

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: P332334-930

Luminaire Tested: **S123RDIP-S1000D365U930-4F0-1E-UDD-F1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332334-930
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-9,
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S123RDIP-S1000D365U930-4F0-1E-UDD-F1
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 1000 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED
HOUSING
UPLIGHT 365 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4108.2 lumens
Efficiency: N/A
Efficacy: 94.4 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

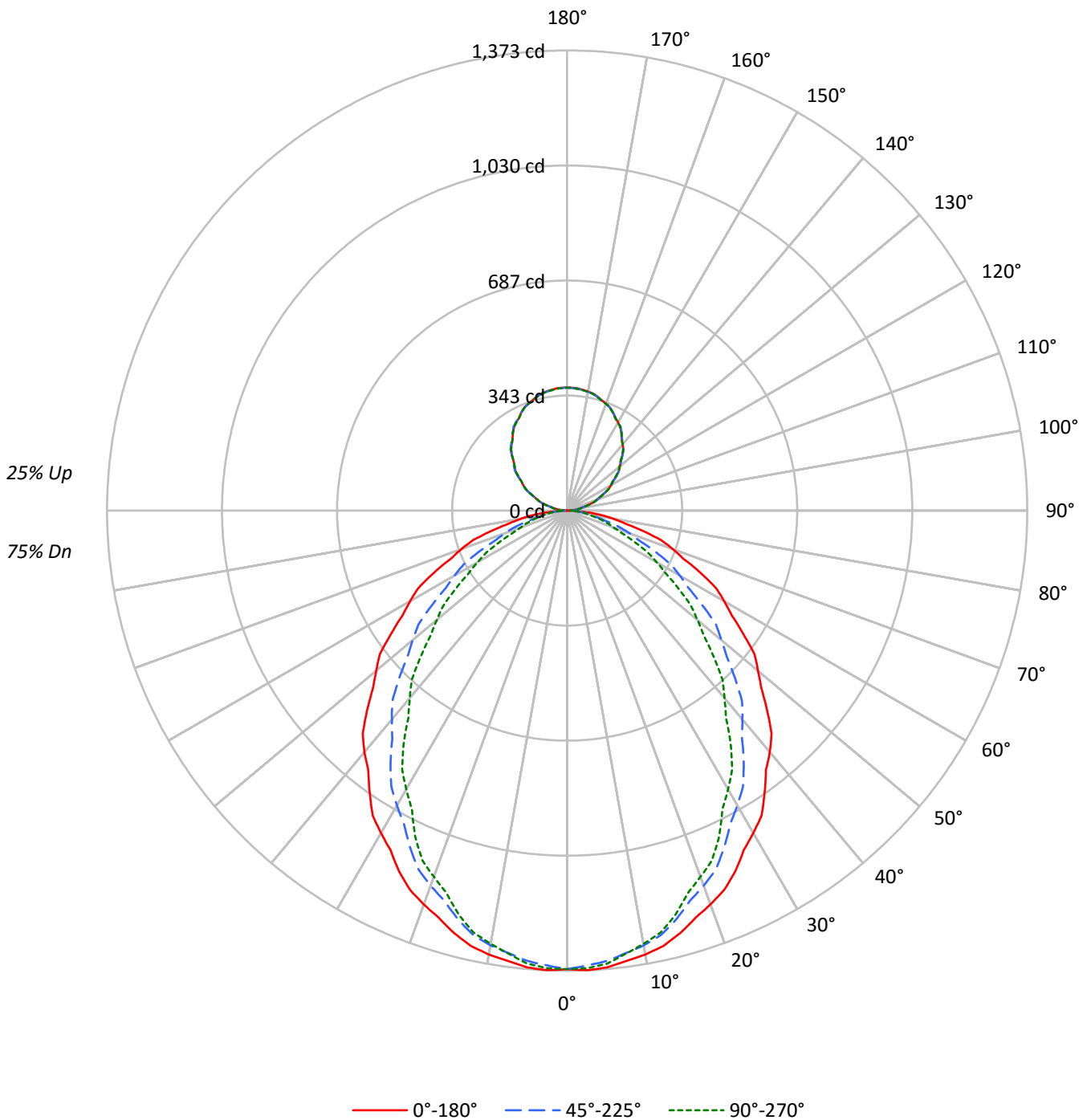
Input Watts (W): 43.5
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	113	113	113	113	108	108	108	108	97	97	97	88	88	88	79	79	79	75
1	104	100	96	92	99	95	92	89	86	84	81	78	76	74	71	69	68	64
2	95	88	81	76	90	84	78	73	76	72	68	69	66	63	63	60	58	55
3	87	77	70	64	83	74	67	62	68	62	58	62	57	54	56	53	50	47
4	80	69	61	55	76	66	59	53	61	55	50	55	51	47	51	47	43	41
5	74	62	54	47	70	59	52	46	54	48	43	50	45	41	46	42	38	36
6	68	56	48	42	65	54	46	40	49	43	38	45	40	36	42	37	34	31
7	63	51	43	37	60	49	41	36	45	39	34	42	36	32	38	34	30	28
8	59	46	38	33	56	45	37	32	41	35	30	38	33	29	35	31	27	25
9	55	42	35	30	52	41	34	29	38	32	28	35	30	26	33	28	25	23
10	52	39	32	27	49	38	31	26	35	29	25	33	27	24	30	26	23	21

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	14727	14727	14727
5°	14783	14579	14664
10°	14700	14397	14348
15°	14542	14060	13912
20°	14325	13639	13321
25°	14101	13166	12744
30°	13806	12621	11931
35°	13502	12073	11184
40°	13222	11428	10260
45°	12855	10794	9426
50°	12450	10071	8492
55°	12037	9246	7621
60°	11657	8361	6665
65°	11163	7404	5708
70°	10546	6216	4611
75°	9649	4891	4338
80°	8598	4333	3986
85°	7262	3841	3569



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	128.5	3.1
10°-20°	357.5	8.7
20°-30°	514.7	12.5
30°-40°	579.8	14.1
40°-50°	554.7	13.5
50°-60°	454.2	11.1
60°-70°	306.5	7.5
70°-80°	154.2	3.8
80°-90°	41.9	1.0
90°-100°	23.9	0.6
100°-110°	71.5	1.7
110°-120°	121.6	3.0
