

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: P332363-930

Luminaire Tested: **S123RDIP-S1165D365U930-4F0-1E-UDD-F**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332363-930
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-S1165D365U930-4F0-1E-UDD-F
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 1165 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED
HOUSING
UPLIGHT 365 LUMENS PER FOOT, NO LENS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4753.4 lumens
Efficiency: N/A
Efficacy: 95.5 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

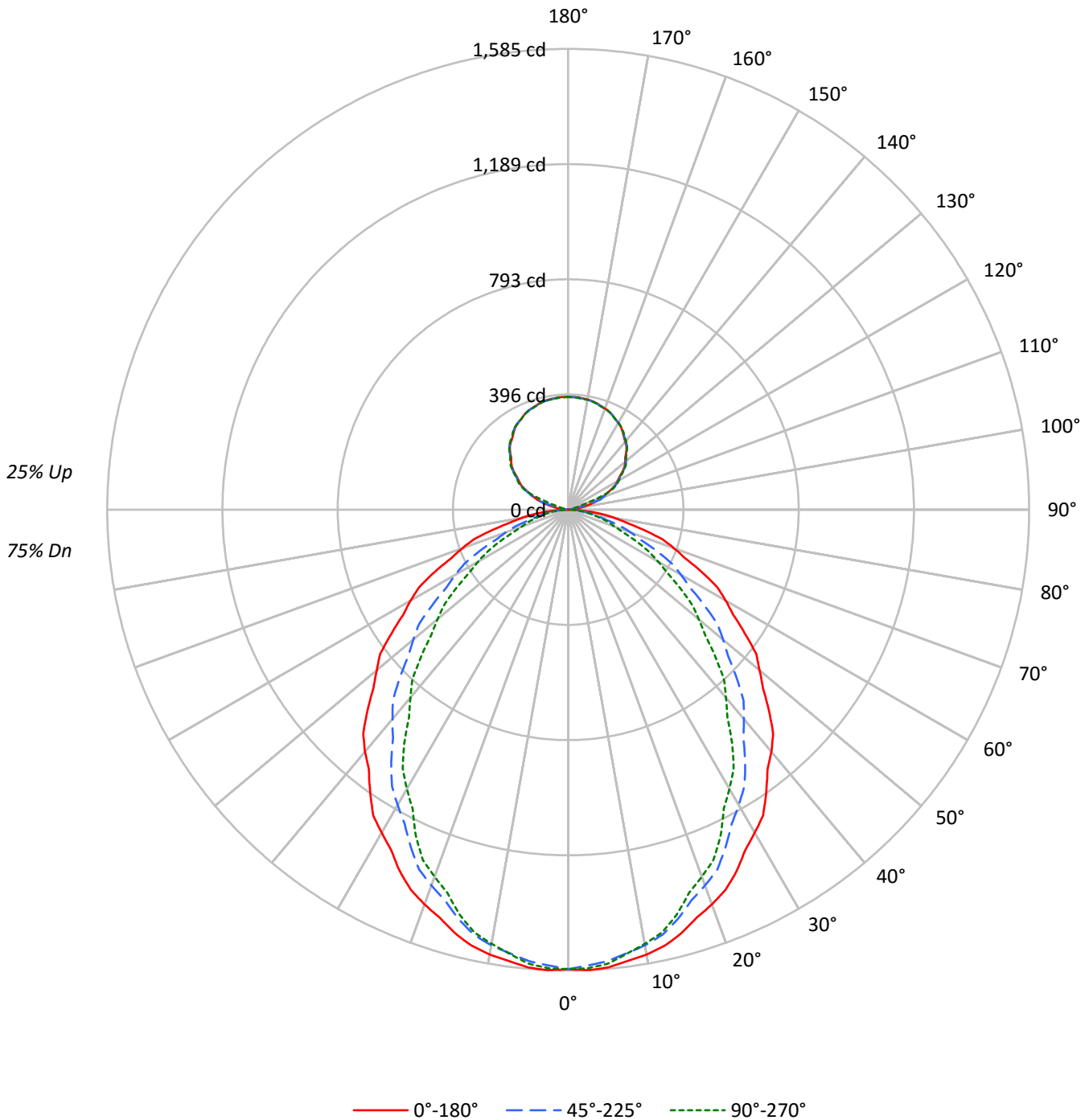
Input Watts (W): 49.8
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10
RCR																	
0	113	113	113	113	108	108	108	108	97	97	97	88	88	88	79	79	79
1	104	100	96	92	99	95	92	88	86	84	81	78	76	74	71	69	68
2	95	88	81	76	90	84	78	73	76	72	68	69	66	63	63	60	58
3	87	77	70	64	83	74	67	62	68	62	58	62	57	54	56	53	50
4	80	69	61	55	76	66	59	53	60	55	50	55	50	47	51	47	43
5	74	62	54	47	70	59	52	46	54	48	43	50	45	41	46	42	38
6	68	56	48	42	65	54	46	40	49	43	38	45	40	36	42	37	34
7	63	51	43	37	60	49	41	36	45	39	34	41	36	32	38	34	30
8	59	46	38	33	56	45	37	32	41	35	30	38	33	29	35	31	27
9	55	42	35	30	52	41	34	29	38	32	27	35	30	26	33	28	25
10	52	39	32	27	49	38	31	26	35	29	25	33	27	24	30	26	23

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	17009	17009	17009
5°	17074	16839	16935
10°	16978	16628	16571
15°	16796	16238	16067
20°	16544	15753	15385
25°	16286	15206	14719
30°	15945	14574	13779
35°	15594	13943	12917
40°	15271	13200	11849
45°	14846	12466	10886
50°	14380	11632	9808
55°	13902	10678	8801
60°	13464	9657	7698
65°	12893	8550	6594
70°	12180	7179	5325
75°	11137	5648	5011
80°	9930	5002	4612
85°	8386	4434	4113



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	148.4	3.1
10°-20°	412.9	8.7
20°-30°	594.5	12.5
30°-40°	669.6	14.1
40°-50°	640.6	13.5
50°-60°	524.6	11.0
60°-70°	354.0	7.4
70°-80°	178.1	3.7
80°-90°	48.2	1.0
90°-100°	14.1	0.3
100°-110°	67.2	1.4
110°-120°	161.4	3.4
120°-130°	205.5	4.3
130°-140°	219.6	4.6
