

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: P332334-927

Luminaire Tested: **S123RDIP-S1000D365U927-4F0-1E-UDD-F1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332334-927
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-S1000D365U927-4F0-1E-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: 3991.7 lumens
Efficiency: N/A
Efficacy: 91.8 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

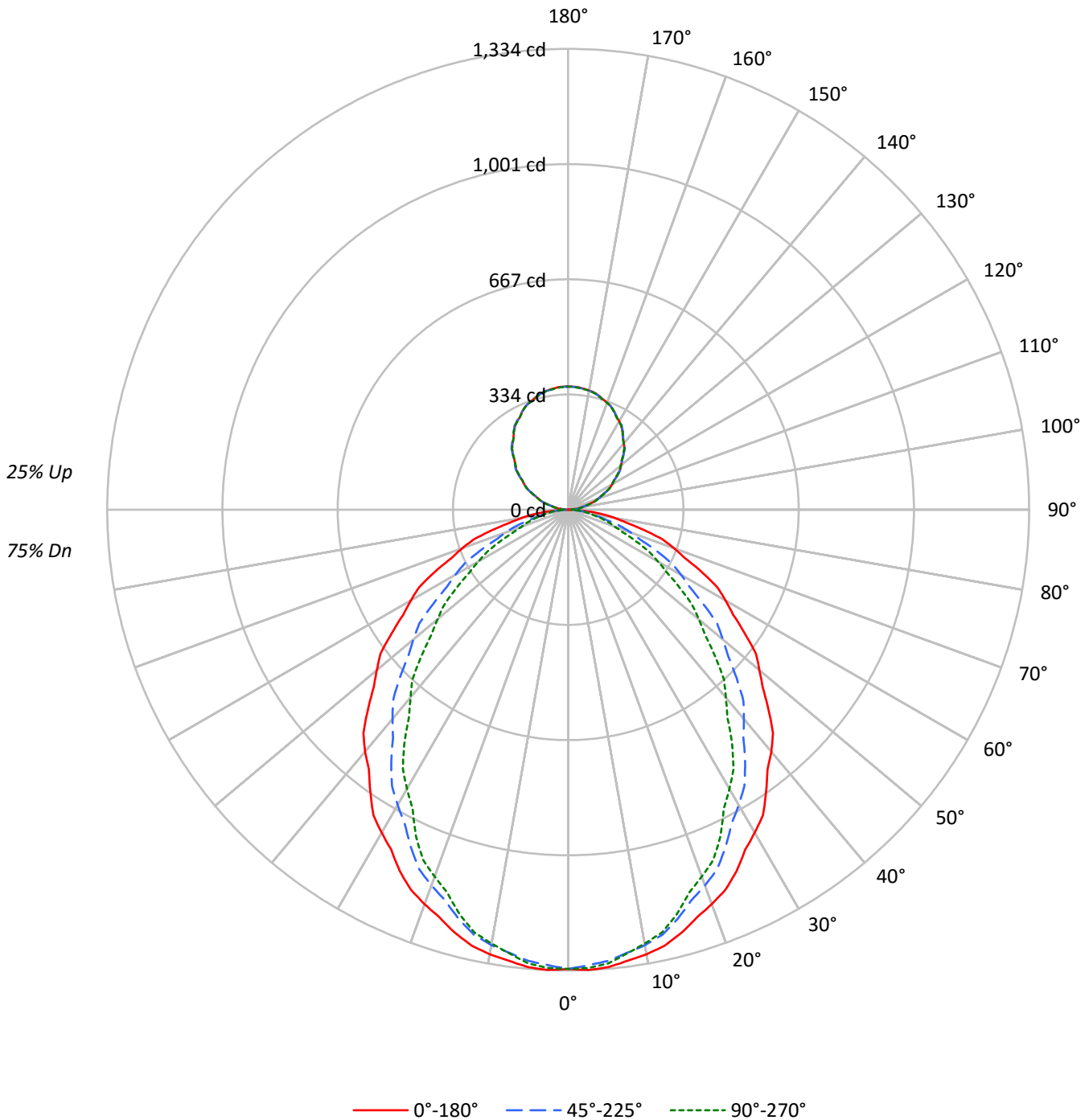
Input Watts (W): 43.5
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	14310	14310	14310
5°	14364	14166	14249
10°	14283	13988	13941
15°	14130	13661	13517
20°	13919	13252	12944
25°	13702	12792	12383
30°	13415	12263	11591
35°	13119	11730	10867
40°	12847	11105	9969
45°	12490	10488	9159
50°	12097	9786	8251
55°	11695	8983	7405
60°	11328	8125	6476
65°	10847	7195	5547
70°	10247	6039	4482
75°	9374	4754	4213
80°	8356	4209	3874
85°	7052	3730	3458



