

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: P332335-930

Luminaire Tested: **S123RDIP-S1000D365U930-4F0-1E-UDD-F4**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332335-930
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-S1000D365U930-4F0-1E-UDD-F4
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 1000 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: 4162.8 lumens
Efficiency: N/A
Efficacy: 95.7 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

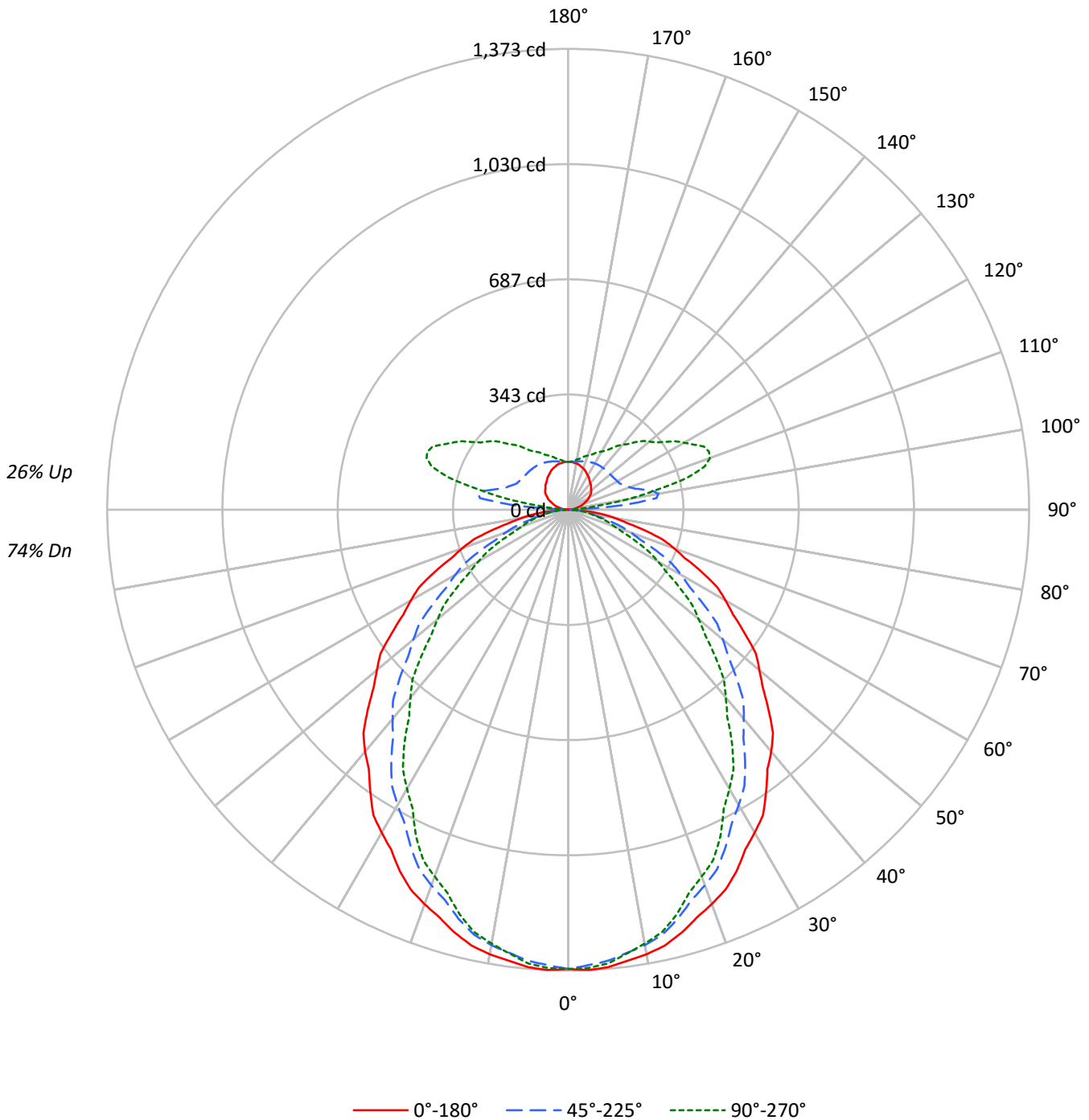
Input Watts (W): 43.5
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	107	107	107	107	97	97	97	87	87	87	78	78	78	74
1	104	99	96	92	98	95	91	88	86	83	81	78	76	74	70	69	67	64
2	95	87	81	76	90	83	78	73	76	71	68	69	65	62	62	60	57	54
3	87	77	70	64	82	74	67	62	67	62	58	61	57	53	56	52	49	46
4	80	69	61	55	76	66	59	53	60	54	50	55	50	46	50	46	43	40
5	74	62	53	47	70	59	52	46	54	48	43	50	44	40	45	41	38	35
6	68	56	47	41	64	53	46	40	49	43	38	45	40	36	41	37	33	31
7	63	51	42	37	60	49	41	36	45	38	34	41	36	32	38	33	30	28
8	59	46	38	33	56	44	37	32	41	35	30	38	32	29	35	30	27	25
9	55	42	35	30	52	41	34	29	38	32	27	35	30	26	32	28	24	23
10	51	39	32	27	49	38	31	26	35	29	25	32	27	24	30	26	22	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	8.6
20°-30°	514.7	12.4
30°-40°	579.8	13.9
40°-50°	554.7	13.3
50°-60°	454.2	10.9
60°-70°	306.5	7.4
70°-80°	154.2	3.7
80°-90°	41.9	1.0
90°-100°	79.2	1.9
100°-110°	224.3	5.4
110°-120°	220.6	5.3
120°-130°	176.0	4.2
130°-140°	138.8	3.3
140°-150°	103.6	2.5
150°-160°	72.2	1.7
160°-170°	42.4	1.0
170°-180°	13.8	0.3
0°-30°	1000.7	24.0
0°-40°	1580.5	38.0
0°-60°	2589.5	62.2
0°-90°	3092.0	74.3
90°-120°	524.1	12.6
90°-150°	942.4	22.6
90°-180°	1071.0	25.7
0°-180°	4162.8	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°	1	4	7	8	8	4
95°	10	32	171	50	33	11
105°	33	49	232	405	366	36
115°	59	74	177	388	446	58
125°	82	97	165	300	352	73
135°	96	115	163	247	285	74
145°	110	126	161	202	223	69
155°	125	135	156	177	185	57
165°	136	140	149	158	161	38
175°	142	142	143	145	145	13
180°	142	142	142	142	142	



