

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: P332365-935

Luminaire Tested: **S123RDIP-S1165D365U935-4F0-1E-UDD-F4**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332365-935
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-S1165D365U935-4F0-1E-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: 4901.9 lumens
Efficiency: N/A
Efficacy: 98.4 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

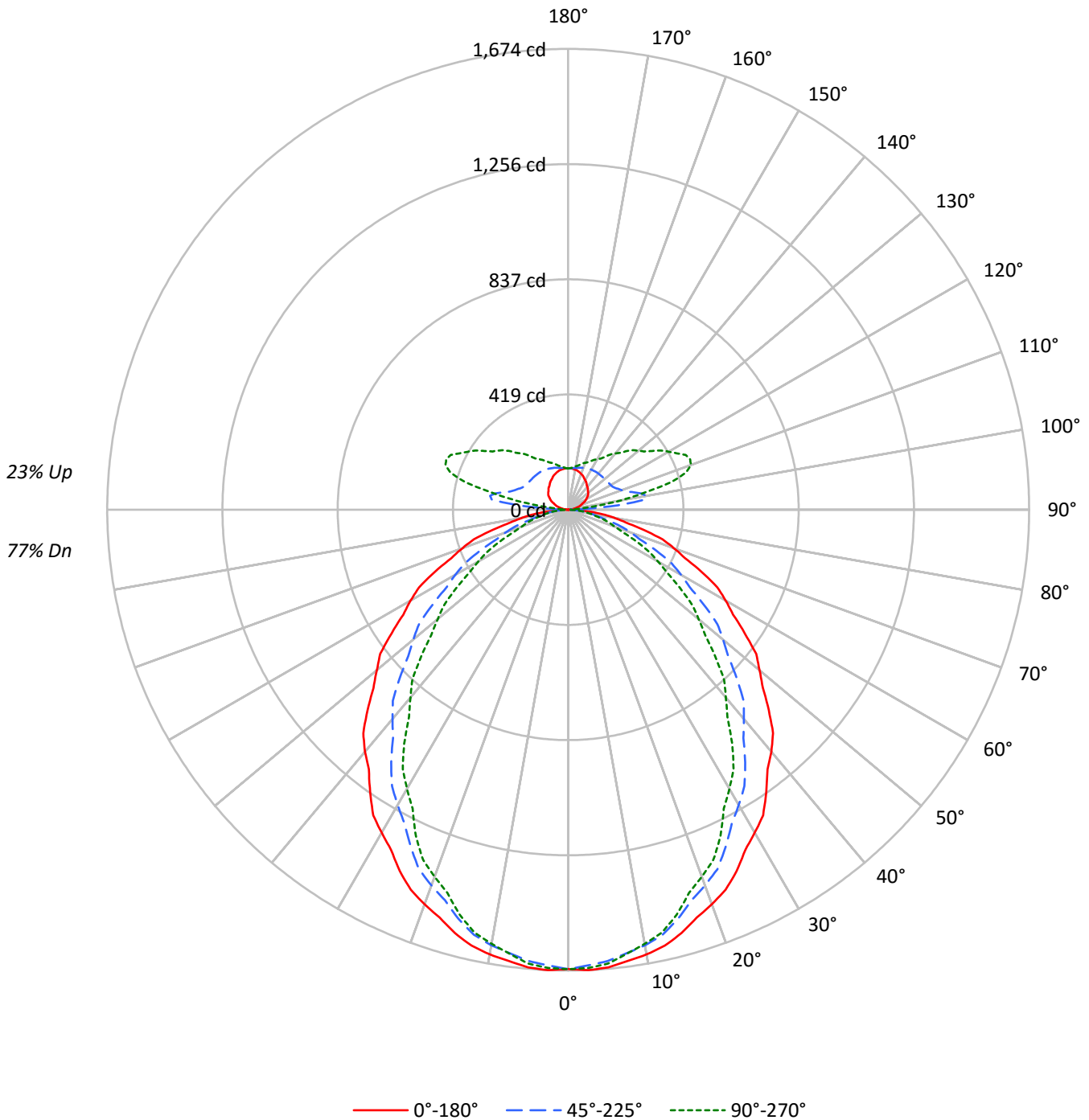
Input Watts (W): 49.8
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	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°	17963	17963	17963
5°	18031	17782	17884
10°	17930	17559	17500
15°	17736	17149	16967
20°	17472	16635	16247
25°	17199	16057	15543
30°	16839	15392	14551
35°	16469	14725	13641
40°	16127	13939	12513
45°	15678	13164	11496
50°	15185	12285	10357
55°	14681	11277	9295
60°	14219	10198	8129
65°	13616	9032	6963
70°	12862	7582	5624
75°	11761	5964	5294
80°	10488	5281	4866
85°	8855	4681	4347