140°-150°	205.4	4.3
150°-160°	165.6	3.5
160°-170°	106.9	2.2
170°-180°	36.8	0.8
0°-30°	1155.7	24.3
0°-40°	1825.4	38.4
0°-60°	2990.6	62.9
0°-90°	3570.9	75.1
90°-120°	242.7	5.1
90°-150°	873.2	18.4
90°-180°	1183.0	24.9
0°-180°	4753.4	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1580	1580	1580	1580	1580	
5°	1580	1573	1558	1569	1567	150
15°	1507	1492	1457	1451	1442	424
25°	1371	1338	1280	1254	1239	630
35°	1187	1139	1061	1008	983	742
45°	975	915	819	748	715	752
55°	741	675	569	497	469	664
65°	506	434	336	276	259	501
75°	268	206	136	124	120	286
85°	68	41	36	33	33	76
90°	0	3	7	8	9	4
95°	18	7	9	11	11	22
105°	86	87	63	15	13	91
115°	161	163	165	168	169	159
125°	227	229	230	231	232	203
135°	283	284	286	286	286	217
145°	326	328	329	329	329	204
155°	359	359	359	360	359	165
165°	379	378	378	380	378	107
175°	388	386	387	388	386	37
180°	388	388	388	388	388	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1580.2	1580.2	1580.2	1580.2	1580.2	1580.2	1580.2	1580.2	1580.2	1580.2	1580.2
2.5°	1585.3	1584.4	1583.5	1582.6	1581.7	1579.8	1577.1	1574.3	1571.7	1568.9	1571.4
5°	1580.2	1578.7	1577.4	1575.9	1574.5	1572.1	1568.6	1565.2	1561.8	1558.4	1561.0
7.5°	1565.5	1564.1	1562.5	1561.0	1559.4	1556.4	1552.0	1547.5	1543.1	1538.6	1540.1
10°	1553.3	1551.3	1549.3	1547.3	1545.3	1541.7	1536.6	1531.5	1526.3	1521.3	1521.5
12.5°	1535.9	1533.7	1531.4	1529.2	1527.0	1522.7	1516.5	1510.2	1503.9	1497.6	1497.5
15°	1507.2	1504.0	1500.9	1497.7	1494.6	1489.1	1481.1	1473.1	1465.1	1457.2	1455.7
17.5°	1471.0	1467.4	1463.7	1460.0	1456.5	1449.5	1439.4	1429.2	1419.1	1409.0	1406.0
20°	1444.3	1439.8	1435.3	1430.7	1426.1	1418.5	1407.6	1396.8	1385.9	1375.2	1371.4
22.5°	1414.6	1409.3	1404.1	1398.9	1393.7	1385.3	1373.8	1362.3	1350.8	1339.2	1334.6
25°	1371.3	1364.2	1357.1	1349.9	1342.8	1332.7	1319.6	1306.5	1293.4	1280.3	1274.3
27.5°	1318.7	1310.9	1303.0	1295.2	1287.3	1276.1	1261.5	1246.9	1232.3	1217.7	1209.4
30°	1282.9	1274.3	1265.8	1257.2	1248.7	1236.4	1220.5	1204.5	1188.6	1172.6	1162.9
32.5°	1247.0	1237.3	1227.6	1217.9	1208.3	1195.0	1178.1	1161.2	1144.4	1127.6	1117.0