120°-130°	160.0	3.9
130°-140°	179.8	4.4
140°-150°	176.8	4.3
150°-160°	148.8	3.6
160°-170°	99.1	2.4
170°-180°	34.7	0.8
0°-30°	1000.7	24.4
0°-40°	1580.5	38.5
0°-60°	2589.5	63.0
0°-90°	3092.0	75.3
90°-120°	217.1	5.3
90°-150°	733.7	17.9
90°-180°	1016.0	24.7
0°-180°	4108.2	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1368	1368	1368	1368	1368	
5°	1368	1362	1349	1359	1357	130
15°	1305	1292	1262	1256	1248	367
25°	1187	1158	1109	1086	1073	546
35°	1028	986	919	873	851	643
45°	844	793	709	648	619	651
55°	641	585	493	431	406	575
65°	438	376	291	239	224	434
75°	232	178	118	107	104	247
85°	59	36	31	29	29	66
90°	0	3	7	8	9	4
95°	17	19	21	22	22	19
105°	65	66	68	68	69	69
115°	122	123	123	123	123	121
125°	179	180	180	178	177	160
135°	232	234	234	233	232	179
145°	282	283	284	283	282	176
155°	323	323	323	324	322	149
165°	352	351	351	352	351	99
175°	366	365	365	366	364	35
180°	367	367	367	367	367	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1368.2	1368.2	1368.2	1368.2	1368.2	1368.2	1368.2	1368.2	1368.2	1368.2	1368.2
2.5°	1372.6	1371.8	1371.1	1370.3	1369.5	1367.9	1365.5	1363.2	1360.8	1358.5	1360.6
5°	1368.2	1366.9	1365.7	1364.5	1363.3	1361.1	1358.2	1355.3	1352.3	1349.3	1351.5
7.5°	1355.5	1354.2	1352.9	1351.5	1350.2	1347.6	1343.8	1339.9	1336.1	1332.3	1333.5
10°	1344.9	1343.2	1341.4	1339.7	1338.0	1334.9	1330.5	1326.0	1321.6	1317.2	1317.4
12.5°	1329.8	1327.9	1326.0	1324.0	1322.1	1318.4	1313.0	1307.6	1302.2	1296.7	1296.6
15°	1305.0	1302.3	1299.5	1296.8	1294.1	1289.3	1282.4	1275.5	1268.6	1261.7	1260.5
17.5°	1273.7	1270.5	1267.4	1264.2	1261.0	1255.1	1246.3	1237.5	1228.7	1219.9	1217.3
20°	1250.6	1246.7	1242.7	1238.8	1234.8	1228.2	1218.8	1209.4	1200.0	1190.7	1187.5
22.5°	1224.8	1220.3	1215.8	1211.2	1206.7	1199.5	1189.4	1179.5	1169.5	1159.6	1155.6
25°	1187.3	1181.2	1175.0	1168.8	1162.7	1153.9	1142.6	1131.2	1119.9	1108.6	1103.3
27.5°	1141.8	1135.1	1128.2	1121.4	1114.6	1104.9	1092.3	1079.6	1067.0	1054.4	1047.2
30°	1110.8	1103.3	1096.0	1088.6	1081.2	1070.6	1056.8	1042.9	1029.2	1015.4	1007.0
32.5°	1079.7	1071.3	1062.9	1054.5	1046.2	1034.7	1020.1	1005.5	990.8	976.2	967.1