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	124.8	3.1
10°-20°	347.3	8.7
20°-30°	500.2	12.5
30°-40°	563.4	14.1
40°-50°	539.0	13.5
50°-60°	441.4	11.1
60°-70°	297.8	7.5
70°-80°	149.8	3.8
80°-90°	40.7	1.0
90°-100°	23.2	0.6
100°-110°	69.5	1.7
110°-120°	118.2	3.0
120°-130°	155.5	3.9
130°-140°	174.7	4.4
140°-150°	171.8	4.3
150°-160°	144.6	3.6
160°-170°	96.3	2.4
170°-180°	33.7	0.8
0°-30°	972.3	24.4
0°-40°	1535.7	38.5
0°-60°	2516.0	63.0
0°-90°	3004.3	75.3
90°-120°	210.9	5.3
90°-150°	712.8	17.9
90°-180°	987.0	24.7
0°-180°	3991.7	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1329	1329	1329	1329	1329	
5°	1329	1324	1311	1320	1319	126
15°	1268	1255	1226	1220	1213	357
25°	1154	1125	1077	1055	1043	530
35°	998	958	893	848	827	625
45°	820	770	689	629	602	633
55°	623	568	479	418	395	559
65°	426	365	282	232	218	421
75°	225	173	114	104	101	240
85°	57	34	30	28	28	64
90°	0	3	7	8	8	4
95°	17	18	21	22	22	19
105°	63	64	66	66	67	67
115°	119	120	119	120	119	118
125°	174	175	174	173	172	155
135°	226	228	227	226	226	174
145°	274	275	275	275	274	171
155°	314	314	314	315	313	144
165°	342	341	341	342	341	96
175°	356	354	354	356	354	34
180°	356	356	356	356	356	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1329.4	1329.4	1329.4	1329.4	1329.4	1329.4	1329.4	1329.4	1329.4	1329.4	1329.4
2.5°	1333.7	1332.9	1332.2	1331.4	1330.6	1329.1	1326.8	1324.5	1322.2	1319.9	1322.0
5°	1329.4	1328.2	1327.0	1325.8	1324.6	1322.5	1319.7	1316.8	1314.0	1311.1	1313.2
7.5°	1317.1	1315.8	1314.5	1313.2	1311.9	1309.4	1305.7	1302.0	1298.2	1294.5	1295.7
10°	1306.8	1305.1	1303.4	1301.7	1300.1	1297.0	1292.8	1288.4	1284.1	1279.8	1280.1
12.5°	1292.1	1290.2	1288.4	1286.5	1284.6	1281.0	1275.8	1270.5	1265.3	1260.0	1259.8
15°	1268.0	1265.4	1262.7	1260.0	1257.4	1252.8	1246.0	1239.3	1232.6	1225.9	1224.7
17.5°	1237.5	1234.5	1231.4	1228.4	1225.3	1219.5	1210.9	1202.5	1193.9	1185.3	1182.8
20°	1215.1	1211.3	1207.4	1203.6	1199.8	1193.3	1184.2	1175.1	1166.0	1156.9	1153.8
22.5°	1190.1	1185.7	1181.3	1176.9	1172.5	1165.5	1155.7	1146.1	1136.4	1126.7	1122.8
25°	1153.7	1147.7	1141.7	1135.7	1129.7	1121.2	1110.2	1099.2	1088.1	1077.1	1072.1
27.5°	1109.5	1102.9	1096.2	1089.6	1083.0	1073.6	1061.3	1049.0	1036.7	1024.5	1017.5
30°	1079.3	1072.1	1064.9	1057.7	1050.5	1040.2	1026.8	1013.4	1000.0	986.6	978.4
32.5°	1049.1	1040.9	1032.8	1024.6	1016.5	1005.4	991.2	977.0	962.7	948.6	939.7
35°	998.4	989.8	981.1	972.6	963.9	952.1	937.3	922.4	907.6	892.7	882.4
37.5°	947.1	937.5	927.9	918.3	908.7	896.0	880.2	864.3	848.4	832.6	820.9
