330.7	1323.1	1315.4	1309.2	1304.2	1299.4	1294.5	1289.6
32.5°	1278.8	1269.9	1261.0	1254.3	1249.7	1245.0	1240.4	1235.7
35°	1201.4	1191.1	1180.7	1172.8	1167.3	1161.7	1156.2	1150.7
37.5°	1118.4	1106.8	1095.3	1086.7	1081.2	1075.6	1070.2	1064.7
40°	1063.2	1050.4	1037.6	1028.4	1022.9	1017.4	1011.9	1006.4
42.5°	1008.8	995.7	982.7	973.3	967.5	961.8	956.1	950.3
45°	925.6	910.6	895.6	885.4	879.9	874.4	868.9	863.4
47.5°	841.7	826.2	810.7	799.9	793.8	787.8	781.7	775.7
50°	786.1	770.9	755.5	745.0	739.3	733.4	727.6	721.8
52.5°	730.6	715.1	699.6	688.8	682.8	676.7	670.6	664.6
55°	648.8	632.9	617.0	606.1	600.4	594.5	588.8	582.9
57.5°	568.9	552.7	536.6	526.3	521.9	517.5	513.1	508.7
60°	515.4	499.6	483.6	473.3	468.4	463.5	458.6	453.7
62.5°	462.9	448.2	433.5	424.2	420.3	416.5	412.5	408.6
65°	387.5	374.4	361.3	352.8	349.2	345.5	341.9	338.2
67.5°	318.4	307.0	295.8	288.1	284.0	280.0	276.0	271.9
70°	271.3	261.2	251.2	244.6	241.5	238.5	235.4	232.4
72.5°	229.1	220.5	211.9	206.2	203.4	200.6	197.8	194.9
75°	168.8	161.8	154.7	150.3	148.5	146.6	144.8	143.0
77.5°	119.4	115.3	111.2	108.9	108.3	107.8	107.3	106.7
80°	91.7	90.7	89.8	89.2	88.9	88.6	88.3	88.0
82.5°	71.3	70.6	69.9	69.4	69.1	68.8	68.5	68.2
85°	41.4	40.8	40.2	39.9	39.9	39.9	39.9	39.9
87.5°	16.0	15.8	15.7	15.7	15.9	16.3	16.4	16.7
90°	5.5	5.8	6.1	6.1	6.4	6.7	6.4	6.4
92.5°	59.8	44.9	35.8	29.7	26.1	24.5	23.4	23.4
95°	225.5	178.3	137.5	108.1	93.1	83.7	78.2	74.2
97.5°	333.1	315.6	285.9	254.1	232.2	214.0	204.8	198.5
100°	367.0	373.1	358.2	335.6	309.2	290.6	281.5	279.1
102.5°	365.3	395.5	399.8	390.4	374.2	360.8	351.1	349.1
105°	340.8	393.5	423.6	436.1	436.7	434.2	430.0	428.2
107.5°	306.1	362.1	404.5	431.7	446.7	453.7	456.7	457.4
110°	285.2	337.8	381.9	415.3	437.0	449.8	455.2	458.0



TEST NUMBER: P332990-935

CATALOG NUMBER: S124RDIP-S1195D365U935-4F0-1E-UDD-F4

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	269.8	316.3	358.0	391.5	416.0	431.5	439.2	443.6
115°	254.4	291.8	327.4	356.6	380.6	398.9	408.7	411.1
117.5°	246.8	277.8	305.8	330.6	351.1	366.4	376.3	378.2
120°	243.4	271.7	296.1	317.7	335.0	348.4	356.4	359.7
122.5°	240.5	267.9	290.0	308.9	323.6	335.0	341.7	345.1
125°	235.6	261.7	282.7	299.5	311.6	320.5	326.2	328.0
127.5°	229.5	254.4	275.4	291.3	303.5	311.3	316.2	318.1
130°	224.5	248.7	269.3	285.4	297.9	305.5	310.4	312.2
132.5°	219.5	242.0	262.3	278.4	290.6	299.2	303.8	305.7
135°	212.4	232.2	250.7	266.0	278.1	286.6	291.5	293.3
137.5°	206.0	222.7	238.4	252.1	263.6	271.9	276.0	278.1
140°	202.3	216.6	230.3	243.1	253.8	260.5	264.8	267.2
142.5°	199.0	211.5	223.3	234.4	243.8	250.0	253.8	255.5
145°	194.2	204.5	213.6	222.1	229.7	234.9	238.0	239.4
147.5°	190.2	198.4	205.7	212.4	218.0	222.5	224.7	225.3
150°	187.8	194.8	200.9	206.3	211.2	215.2	217.0	217.2
152.5°	185.1	191.1	196.7	201.2	205.3	208.5	209.7	210.0
155°	181.1	185.9	190.5	194.2	197.2	199.6	200.5	200.5
157.5°	176.8	180.8	184.7	187.6	189.9	191.7	192.3	192.3
160°	174.1	177.4	180.7	183.2	185.0	186.8	187.2	187.2
162.5°	171.4	174.3	176.8	179.1	180.4	182.2	182.5	182.3
165°	167.6	169.5	171.6	173.1	174.4	175.6	175.3	175.0
167.5°	164.1	165.5	167.2	168.1	168.7	169.5	169.4	169.2
170°	161.9	162.8	164.0	165.0	165.6	165.8	165.6	165.6
172.5°	160.0	160.6	161.4	162.0	162.4	162.6	162.4	161.9
175°	157.3	157.6	158.3	158.3	158.3	158.9	158.3	157.6
177.5°	155.6	155.8	155.8	156.1	155.8	156.1	155.6	155.2
180°	154.9	154.9	154.9	154.9	154.9	154.9	154.9	154.9

(END OF REPORT)