

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: P332363-935

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

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332363-935
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-S1165D365U935-4F0-1E-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: 5019.9 lumens
Efficiency: N/A
Efficacy: 100.8 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

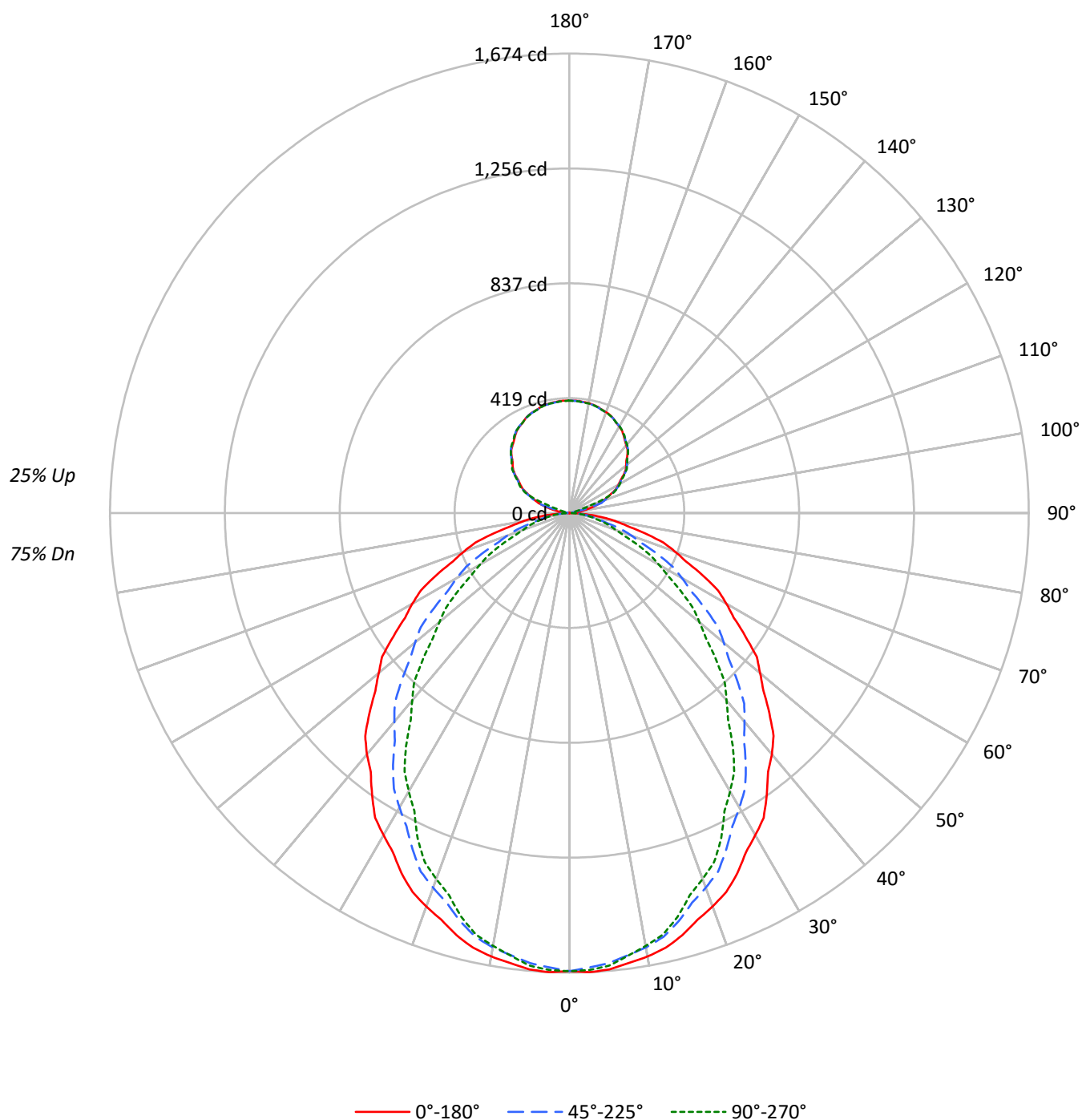
Input Watts (W): 49.8
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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