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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	19.4	17.3	15.3	13.3	12.3	12.5	12.6	12.8	13.0	12.7
90°	0.6	1.1	1.7	2.6	3.2	3.8	4.6	5.5	6.4	7.2	6.9
92.5°	3.6	5.3	7.7	9.9	12.4	16.6	24.2	36.6	48.8	44.3	33.4
95°	9.8	10.7	13.9	18.8	26.3	37.4	62.0	104.8	152.1	170.9	138.6
97.5°	16.7	17.0	19.5	23.7	31.1	43.3	66.7	115.0	193.9	264.8	283.2
100°	21.4	21.6	23.6	27.6	34.6	45.8	66.0	108.6	184.4	272.9	329.6
102.5°	26.2	26.7	28.5	32.3	38.5	48.8	66.9	103.1	170.6	257.9	331.9
105°	33.4	34.3	36.0	39.5	44.9	53.9	69.5	99.1	153.6	231.6	314.3
107.5°	41.2	42.0	43.7	47.0	52.2	60.5	74.2	98.8	142.8	208.5	283.6
110°	46.6	47.5	49.0	52.2	57.1	65.1	78.1	100.0	138.6	195.3	264.2



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	51.8	52.6	54.1	57.2	62.1	70.0	82.0	102.3	136.2	186.5	247.4
115°	59.0	60.3	62.0	64.8	69.7	77.5	88.5	106.0	135.4	177.2	227.1
117.5°	66.4	67.7	69.1	71.8	77.3	84.5	95.3	111.0	135.9	171.6	214.7
120°	71.4	72.3	73.8	76.6	82.1	89.3	99.7	114.6	136.9	169.1	208.3
122.5°	75.8	76.7	78.1	81.3	86.5	94.2	104.3	118.1	138.4	167.5	203.0
125°	82.1	82.7	84.4	87.6	93.0	100.9	111.0	123.6	140.9	165.3	196.2
127.5°	86.9	87.7	89.9	93.1	99.1	107.0	116.7	128.1	143.7	164.4	190.2
130°	89.9	90.7	93.4	96.8	102.9	110.6	120.2	131.1	145.5	163.6	186.9
132.5°	92.2	93.3	96.1	100.3	106.3	113.9	123.1	133.9	146.9	163.4	184.0
135°	96.2	97.3	100.5	104.8	111.0	118.7	127.6	137.5	149.0	163.1	180.1
137.5°	100.0	101.3	104.4	108.9	115.0	122.1	130.8	140.1	150.3	162.4	176.7
140°	102.6	104.0	106.9	111.5	117.2	124.5	132.8	141.5	151.2	162.2	174.6
142.5°	105.3	106.6	109.7	113.8	119.6	126.3	134.4	142.8	152.0	161.8	172.8
145°	109.7	110.6	113.2	117.6	122.5	129.1	136.6	144.3	152.4	161.0	170.2
147.5°	114.3	114.8	117.3	121.1	125.8	131.4	138.3	145.3	152.4	160.0	167.9
150°	117.2	117.6	119.8	123.6	127.6	132.8	139.4	145.5	152.4	159.1	166.2
152.5°	120.3	120.3	122.6	125.9	129.5	134.4	140.1	145.9	151.7	157.9	164.4
155°	124.7	124.7	126.5	129.4	132.6	136.6	141.5	146.1	151.0	155.9	161.6
157.5°	128.3	128.6	130.0	132.5	135.2	138.3	142.2	146.3	150.0	154.1	158.5
160°	131.1	131.1	132.2	134.5	136.6	139.4	142.9	146.3	149.5	152.7	156.5
162.5°	133.1	133.1	134.1	135.9	137.7	140.1	143.2	146.1	148.6	151.3	154.3
165°	136.2	136.0	136.6	138.0	139.2	141.2	143.5	145.5	147.2	149.3	151.6
167.5°	138.6	138.3	138.6	139.7	140.5	141.8	143.4	145.0	145.9	147.2	148.9
170°	140.0	139.4	139.7	140.6	141.2	141.8	143.2	144.3	145.0	145.8	147.2
172.5°	141.0	140.6	140.6	141.3	141.6	141.9	143.2	144.1	144.2	144.6	145.6
175°	142.0	141.8	141.5	142.0	142.0	142.4	142.9	143.5	143.2	143.2	143.7
177.5°	142.6	142.4	142.1	142.4	142.4	142.4	142.6	143.0	142.6	142.4	142.6
180°	142.4	142.4	142.4	142.4	142.4	142.4	142.4	142.4	142.4	142.4	142.4