35°	1027.5	1018.6	1009.7	1000.9	992.1	979.9	964.7	949.3	934.1	918.8	908.2
37.5°	974.7	964.8	955.0	945.1	935.2	922.2	905.9	889.5	873.2	856.9	844.8
40°	941.0	930.2	919.2	908.4	897.6	883.4	865.9	848.4	830.9	813.3	800.5
42.5°	902.8	891.9	881.1	870.3	859.4	845.0	826.9	808.8	790.7	772.6	758.6
45°	844.5	833.3	822.2	811.1	800.1	785.1	766.1	747.1	728.1	709.1	695.0
47.5°	786.1	773.9	761.7	749.5	737.4	721.8	702.8	683.8	664.8	645.8	630.6
50°	743.5	731.9	720.3	708.7	697.1	681.3	661.4	641.4	621.4	601.4	586.1
52.5°	705.3	692.8	680.1	667.6	655.0	638.8	619.1	599.2	579.5	559.7	543.8
55°	641.4	629.3	617.2	605.1	593.0	576.5	555.5	534.6	513.6	492.7	478.4
57.5°	582.4	569.2	556.0	542.8	529.7	512.6	491.5	470.4	449.4	428.4	414.8
60°	541.5	528.0	514.4	500.8	487.2	470.3	449.8	429.3	408.9	388.4	375.0
62.5°	500.7	487.1	473.5	460.0	446.5	429.4	409.0	388.5	368.0	347.6	335.0
65°	438.3	424.8	411.2	397.6	384.1	367.7	348.5	329.2	310.0	290.7	278.7
67.5°	375.9	362.2	348.5	334.8	321.1	305.0	286.6	268.2	249.7	231.2	222.3
70°	335.1	321.8	308.5	295.1	281.8	266.6	249.3	232.0	214.7	197.5	188.9
72.5°	294.2	281.2	268.1	254.9	241.8	227.4	211.7	196.1	180.3	164.7	157.6
75°	232.0	220.0	208.2	196.4	184.6	171.9	158.3	144.7	131.2	117.6	115.1
77.5°	175.1	164.4	153.7	143.0	132.3	122.5	113.8	105.1	96.4	87.6	86.3
80°	138.7	128.6	118.5	108.4	98.2	90.7	85.4	80.2	75.1	69.9	69.1
82.5°	104.1	95.4	86.7	77.9	69.1	63.6	61.1	58.8	56.3	53.9	53.2
85°	58.8	53.4	47.9	42.6	37.1	34.0	33.3	32.5	31.8	31.1	30.6
87.5°	21.4	19.3	17.3	15.2	13.2	12.2	12.4	12.6	12.7	13.0	12.8
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°	7.0	7.4	7.8	8.3	8.7	9.1	9.6	10.1	10.6	11.1	11.3
95°	17.0	17.4	17.9	18.3	18.8	19.2	19.8	20.3	20.8	21.4	21.6
97.5°	30.2	30.5	30.9	31.2	31.6	31.9	32.3	32.6	33.0	33.3	33.7
100°	39.2	39.5	39.9	40.4	40.7	41.1	41.4	41.7	42.1	42.3	42.6
102.5°	49.6	49.8	50.0	50.2	50.5	50.8	51.2	51.7	52.1	52.5	52.7
105°	64.8	65.0	65.1	65.2	65.3	65.7	66.3	66.9	67.4	68.0	68.0
107.5°	82.6	82.7	82.8	82.8	82.9	83.0	83.2	83.5	83.7	84.0	84.1
110°	93.7	93.8	93.9	94.0	94.2	94.2	94.4	94.6	94.7	94.8	95.1