35°	1186.7	1176.5	1166.2	1156.0	1145.7	1131.8	1114.1	1096.5	1078.8	1061.1	1048.9
37.5°	1125.8	1114.4	1102.9	1091.5	1080.2	1065.0	1046.2	1027.4	1008.5	989.6	975.8
40°	1086.8	1074.2	1061.7	1049.2	1036.7	1020.3	1000.0	979.8	959.6	939.4	924.5
42.5°	1042.7	1030.1	1017.7	1005.1	992.5	975.8	955.0	934.0	913.1	892.3	876.0
45°	975.3	962.5	949.7	936.9	924.0	906.6	884.7	862.7	840.8	818.9	802.7
47.5°	907.8	893.8	879.7	865.7	851.6	833.6	811.6	789.7	767.8	745.9	728.2
50°	858.7	845.3	831.8	818.5	805.1	786.9	763.9	740.8	717.7	694.6	676.9
52.5°	814.6	800.1	785.5	771.0	756.4	737.8	714.9	692.1	669.3	646.5	628.1
55°	740.8	726.8	712.8	698.9	684.9	665.9	641.6	617.4	593.2	569.0	552.5
57.5°	672.5	657.4	642.1	627.0	611.7	592.0	567.7	543.3	519.0	494.7	479.1
60°	625.4	609.8	594.1	578.5	562.7	543.1	519.4	495.9	472.2	448.6	433.2
62.5°	578.2	562.6	546.9	531.2	515.6	495.9	472.3	448.7	425.0	401.4	386.9
65°	506.2	490.6	474.9	459.3	443.6	424.6	402.4	380.2	358.0	335.7	321.8
67.5°	434.2	418.3	402.5	386.7	370.9	352.3	331.0	309.7	288.4	267.1	256.7
70°	387.0	371.7	356.3	340.9	325.5	307.9	288.0	268.0	248.1	228.1	218.2
72.5°	339.9	324.7	309.6	294.4	279.2	262.6	244.5	226.4	208.3	190.2	182.1
75°	267.8	254.2	240.5	226.8	213.2	198.5	182.9	167.1	151.5	135.8	133.0
77.5°	202.2	189.9	177.5	165.2	152.8	141.5	131.5	121.4	111.3	101.3	99.7
80°	160.2	148.5	136.8	125.1	113.5	104.7	98.7	92.7	86.7	80.7	79.9
82.5°	120.2	110.1	100.0	89.9	79.9	73.5	70.7	67.8	65.1	62.3	61.4
85°	67.9	61.6	55.4	49.2	42.9	39.3	38.5	37.6	36.8	35.9	35.3
87.5°	24.7	22.3	19.9	17.5	15.2	14.0	14.2	14.3	14.5	14.7	14.5
90°	0.3	0.9	1.5	2.2	2.9	3.6	4.4	5.2	6.1	6.9	7.2
92.5°	5.4	5.2	5.0	4.8	4.6	4.9	5.5	6.1	6.8	7.3	7.7
95°	17.6	14.9	12.3	9.7	7.1	6.1	6.8	7.5	8.2	9.0	9.4
97.5°	35.3	34.2	32.9	31.8	30.6	27.7	23.1	18.5	13.9	9.3	9.8
100°	48.7	50.0	51.3	52.5	53.8	49.5	39.5	29.5	19.5	9.5	10.0
102.5°	63.9	64.8	65.7	66.7	67.6	62.6	51.7	40.8	29.8	19.0	17.4
105°	85.9	86.6	87.2	88.0	88.7	86.2	80.4	74.6	68.9	63.1	51.8
107.5°	109.0	109.6	110.1	110.7	111.3	112.0	112.9	113.8	114.7	115.6	107.3
110°	124.5	125.0	125.5	126.0	126.5	127.1	127.8	128.5	129.2	130.0	127.8