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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	12.2	12.0	11.8	11.7	11.4
90°	7.2	7.5	7.7	8.3	8.1	8.3	8.6	8.3
92.5°	24.3	19.2	17.0	15.5	15.0	14.1	14.4	13.9
95°	103.7	70.3	55.0	44.7	39.2	36.6	34.6	33.4
97.5°	258.5	207.1	169.9	135.5	114.2	101.3	93.4	91.0
100°	339.7	316.3	282.7	241.7	212.6	191.6	180.3	180.7
102.5°	366.6	365.9	346.3	320.3	297.7	281.0	271.7	265.0
105°	374.5	403.3	408.8	401.4	388.1	377.2	367.9	366.5
107.5°	351.8	398.6	423.9	434.1	434.4	430.6	427.5	424.9
110°	330.2	383.2	419.5	439.7	447.8	450.0	449.5	448.9



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CATALOG NUMBER: S123RDIP-S1000D365U930-4F0-1E-UDD-F4

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	308.8	362.9	403.6	429.5	444.3	451.4	453.6	453.7
115°	280.3	330.4	372.8	404.2	425.8	438.5	444.3	445.7
117.5°	259.8	303.0	341.0	372.9	395.5	410.0	418.2	420.2
120°	248.9	287.8	322.4	351.5	374.2	390.4	397.3	399.0
122.5°	240.4	275.6	307.6	334.7	354.9	369.4	377.0	379.2
125°	229.0	260.5	288.1	311.2	329.6	342.3	349.5	351.5
127.5°	219.2	247.1	272.1	293.1	309.5	320.3	326.9	328.6
130°	212.9	238.9	262.2	281.8	297.0	307.4	313.5	315.8
132.5°	207.2	231.0	252.7	271.4	285.8	296.1	301.5	303.1
135°	199.3	219.8	238.6	254.9	269.1	277.8	282.9	284.9
137.5°	192.2	209.0	225.2	239.5	251.3	260.1	264.4	265.8
140°	188.2	202.8	216.6	229.0	240.0	248.1	252.7	252.4
142.5°	184.3	196.8	208.8	219.6	228.9	236.1	240.2	239.9
145°	179.5	189.0	198.2	206.6	213.8	219.8	222.2	222.7
147.5°	175.6	183.2	190.6	196.6	202.0	206.1	208.3	208.6
150°	172.8	179.5	185.6	191.0	195.3	198.5	200.2	200.2
152.5°	170.3	176.0	181.4	186.0	189.3	192.2	193.3	193.3
155°	166.6	171.1	175.5	178.9	181.5	183.8	184.4	184.7
157.5°	162.5	166.3	169.7	172.4	174.6	176.3	176.8	176.8
160°	160.2	163.4	166.2	168.3	170.2	172.0	172.0	171.7
162.5°	157.4	160.1	162.8	164.6	165.9	167.4	167.4	167.1
165°	153.8	155.6	157.6	159.1	160.2	161.3	161.0	161.0
167.5°	150.7	152.1	153.2	154.3	154.7	155.6	155.3	155.3
170°	148.6	149.5	150.7	151.2	151.6	152.1	151.8	151.8
172.5°	146.8	147.5	148.4	148.7	148.8	149.4	148.9	148.6
175°	144.3	144.6	145.2	145.2	145.2	145.5	145.2	145.0
177.5°	142.8	143.0	143.2	143.2	143.0	143.2	142.8	142.8
180°	142.4	142.4	142.4	142.4	142.4	142.4	142.4	142.4

(END OF REPORT)