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	3.1
10°-20°	436.0	8.7
20°-30°	627.8	12.5
30°-40°	707.2	14.1
40°-50°	676.5	13.5
50°-60°	554.0	11.0
60°-70°	373.8	7.4
70°-80°	188.1	3.7
80°-90°	50.9	1.0
90°-100°	14.9	0.3
100°-110°	71.0	1.4
110°-120°	170.4	3.4
120°-130°	217.0	4.3
130°-140°	231.9	4.6
140°-150°	216.9	4.3
150°-160°	174.9	3.5
160°-170°	112.9	2.2
170°-180°	38.9	0.8
0°-30°	1220.5	24.3
0°-40°	1927.7	38.4
0°-60°	3158.3	62.9
0°-90°	3771.0	75.1
90°-120°	256.3	5.1
90°-150°	922.1	18.4
90°-180°	1249.0	24.9
0°-180°	5019.9	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°	0	3	7	8	9	4
95°	19	7	10	11	12	23
105°	91	92	67	16	13	96
115°	170	172	175	178	179	168
125°	240	242	243	244	245	214
135°	298	300	302	302	302	230
145°	344	346	347	348	348	216
155°	379	379	379	380	379	175
165°	400	399	399	401	399	113
175°	410	408	408	410	408	39
180°	410	410	410	410	410	

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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	23.5	21.0	18.5	16.0	14.8	15.0	15.2	15.3	15.5	15.3
90°	0.3	0.9	1.6	2.3	3.0	3.8	4.6	5.5	6.5	7.3	7.6
92.5°	5.7	5.5	5.3	5.1	4.9	5.2	5.8	6.5	7.1	7.7	8.2
95°	18.6	15.8	13.0	10.2	7.5	6.5	7.2	7.9	8.7	9.5	9.9
97.5°	37.3	36.1	34.8	33.6	32.3	29.3	24.4	19.5	14.6	9.8	10.3
100°	51.4	52.8	54.2	55.4	56.8	52.3	41.7	31.2	20.6	10.1	10.6
102.5°	67.5	68.4	69.4	70.4	71.4	66.1	54.6	43.0	31.5	20.1	18.3
105°	90.7	91.4	92.1	92.9	93.7	91.0	84.9	78.8	72.8	66.6	54.7
107.5°	115.1	115.7	116.3	116.9	117.5	118.3	119.2	120.2	121.1	122.1	113.3
110°	131.5	132.0	132.5	133.0	133.6	134.2	135.0	135.7	136.5	137.2	135.0

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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	147.0	147.5	148.0	148.4	149.0	149.6	150.3	151.1	151.8	152.6	152.6
115°	170.0	170.5	170.9	171.3	171.7	172.2	172.8	173.4	174.0	174.6	175.3
117.5°	192.4	193.0	193.4	193.9	194.4	194.8	195.1	195.4	195.8	196.0	196.6
120°	206.3	206.9	207.5	208.1	208.7	209.1	209.3	209.6	209.7	209.9	210.5
122.5°	220.4	220.9	221.4	221.9	222.4	222.7	223.0	223.3	223.5	223.8	224.2
125°	239.8	240.3	240.8	241.3	241.9	242.3	242.6	242.9	243.1	243.4	243.6
127.5°	258.5	259.1	259.6	260.1	260.6	261.1	261.4	261.7	262.1	262.3	262.6
130°	270.2	270.7	271.2	271.8	272.3	272.8	273.0	273.3	273.5	273.8	274.1
132.5°	281.4	281.9	282.5	283.0	283.5	283.9	284.1	284.4	284.6	284.8	285.1
135°	298.5	298.9	299.3	299.7	300.1	300.4	300.7	301.0	301.3	301.5	301.7
137.5°	313.1	313.6	314.1	314.6	315.1	315.5	315.6	315.7	315.9	316.1	316.4
140°	322.8	323.2	323.6	324.0	324.4	324.8	324.9	325.1	325.4	325.5	325.8
142.5°	331.8	332.3	332.6	333.0	333.5	333.7	334.0	334.2	334.3	334.6	334.8
145°	344.4	344.9	345.3	345.9	346.3	346.6	346.7	346.9	347.0	347.2	347.3
147.5°	356.3	356.6	356.9	357.2	357.5	357.7	357.9	358.0	358.2	358.3	358.4
150°	363.6	363.8	363.9	364.2	364.4	364.5	364.7	364.8	365.0	365.1	365.2
152.5°	370.1	370.2	370.3	370.4	370.5	370.7	370.7	370.7	370.8	370.9	371.2
155°	379.4	379.3	379.1	379.0	378.8	378.8	378.9	378.9	379.0	379.1	379.4
157.5°	386.6	386.6	386.6	386.5	386.5	386.5	386.4	386.3	386.2	386.2	386.6
160°	391.0	390.9	390.8	390.7	390.7	390.6	390.5	390.5	390.5	390.4	390.7
162.5°	395.1	394.9	394.8	394.6	394.4	394.3	394.2	394.2	394.1	394.0	394.4
165°	400.1	399.8	399.7	399.5	399.2	399.2	399.1	399.0	398.9	398.9	399.4
167.5°	404.0	403.7	403.5	403.2	402.9	402.8	402.8	402.8	402.8	402.8	403.3
170°	406.1	405.9	405.6	405.4	405.1	404.9	404.9	404.9	404.9	404.9	405.5
172.5°	407.6	407.3	407.0	406.7	406.3	406.2	406.2	406.3	406.4	406.4	407.0
175°	409.5	409.1	408.8	408.5	408.2	408.0	408.1	408.2	408.2	408.3	408.8
177.5°	410.0	409.7	409.5	409.2	408.9	408.8	408.9	408.9	409.0	409.1	409.5
180°	409.5	409.5	409.5	409.5	409.5	409.5	409.5	409.5	409.5	409.5	409.5