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	105.2	105.3	105.3	105.4	105.5	105.5	105.6	105.6	105.6	105.7	105.9
115°	122.5	122.6	122.9	123.0	123.2	123.3	123.1	123.0	122.9	122.7	122.8
117.5°	139.8	140.0	140.1	140.2	140.4	140.3	140.1	140.0	139.8	139.7	139.7
120°	150.7	151.1	151.5	151.8	152.2	152.2	152.0	151.6	151.3	151.0	150.9
122.5°	162.0	162.2	162.6	162.8	163.1	163.1	163.0	162.8	162.7	162.5	162.3
125°	179.2	179.4	179.6	179.8	180.0	180.0	179.9	179.8	179.6	179.5	179.2
127.5°	195.1	195.5	195.9	196.3	196.7	196.9	196.7	196.6	196.5	196.3	196.0
130°	205.7	206.2	206.8	207.2	207.7	207.9	207.7	207.6	207.3	207.2	206.9
132.5°	216.3	216.9	217.4	217.8	218.3	218.6	218.4	218.3	218.1	218.0	217.7
135°	232.5	232.9	233.3	233.7	234.1	234.2	234.2	234.1	234.0	234.0	233.7
137.5°	247.5	247.9	248.1	248.4	248.7	249.0	249.2	249.3	249.5	249.6	249.4
140°	257.9	258.2	258.5	258.9	259.2	259.3	259.4	259.4	259.5	259.6	259.5
142.5°	267.3	267.7	268.0	268.3	268.6	268.8	269.0	269.0	269.1	269.3	269.2
145°	282.1	282.2	282.3	282.4	282.6	282.7	282.9	283.2	283.3	283.5	283.5
147.5°	295.0	295.2	295.5	295.7	295.9	296.1	296.3	296.4	296.6	296.9	296.9
150°	303.9	304.1	304.2	304.4	304.5	304.6	304.8	304.8	305.0	305.1	305.1
152.5°	311.4	311.5	311.7	311.9	312.1	312.2	312.3	312.3	312.4	312.5	312.6
155°	323.0	323.0	323.0	323.0	323.0	323.0	323.1	323.1	323.2	323.3	323.5
157.5°	332.9	332.8	332.7	332.6	332.6	332.6	332.6	332.6	332.7	332.8	333.0
160°	339.1	339.0	338.8	338.8	338.6	338.5	338.5	338.5	338.5	338.5	338.8
162.5°	344.6	344.5	344.3	344.1	343.9	343.9	343.9	344.0	344.1	344.1	344.4
165°	351.8	351.6	351.4	351.2	351.0	350.9	350.9	350.9	350.9	350.9	351.3
167.5°	357.5	357.3	357.0	356.7	356.4	356.4	356.4	356.4	356.5	356.6	356.9
170°	360.7	360.4	360.2	360.0	359.7	359.5	359.5	359.5	359.5	359.5	360.0
172.5°	363.3	363.0	362.7	362.5	362.2	362.1	362.1	362.1	362.1	362.1	362.5
175°	365.9	365.7	365.4	365.2	364.9	364.8	364.8	364.8	364.8	364.8	365.2
177.5°	367.0	366.8	366.6	366.4	366.2	366.1	366.1	366.1	366.1	366.1	366.4
180°	366.8	366.8	366.8	366.8	366.8	366.8	366.8	366.8	366.8	366.8	366.8