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	156.7	3.2
10°-20°	436.0	8.9
20°-30°	627.8	12.8
30°-40°	707.2	14.4
40°-50°	676.5	13.8
50°-60°	554.0	11.3
60°-70°	373.8	7.6
70°-80°	188.1	3.8
80°-90°	50.9	1.0
90°-100°	83.7	1.7
100°-110°	236.9	4.8
110°-120°	233.0	4.8
120°-130°	185.8	3.8
130°-140°	146.5	3.0
140°-150°	109.4	2.2
150°-160°	76.2	1.6
160°-170°	44.8	0.9
170°-180°	14.6	0.3
0°-30°	1220.5	24.9
0°-40°	1927.7	39.3
0°-60°	3158.3	64.4
0°-90°	3771.0	76.9
90°-120°	553.5	11.3
90°-150°	995.3	20.3
90°-180°	1131.0	23.1
0°-180°	4901.9	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1669	1669	1669	1669	1669	
5°	1669	1662	1646	1657	1655	158
15°	1592	1575	1539	1532	1523	448
25°	1448	1413	1352	1324	1309	666
35°	1253	1203	1121	1064	1038	784
45°	1030	967	865	790	755	794
55°	782	713	601	525	495	701
65°	535	458	355	291	273	529
75°	283	217	143	131	127	302
85°	72	43	38	35	35	81
90°	1	4	8	8	9	4
95°	10	34	180	53	35	11
105°	35	52	245	428	387	38
115°	62	78	187	410	471	62
125°	87	102	175	316	371	77
135°	102	121	172	261	301	79
145°	116	133	170	214	235	73
155°	132	142	165	187	195	61
165°	144	148	158	167	170	41
175°	150	150	151	153	153	14
180°	150	150	150	150	150	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1668.8	1668.8	1668.8	1668.8	1668.8	1668.8	1668.8	1668.8	1668.8	1668.8	1668.8
2.5°	1674.2	1673.2	1672.2	1671.3	1670.3	1668.4	1665.5	1662.6	1659.7	1656.8	1659.5
5°	1668.8	1667.2	1665.8	1664.2	1662.8	1660.2	1656.6	1652.9	1649.3	1645.7	1648.5
7.5°	1653.3	1651.7	1650.1	1648.5	1646.8	1643.6	1639.0	1634.3	1629.6	1624.9	1626.4
10°	1640.4	1638.2	1636.2	1634.0	1631.9	1628.2	1622.7	1617.3	1611.9	1606.5	1606.8
12.5°	1622.0	1619.6	1617.2	1614.9	1612.6	1608.1	1601.5	1594.8	1588.2	1581.6	1581.4
15°	1591.6	1588.3	1585.0	1581.7	1578.4	1572.5	1564.1	1555.7	1547.2	1538.9	1537.3
17.5°	1553.4	1549.6	1545.8	1541.9	1538.1	1530.8	1520.1	1509.3	1498.7	1488.0	1484.8
20°	1525.3	1520.5	1515.7	1510.9	1506.1	1498.0	1486.5	1475.1	1463.6	1452.2	1448.3
22.5°	1493.9	1488.3	1482.8	1477.3	1471.8	1462.9	1450.8	1438.6	1426.5	1414.3	1409.5
25°	1448.1	1440.6	1433.1	1425.6	1418.1	1407.4	1393.5	1379.8	1365.9	1352.0	1345.7
27.5°	1392.7	1384.4	1376.1	1367.8	1359.4	1347.6	1332.2	1316.8	1301.4	1286.0	1277.2
30°	1354.8	1345.7	1336.7	1327.7	1318.7	1305.7	1288.9	1272.0	1255.3	1238.4	1228.1
32.5°	1316.9	1306.7	1296.4	1286.2	1276.0	1262.0	1244.1	1226.3	1208.5	1190.8	1179.6
35°	1253.3	1242.4	1231.6	1220.8	1210.0	1195.2	1176.6	1158.0	1139.3	1120.6	1107.7
37.5°	1188.9	1176.8	1164.8	1152.7	1140.7	1124.7	1104.8	1084.9	1065.1	1045.1	1030.4
40°	1147.7	1134.5	1121.2	1108.0	1094.8	1077.5	1056.1	1034.7	1013.4	992.0	976.4
42.5°	1101.1	1087.9	1074.7	1061.4	1048.2	1030.5	1008.5	986.4	964.3	942.3	925.1
45°	1029.9	1016.4	1002.9	989.4	975.8	957.4	934.3	911.1	887.9	864.8	847.7
47.5°	958.7	943.9	929.0	914.2	899.3	880.3	857.1	834.0	810.8	787.7	769.0
50°	906.8	892.7	878.5	864.4	850.2	831.0	806.7	782.3	757.9	733.6	714.9
52.5°	860.2	844.9	829.6	814.2	798.8	779.1	755.0	730.9	706.8	682.7	663.3
55°	782.3	767.5	752.8	738.0	723.3	703.2	677.6	652.0	626.5	600.9	583.5
57.5°	710.2	694.2	678.1	662.1	646.0	625.2	599.5	573.8	548.1	522.5	505.9
60°	660.5	643.9	627.4	610.9	594.3	573.5	548.5	523.7	498.7	473.7	457.4
62.5°	610.6	594.1	577.6	561.0	544.5	523.7	498.8	473.8	448.8	423.9	408.6
65°	534.6	518.1	501.5	485.0	468.5	448.4	425.0	401.5	378.1	354.6	339.8
67.5°	458.6	441.8	425.1	408.4	391.7	372.0	349.6	327.0	304.5	282.1	271.0
70°	408.7	392.5	376.3	360.0	343.8	325.1	304.1	283.0	262.0	240.9	230.4
72.5°	359.0	342.9	326.9	310.9	294.9	277.3	258.2	239.1	220.0	200.9	192.3
75°	282.8	268.5	254.0	239.5	225.2	209.7	193.1	176.5	160.0	143.4	140.4
77.5°	213.5	200.5	187.4	174.4	161.4	149.5	138.9	128.2	117.5	106.9	105.3
80°	169.2	156.9	144.5	132.2	119.9	110.6	104.2	97.9	91.6	85.2	84.4
82.5°	126.9	116.3	105.6	95.0	84.4	77.6	74.6	71.6	68.7	65.8	64.8
85°	71.7	65.1	58.5	51.9	45.3	41.5	40.6	39.7	38.8	37.9	37.3
87.5°	26.1	23.6	21.1	18.6	16.1	14.9	15.1	15.2	15.4	15.6	15.3
90°	0.6	1.2	1.8	2.8	3.4	4.0	4.9	5.8	6.7	7.6	7.3
92.5°	3.8	5.6	8.2	10.5	13.1	17.6	25.6	38.7	51.5	46.8	35.3
95°	10.3	11.3	14.6	19.8	27.7	39.5	65.4	110.7	160.7	180.5	146.4
97.5°	17.7	17.9	20.6	25.1	32.9	45.7	70.4	121.5	204.7	279.7	299.1
100°	22.6	22.8	25.0	29.2	36.5	48.4	69.7	114.7	194.8	288.2	348.1
102.5°	27.6	28.2	30.0	34.1	40.6	51.6	70.7	108.8	180.1	272.3	350.5
105°	35.3	36.2	38.1	41.7	47.4	56.9	73.4	104.7	162.2	244.6	331.9
107.5°	43.5	44.3	46.1	49.7	55.1	63.9	78.4	104.4	150.8	220.2	299.5
110°	49.2	50.2	51.7	55.1	60.3	68.8	82.5	105.6	146.4	206.3	279.1