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	139.2	139.7	140.1	140.6	141.0	141.6	142.4	143.1	143.7	144.5	144.5
115°	161.0	161.4	161.8	162.2	162.6	163.1	163.6	164.2	164.8	165.3	166.0
117.5°	182.2	182.7	183.1	183.6	184.1	184.5	184.7	185.1	185.4	185.6	186.1
120°	195.3	195.9	196.5	197.1	197.6	198.0	198.2	198.4	198.6	198.8	199.3
122.5°	208.7	209.2	209.6	210.1	210.6	210.9	211.2	211.4	211.7	211.9	212.3
125°	227.1	227.6	228.0	228.5	229.1	229.4	229.8	230.0	230.2	230.5	230.6
127.5°	244.8	245.3	245.8	246.3	246.8	247.2	247.5	247.9	248.2	248.4	248.7
130°	255.8	256.3	256.8	257.4	257.9	258.3	258.5	258.8	259.0	259.3	259.5
132.5°	266.4	266.9	267.5	268.0	268.5	268.8	269.0	269.3	269.5	269.7	269.9
135°	282.7	283.0	283.4	283.8	284.1	284.5	284.7	285.0	285.3	285.5	285.7
137.5°	296.4	296.9	297.4	297.9	298.4	298.7	298.9	299.0	299.1	299.3	299.6
140°	305.7	306.1	306.5	306.8	307.2	307.5	307.7	307.9	308.1	308.3	308.5
142.5°	314.2	314.6	315.0	315.4	315.8	316.0	316.3	316.4	316.6	316.8	317.0
145°	326.1	326.6	327.0	327.5	327.9	328.2	328.3	328.5	328.6	328.7	328.9
147.5°	337.4	337.7	337.9	338.3	338.5	338.8	338.9	339.0	339.2	339.2	339.4
150°	344.3	344.5	344.6	344.9	345.0	345.2	345.4	345.4	345.6	345.7	345.8
152.5°	350.5	350.6	350.7	350.7	350.8	351.0	351.0	351.1	351.1	351.2	351.5
155°	359.3	359.1	359.0	358.9	358.7	358.7	358.8	358.8	358.9	359.0	359.3
157.5°	366.1	366.1	366.1	366.0	366.0	366.0	365.9	365.8	365.7	365.7	366.1
160°	370.2	370.1	370.1	370.0	370.0	369.9	369.8	369.7	369.7	369.7	370.0
162.5°	374.1	374.0	373.8	373.7	373.5	373.3	373.2	373.2	373.2	373.1	373.5
165°	378.9	378.6	378.5	378.3	378.1	378.0	377.9	377.8	377.7	377.7	378.2
167.5°	382.5	382.3	382.0	381.8	381.5	381.4	381.4	381.4	381.4	381.4	381.9
170°	384.6	384.3	384.1	383.8	383.6	383.4	383.4	383.4	383.4	383.4	384.0
172.5°	386.0	385.7	385.4	385.1	384.7	384.7	384.7	384.7	384.8	384.8	385.4
175°	387.8	387.4	387.1	386.9	386.5	386.4	386.5	386.5	386.5	386.6	387.1
177.5°	388.2	388.0	387.8	387.5	387.2	387.1	387.2	387.2	387.3	387.3	387.8
180°	387.8	387.8	387.8	387.8	387.8	387.8	387.8	387.8	387.8	387.8	387.8