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1368.2	1368.2	1368.2	1368.2	1368.2	1368.2	1368.2	1368.2
2.5°	1362.8	1365.0	1367.1	1368.0	1367.6	1367.3	1366.8	1366.4
5°	1353.8	1356.0	1358.2	1359.1	1358.6	1358.1	1357.6	1357.1
7.5°	1334.7	1335.9	1337.2	1337.4	1336.5	1335.7	1334.9	1334.0
10°	1317.7	1317.9	1318.2	1317.7	1316.4	1315.2	1313.9	1312.7
12.5°	1296.4	1296.3	1296.2	1295.3	1294.0	1292.5	1291.1	1289.6
15°	1259.2	1258.0	1256.8	1255.2	1253.5	1251.8	1250.1	1248.4
17.5°	1214.7	1212.1	1209.5	1206.9	1204.4	1201.8	1199.2	1196.6
20°	1184.2	1181.0	1177.9	1174.8	1171.8	1168.8	1165.9	1162.9
22.5°	1151.6	1147.6	1143.6	1140.2	1137.5	1134.7	1132.0	1129.2
25°	1098.2	1093.0	1087.9	1083.9	1081.2	1078.5	1075.8	1073.0
27.5°	1040.0	1032.8	1025.6	1019.9	1015.8	1011.6	1007.5	1003.4
30°	998.6	990.2	981.8	975.7	971.7	967.8	963.8	959.9
32.5°	957.9	948.8	939.6	932.9	928.8	924.6	920.5	916.3
35°	897.6	887.0	876.4	868.9	864.5	860.0	855.6	851.1
37.5°	832.8	820.8	808.8	800.0	794.5	789.0	783.6	778.1
40°	787.7	774.9	762.1	752.8	747.1	741.5	735.8	730.2
42.5°	744.5	730.5	716.5	706.9	701.9	696.8	691.7	686.6
45°	680.9	666.9	652.8	642.9	636.9	631.0	625.1	619.2
47.5°	615.2	600.0	584.7	574.4	569.1	563.9	558.6	553.3
50°	570.9	555.5	540.3	529.8	524.2	518.4	512.8	507.1
52.5°	528.0	512.1	496.2	485.7	480.6	475.6	470.5	465.4
55°	464.1	449.8	435.5	425.8	420.9	416.0	411.1	406.1
57.5°	401.3	387.8	374.3	365.4	361.3	357.0	352.9	348.6
60°	361.7	348.5	335.1	326.4	322.2	318.0	313.8	309.6
62.5°	322.5	310.0	297.4	288.9	284.6	280.2	275.8	271.4
65°	266.6	254.5	242.4	235.0	232.3	229.6	226.9	224.1
67.5°	213.2	204.2	195.2	189.1	186.3	183.4	180.4	177.6
70°	180.3	171.6	163.0	157.4	154.6	151.9	149.2	146.5
72.5°	150.6	143.5	136.5	132.4	131.3	130.1	129.0	127.8
75°	112.7	110.2	107.8	106.3	105.8	105.3	104.8	104.3
77.5°	85.0	83.6	82.3	81.4	81.0	80.5	80.0	79.5
80°	68.4	67.7	66.9	66.4	65.9	65.4	64.8	64.3
82.5°	52.4	51.7	51.0	50.5	50.5	50.4	50.2	50.1
85°	30.1	29.6	29.1	28.9	28.9	28.9	28.9	28.9
87.5°	12.6	12.5	12.3	12.1	12.0	11.8	11.7	11.5
90°	7.4	7.7	7.9	8.2	8.2	8.4	8.5	8.6