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	54.7	55.5	57.1	60.4	65.6	73.9	86.6	108.1	143.9	197.0	261.2
115°	62.3	63.6	65.4	68.4	73.6	81.9	93.4	111.9	143.0	187.1	239.8
117.5°	70.1	71.5	73.0	75.9	81.6	89.2	100.7	117.2	143.5	181.2	226.8
120°	75.4	76.4	77.9	80.9	86.7	94.3	105.3	121.1	144.6	178.6	220.0
122.5°	80.1	81.0	82.5	85.8	91.4	99.4	110.1	124.8	146.2	176.9	214.4
125°	86.7	87.3	89.1	92.5	98.2	106.5	117.2	130.5	148.8	174.6	207.2
127.5°	91.8	92.6	95.0	98.3	104.7	113.0	123.2	135.3	151.7	173.6	200.9
130°	95.0	95.8	98.6	102.2	108.7	116.8	126.9	138.4	153.7	172.8	197.4
132.5°	97.4	98.5	101.5	105.9	112.3	120.3	130.0	141.4	155.2	172.5	194.3
135°	101.6	102.8	106.2	110.7	117.2	125.4	134.7	145.2	157.3	172.2	190.2
137.5°	105.6	106.9	110.2	115.0	121.4	129.0	138.1	147.9	158.8	171.5	186.6
140°	108.3	109.9	112.9	117.8	123.8	131.5	140.3	149.4	159.7	171.3	184.3
142.5°	111.2	112.5	115.8	120.2	126.3	133.4	142.0	150.8	160.5	170.8	182.4
145°	115.9	116.8	119.6	124.2	129.3	136.3	144.2	152.4	160.9	170.0	179.8
147.5°	120.7	121.2	123.9	127.9	132.9	138.8	146.0	153.4	160.9	168.9	177.3
150°	123.8	124.2	126.6	130.5	134.7	140.3	147.2	153.7	160.9	168.0	175.6
152.5°	127.0	127.1	129.5	132.9	136.7	142.0	148.0	154.1	160.2	166.8	173.6
155°	131.7	131.7	133.5	136.6	140.0	144.2	149.4	154.3	159.5	164.6	170.7
157.5°	135.5	135.8	137.2	139.9	142.8	146.0	150.2	154.5	158.4	162.7	167.4
160°	138.4	138.4	139.7	142.1	144.2	147.2	150.9	154.5	157.9	161.3	165.2
162.5°	140.6	140.6	141.6	143.5	145.4	148.0	151.2	154.3	157.0	159.8	163.0
165°	143.9	143.6	144.2	145.8	147.0	149.1	151.5	153.7	155.5	157.6	160.1
167.5°	146.4	146.0	146.4	147.5	148.4	149.7	151.4	153.2	154.0	155.4	157.2
170°	147.8	147.2	147.6	148.4	149.1	149.7	151.2	152.4	153.1	153.9	155.5
172.5°	148.9	148.4	148.5	149.2	149.6	149.9	151.2	152.2	152.3	152.7	153.8
175°	150.0	149.7	149.4	150.0	150.0	150.3	150.9	151.5	151.2	151.2	151.8
177.5°	150.6	150.3	150.1	150.3	150.3	150.3	150.6	151.0	150.6	150.3	150.6
180°	150.3	150.3	150.3	150.3	150.3	150.3	150.3	150.3	150.3	150.3	150.3