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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	15.0	14.8	14.6	14.4	14.1	13.9	13.8
90°	7.8	8.1	8.4	8.6	8.7	8.9	9.0	9.1
92.5°	8.7	9.1	9.6	9.8	9.8	9.9	10.0	10.1
95°	10.4	10.8	11.4	11.5	11.5	11.5	11.5	11.5
97.5°	10.8	11.5	12.0	12.2	12.3	12.4	12.5	12.6
100°	11.1	11.6	12.2	12.5	12.6	12.7	12.7	12.7
102.5°	16.7	15.0	13.3	12.6	12.7	12.7	12.9	13.0
105°	42.7	30.7	18.8	12.8	13.0	13.1	13.3	13.3
107.5°	104.6	95.8	87.0	78.1	69.1	60.1	51.1	42.0
110°	132.8	130.5	128.3	122.3	112.7	103.0	93.3	83.7

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

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	152.7	152.7	152.7	151.7	149.6	147.7	145.6	143.5
115°	176.0	176.7	177.4	177.8	178.1	178.4	178.7	178.9
117.5°	197.2	197.7	198.2	198.5	198.5	198.6	198.7	198.7
120°	211.0	211.5	212.1	212.4	212.4	212.4	212.4	212.4
122.5°	224.5	225.0	225.3	225.5	225.6	225.7	225.7	225.8
125°	243.7	243.8	243.9	244.1	244.2	244.4	244.5	244.6
127.5°	262.8	263.0	263.3	263.3	263.1	263.0	262.9	262.8
130°	274.4	274.7	274.9	275.0	274.8	274.7	274.6	274.4
132.5°	285.3	285.6	285.9	285.9	285.7	285.5	285.3	285.2
135°	302.0	302.1	302.3	302.3	302.1	302.0	301.7	301.5
137.5°	316.7	317.0	317.4	317.5	317.3	317.2	317.0	316.9
140°	326.1	326.3	326.7	326.7	326.6	326.4	326.3	326.1
142.5°	335.0	335.2	335.4	335.4	335.3	335.0	334.8	334.7
145°	347.4	347.6	347.7	347.8	347.8	347.8	347.8	347.8
147.5°	358.5	358.7	358.9	358.8	358.4	358.1	357.8	357.5
150°	365.4	365.5	365.7	365.6	365.4	365.2	365.0	364.8
152.5°	371.4	371.7	372.0	371.9	371.6	371.3	370.9	370.7
155°	379.8	380.1	380.5	380.4	380.0	379.6	379.2	378.8
157.5°	387.0	387.4	387.9	387.8	387.3	386.8	386.2	385.6
160°	391.2	391.6	392.0	391.9	391.5	391.0	390.5	390.0
162.5°	394.9	395.4	395.8	395.9	395.5	395.0	394.6	394.2
165°	399.9	400.5	401.1	401.1	400.6	400.1	399.7	399.2
167.5°	403.8	404.4	404.9	404.9	404.4	403.8	403.3	402.8
170°	406.0	406.6	407.1	407.1	406.6	406.0	405.5	404.9
172.5°	407.5	408.0	408.5	408.5	407.9	407.3	406.7	406.1
175°	409.2	409.7	410.2	410.2	409.7	409.1	408.5	408.0
177.5°	409.9	410.4	410.8	410.7	410.2	409.7	409.1	408.5
180°	409.5	409.5	409.5	409.5	409.5	409.5	409.5	409.5

(END OF REPORT)