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1580.2	1580.2	1580.2	1580.2	1580.2	1580.2	1580.2	1580.2
2.5°	1573.9	1576.5	1578.9	1580.0	1579.5	1579.1	1578.6	1578.1
5°	1563.5	1566.1	1568.6	1569.6	1569.0	1568.5	1567.9	1567.3
7.5°	1541.5	1543.0	1544.3	1544.6	1543.6	1542.6	1541.6	1540.7
10°	1521.8	1522.1	1522.4	1521.8	1520.4	1519.0	1517.5	1516.1
12.5°	1497.3	1497.1	1497.0	1496.1	1494.4	1492.7	1491.1	1489.5
15°	1454.3	1452.9	1451.5	1449.8	1447.7	1445.8	1443.7	1441.8
17.5°	1403.0	1399.9	1396.9	1393.9	1390.9	1388.0	1385.0	1382.0
20°	1367.7	1364.0	1360.3	1356.7	1353.3	1349.9	1346.5	1343.1
22.5°	1330.0	1325.4	1320.8	1316.9	1313.7	1310.5	1307.3	1304.2
25°	1268.4	1262.3	1256.4	1251.8	1248.7	1245.5	1242.4	1239.3
27.5°	1201.1	1192.8	1184.5	1177.9	1173.1	1168.4	1163.6	1158.8
30°	1153.2	1143.6	1133.9	1126.8	1122.3	1117.7	1113.1	1108.6
32.5°	1106.4	1095.8	1085.2	1077.5	1072.7	1067.9	1063.2	1058.3
35°	1036.7	1024.4	1012.2	1003.5	998.3	993.2	988.1	983.0
37.5°	961.8	947.9	934.0	923.9	917.6	911.3	905.0	898.6
40°	909.8	895.0	880.2	869.5	862.9	856.4	849.9	843.3
42.5°	859.9	843.7	827.5	816.5	810.7	804.8	798.9	793.0
45°	786.4	770.2	754.0	742.5	735.6	728.8	721.9	715.1
47.5°	710.5	692.9	675.2	663.4	657.3	651.2	645.1	639.0
50°	659.3	641.6	623.9	611.9	605.4	598.8	592.2	585.7
52.5°	609.8	591.4	573.1	560.9	555.1	549.3	543.4	537.5
55°	536.0	519.4	503.0	491.9	486.2	480.5	474.7	469.0
57.5°	463.5	447.8	432.3	422.0	417.2	412.4	407.5	402.7
60°	417.8	402.4	387.0	376.9	372.1	367.2	362.4	357.6
62.5°	372.4	358.0	343.5	333.8	328.6	323.6	318.5	313.5
65°	307.9	293.9	280.0	271.4	268.3	265.1	262.0	258.9
67.5°	246.2	235.8	225.3	218.5	215.2	211.7	208.4	205.0
70°	208.1	198.2	188.3	181.7	178.6	175.5	172.3	169.2
72.5°	173.9	165.8	157.6	152.9	151.6	150.3	149.0	147.7
75°	130.1	127.3	124.4	122.8	122.2	121.6	121.1	120.5
77.5°	98.2	96.6	95.1	94.0	93.4	92.9	92.3	91.7
80°	79.0	78.2	77.3	76.6	76.1	75.5	74.9	74.4
82.5°	60.6	59.8	58.9	58.4	58.3	58.1	58.0	58.0
85°	34.7	34.2	33.6	33.3	33.3	33.3	33.3	33.3
87.5°	14.3	14.2	14.0	13.8	13.6	13.4	13.2	13.0