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1668.8	1668.8	1668.8	1668.8	1668.8	1668.8	1668.8	1668.8
2.5°	1662.2	1664.8	1667.4	1668.5	1668.0	1667.6	1667.1	1666.6
5°	1651.1	1653.9	1656.6	1657.6	1657.0	1656.4	1655.8	1655.2
7.5°	1627.9	1629.4	1630.9	1631.2	1630.1	1629.1	1628.1	1627.0
10°	1607.1	1607.4	1607.7	1607.1	1605.6	1604.1	1602.6	1601.1
12.5°	1581.2	1581.1	1580.9	1579.9	1578.2	1576.4	1574.7	1573.0
15°	1535.9	1534.3	1532.8	1531.0	1528.9	1526.8	1524.7	1522.6
17.5°	1481.6	1478.3	1475.2	1472.1	1468.9	1465.8	1462.7	1459.5
20°	1444.4	1440.5	1436.6	1432.8	1429.2	1425.6	1422.0	1418.4
22.5°	1404.5	1399.7	1394.8	1390.7	1387.3	1384.0	1380.6	1377.3
25°	1339.5	1333.1	1326.8	1322.0	1318.7	1315.3	1312.1	1308.7
27.5°	1268.4	1259.6	1250.9	1244.0	1238.9	1233.9	1228.8	1223.7
30°	1217.9	1207.7	1197.5	1190.0	1185.2	1180.3	1175.5	1170.7
32.5°	1168.4	1157.2	1146.0	1137.9	1132.8	1127.7	1122.7	1117.7
35°	1094.8	1081.8	1068.9	1059.7	1054.3	1048.9	1043.4	1038.1
37.5°	1015.7	1001.1	986.4	975.7	969.1	962.3	955.7	949.0
40°	960.8	945.1	929.5	918.3	911.3	904.4	897.5	890.5
42.5°	908.1	891.0	873.9	862.3	856.1	849.9	843.7	837.5
45°	830.5	813.4	796.3	784.1	776.9	769.6	762.4	755.2
47.5°	750.4	731.8	713.1	700.6	694.1	687.7	681.2	674.9
50°	696.3	677.6	658.9	646.2	639.3	632.3	625.4	618.5
52.5°	643.9	624.6	605.2	592.4	586.2	580.1	573.9	567.7
55°	566.0	548.5	531.2	519.4	513.4	507.4	501.4	495.3
57.5°	489.5	472.9	456.5	445.7	440.6	435.5	430.3	425.2
60°	441.2	425.0	408.7	398.0	393.0	387.8	382.7	377.6
62.5°	393.3	378.1	362.7	352.5	347.1	341.7	336.4	331.1
65°	325.1	310.4	295.7	286.6	283.4	280.0	276.7	273.4
67.5°	260.0	249.0	238.0	230.7	227.2	223.6	220.1	216.5
70°	219.8	209.3	198.8	191.9	188.6	185.3	181.9	178.7
72.5°	183.7	175.0	166.4	161.4	160.1	158.7	157.3	155.9
75°	137.4	134.4	131.4	129.7	129.1	128.5	127.9	127.3
77.5°	103.7	102.0	100.4	99.3	98.7	98.1	97.5	96.9
80°	83.4	82.6	81.6	80.9	80.3	79.7	79.1	78.5
82.5°	64.0	63.1	62.2	61.6	61.6	61.4	61.3	61.2
85°	36.7	36.1	35.5	35.2	35.2	35.2	35.2	35.2
87.5°	15.2	14.9	14.7	14.6	14.4	14.1	13.9	13.7
90°	7.6	7.9	8.2	8.8	8.5	8.8	9.1	8.8
92.5°	25.7	20.3	17.9	16.4	15.8	14.9	15.2	14.6
95°	109.5	74.2	58.1	47.2	41.4	38.7	36.5	35.3
97.5°	273.0	218.7	179.4	143.1	120.6	106.9	98.7	96.1
100°	358.7	334.1	298.5	255.3	224.5	202.3	190.5	190.8
102.5°	387.2	386.4	365.7	338.3	314.4	296.8	286.9	279.8
105°	395.5	425.9	431.7	423.9	409.8	398.3	388.6	387.0
107.5°	371.5	420.9	447.6	458.5	458.7	454.8	451.5	448.8
110°	348.7	404.7	443.0	464.3	472.9	475.3	474.7	474.1