92.5°	11.5	11.7	11.9	12.0	11.9	11.8	11.7	11.7
95°	21.9	22.1	22.3	22.5	22.5	22.5	22.5	22.5
97.5°	33.9	34.2	34.6	34.7	34.7	34.7	34.6	34.6
100°	42.7	43.0	43.1	43.3	43.4	43.5	43.7	43.8
102.5°	52.9	53.1	53.2	53.3	53.3	53.3	53.2	53.2
105°	68.0	68.0	68.0	68.1	68.2	68.3	68.5	68.6
107.5°	84.4	84.5	84.8	84.9	84.8	84.7	84.6	84.5
110°	95.3	95.6	95.8	95.9	95.7	95.6	95.5	95.4



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CATALOG NUMBER: S123RDIP-S1000D365U930-4F0-1E-UDD-F1

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	106.2	106.6	106.9	107.0	107.0	107.0	106.9	106.9
115°	122.9	122.9	123.0	123.0	122.9	122.9	122.8	122.7
117.5°	139.7	139.7	139.7	139.5	139.3	139.2	139.0	138.8
120°	150.8	150.7	150.7	150.6	150.5	150.3	150.3	150.1
122.5°	162.2	162.0	161.8	161.7	161.5	161.3	161.1	160.9
125°	179.0	178.7	178.5	178.2	178.0	177.7	177.4	177.2
127.5°	195.6	195.3	194.9	194.5	194.3	194.0	193.7	193.4
130°	206.7	206.4	206.1	205.8	205.4	204.9	204.5	204.0
132.5°	217.4	217.0	216.8	216.5	216.1	215.7	215.4	215.1
135°	233.4	233.2	232.9	232.8	232.6	232.4	232.4	232.2
137.5°	249.2	248.9	248.6	248.3	248.1	247.9	247.6	247.4
140°	259.4	259.4	259.3	259.1	258.6	258.2	257.7	257.3
142.5°	269.1	269.0	269.0	268.8	268.5	268.2	267.7	267.4
145°	283.4	283.3	283.2	283.1	282.8	282.6	282.3	282.1
147.5°	296.9	296.9	296.9	296.6	296.3	295.9	295.5	295.1
150°	305.1	305.1	305.1	304.9	304.5	304.2	303.8	303.4
152.5°	312.7	312.8	312.9	312.7	312.4	312.1	311.8	311.4
155°	323.8	324.0	324.3	324.2	323.8	323.3	322.9	322.4
157.5°	333.3	333.6	333.9	333.8	333.5	333.1	332.7	332.4
160°	339.2	339.5	339.8	339.8	339.6	339.3	339.1	338.8
162.5°	344.7	345.0	345.4	345.3	344.9	344.5	344.1	343.6
165°	351.7	352.0	352.5	352.5	352.0	351.6	351.1	350.7
167.5°	357.3	357.8	358.2	358.2	357.8	357.3	356.9	356.6
170°	360.4	360.9	361.3	361.3	360.9	360.4	360.0	359.5
172.5°	362.9	363.3	363.7	363.7	363.2	362.8	362.3	361.9
175°	365.5	365.9	366.3	366.2	365.8	365.3	364.9	364.4
177.5°	366.7	367.0	367.3	367.3	367.0	366.6	366.2	365.8
180°	366.8	366.8	366.8	366.8	366.8	366.8	366.8	366.8

(END OF REPORT)