90°	7.4	7.7	7.9	8.2	8.2	8.4	8.5	8.6
92.5°	8.2	8.6	9.0	9.3	9.3	9.4	9.5	9.5
95°	9.9	10.3	10.8	10.9	10.9	10.9	10.9	10.9
97.5°	10.3	10.8	11.3	11.6	11.7	11.7	11.8	11.9
100°	10.5	11.0	11.6	11.8	11.9	12.0	12.1	12.1
102.5°	15.8	14.2	12.6	11.9	12.0	12.1	12.2	12.3
105°	40.4	29.1	17.8	12.1	12.3	12.4	12.6	12.6
107.5°	99.1	90.7	82.4	73.9	65.5	56.9	48.3	39.8
110°	125.7	123.6	121.5	115.9	106.7	97.5	88.4	79.2



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CATALOG NUMBER: S123RDIP-S1165D365U930-4F0-1E-UDD-F

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	144.6	144.6	144.6	143.7	141.7	139.8	137.9	135.9
115°	166.6	167.3	168.0	168.4	168.6	168.9	169.2	169.4
117.5°	186.7	187.2	187.7	188.0	188.0	188.1	188.2	188.2
120°	199.8	200.3	200.8	201.1	201.1	201.1	201.1	201.1
122.5°	212.6	213.0	213.4	213.5	213.6	213.7	213.7	213.8
125°	230.7	230.9	231.0	231.1	231.2	231.4	231.5	231.6
127.5°	248.8	249.1	249.3	249.3	249.2	249.1	248.9	248.8
130°	259.8	260.1	260.3	260.4	260.2	260.2	260.0	259.8
132.5°	270.2	270.4	270.7	270.8	270.5	270.4	270.2	270.0
135°	285.9	286.1	286.3	286.3	286.1	285.9	285.7	285.5
137.5°	299.9	300.2	300.5	300.6	300.4	300.4	300.2	300.1
140°	308.8	309.0	309.3	309.3	309.2	309.1	309.0	308.8
142.5°	317.2	317.4	317.6	317.6	317.5	317.2	317.1	316.9
145°	329.0	329.1	329.2	329.3	329.3	329.3	329.3	329.3
147.5°	339.5	339.7	339.8	339.7	339.4	339.1	338.8	338.5
150°	346.0	346.1	346.3	346.2	346.0	345.8	345.6	345.4
152.5°	351.7	352.0	352.2	352.1	351.9	351.6	351.2	351.0
155°	359.6	360.0	360.3	360.2	359.9	359.5	359.1	358.7
157.5°	366.5	366.9	367.3	367.2	366.7	366.2	365.7	365.2
160°	370.4	370.8	371.2	371.1	370.7	370.2	369.8	369.3
162.5°	374.0	374.4	374.8	374.9	374.5	374.1	373.7	373.2
165°	378.7	379.3	379.8	379.8	379.4	378.9	378.5	378.0
167.5°	382.4	382.9	383.4	383.4	382.9	382.4	381.9	381.4
170°	384.5	385.0	385.5	385.5	385.0	384.5	384.0	383.4
172.5°	385.9	386.4	386.9	386.9	386.3	385.7	385.1	384.6
175°	387.5	388.0	388.4	388.4	387.9	387.3	386.9	386.4
177.5°	388.2	388.6	389.0	388.9	388.4	387.9	387.3	386.9
180°	387.8	387.8	387.8	387.8	387.8	387.8	387.8	387.8

(END OF REPORT)