TEST NUMBER: P332365-935

CATALOG NUMBER: S123RDIP-S1165D365U935-4F0-1E-UDD-F4

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	326.1	383.2	426.2	453.6	469.2	476.7	479.1	479.1
115°	296.0	349.0	393.7	426.9	449.7	463.0	469.2	470.7
117.5°	274.3	320.0	360.2	393.8	417.7	433.0	441.7	443.8
120°	262.9	303.9	340.4	371.2	395.2	412.2	419.6	421.4
122.5°	253.9	291.0	324.9	353.4	374.8	390.1	398.1	400.5
125°	241.9	275.1	304.3	328.6	348.1	361.4	369.1	371.2
127.5°	231.4	261.0	287.3	309.5	326.8	338.3	345.2	347.1
130°	224.8	252.3	276.9	297.6	313.7	324.7	331.1	333.5
132.5°	218.8	243.9	266.9	286.6	301.8	312.7	318.4	320.1
135°	210.5	232.1	251.9	269.2	284.2	293.3	298.8	300.9
137.5°	203.0	220.8	237.8	252.9	265.4	274.7	279.2	280.7
140°	198.7	214.2	228.8	241.9	253.5	262.0	266.8	266.6
142.5°	194.6	207.8	220.5	231.9	241.8	249.3	253.7	253.4
145°	189.6	199.6	209.3	218.2	225.8	232.1	234.6	235.2
147.5°	185.5	193.5	201.3	207.6	213.4	217.7	220.0	220.2
150°	182.5	189.6	196.0	201.7	206.3	209.7	211.5	211.5
152.5°	179.9	185.9	191.6	196.4	199.9	203.0	204.1	204.1
155°	175.9	180.7	185.3	188.9	191.7	194.2	194.8	195.0
157.5°	171.6	175.6	179.2	182.1	184.4	186.2	186.8	186.7
160°	169.2	172.5	175.6	177.7	179.8	181.7	181.7	181.3
162.5°	166.3	169.1	171.9	173.8	175.2	176.8	176.8	176.5
165°	162.5	164.3	166.4	168.0	169.2	170.4	170.0	170.0
167.5°	159.2	160.6	161.8	162.9	163.4	164.3	164.0	164.0
170°	157.0	157.9	159.1	159.7	160.1	160.7	160.3	160.3
172.5°	155.1	155.8	156.7	157.0	157.1	157.7	157.2	157.0
175°	152.4	152.7	153.3	153.3	153.3	153.7	153.3	153.1
177.5°	150.8	151.0	151.3	151.3	151.0	151.3	150.8	150.8
180°	150.3	150.3	150.3	150.3	150.3	150.3	150.3	150.3

(END OF REPORT)