40°	914.3	903.8	893.2	882.6	872.1	858.3	841.4	824.3	807.3	790.3	777.8
42.5°	877.2	866.6	856.1	845.6	835.0	821.0	803.4	785.8	768.3	750.7	737.0
45°	820.5	809.7	798.9	788.1	777.4	762.8	744.3	725.9	707.4	689.0	675.3
47.5°	763.8	751.9	740.1	728.3	716.4	701.3	682.9	664.4	645.9	627.5	612.7
50°	722.4	711.1	699.9	688.6	677.3	662.0	642.6	623.2	603.8	584.4	569.5
52.5°	685.3	673.1	660.8	648.6	636.4	620.7	601.5	582.3	563.1	543.8	528.4
55°	623.2	611.5	599.7	588.0	576.2	560.2	539.8	519.4	499.1	478.7	464.9
57.5°	565.9	553.0	540.3	527.4	514.7	498.0	477.5	457.1	436.7	416.2	403.1
60°	526.2	513.0	499.8	486.6	473.4	456.9	437.0	417.2	397.3	377.4	364.4
62.5°	486.5	473.3	460.1	446.9	433.8	417.2	397.4	377.5	357.6	337.7	325.5
65°	425.9	412.7	399.5	386.3	373.2	357.3	338.6	319.9	301.2	282.5	270.8
67.5°	365.3	352.0	338.7	325.3	312.0	296.4	278.5	260.5	242.6	224.7	215.9
70°	325.6	312.7	299.8	286.8	273.9	259.0	242.2	225.5	208.7	191.9	183.5
72.5°	285.9	273.2	260.5	247.7	235.0	220.9	205.7	190.5	175.2	160.0	153.1
75°	225.4	213.8	202.3	190.8	179.4	167.0	153.8	140.6	127.5	114.3	111.9
77.5°	170.2	159.7	149.3	138.9	128.6	119.1	110.6	102.1	93.6	85.2	83.9
80°	134.8	124.9	115.1	105.3	95.5	88.1	83.0	78.0	73.0	67.9	67.2
82.5°	101.2	92.7	84.2	75.7	67.2	61.8	59.4	57.1	54.7	52.4	51.7
85°	57.1	51.9	46.6	41.4	36.0	33.0	32.3	31.6	30.9	30.2	29.7
87.5°	20.8	18.8	16.8	14.8	12.8	11.9	12.0	12.2	12.4	12.6	12.4
90°	0.3	0.9	1.5	2.1	2.8	3.5	4.3	5.1	5.9	6.7	7.0
92.5°	6.8	7.2	7.6	8.1	8.5	8.9	9.3	9.8	10.3	10.8	10.9
95°	16.6	17.0	17.3	17.8	18.2	18.7	19.3	19.7	20.2	20.8	21.0
97.5°	29.3	29.6	30.0	30.3	30.7	31.0	31.4	31.7	32.1	32.4	32.7
100°	38.1	38.4	38.8	39.2	39.5	39.9	40.2	40.6	40.9	41.1	41.4
102.5°	48.2	48.4	48.6	48.8	49.0	49.4	49.7	50.2	50.6	51.0	51.2
105°	63.0	63.1	63.2	63.4	63.5	63.8	64.4	65.0	65.5	66.1	66.1
107.5°	80.2	80.3	80.4	80.5	80.6	80.6	80.9	81.1	81.4	81.6	81.8
110°	91.0	91.1	91.3	91.3	91.5	91.6	91.7	91.9	92.0	92.1	92.4



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	102.2	102.3	102.3	102.4	102.5	102.5	102.6	102.6	102.6	102.7	102.9
115°	119.0	119.1	119.4	119.5	119.7	119.8	119.6	119.5	119.4	119.2	119.3
117.5°	135.9	136.0	136.2	136.3	136.4	136.3	136.2	136.0	135.9	135.7	135.7
120°	146.4	146.8	147.2	147.5	147.9	147.9	147.7	147.3	147.0	146.7	146.6
122.5°	157.4	157.6	158.0	158.2	158.5	158.5	158.4	158.2	158.0	157.9	157.7
125°	174.1	174.3	174.5	174.7	174.9	174.9	174.8	174.7	174.5	174.4	174.1
127.5°	189.6	190.0	190.4	190.8	191.2	191.3	191.2	191.0	190.9	190.8	190.4
130°	199.9	200.3	200.9	201.4	201.8	202.0	201.8	201.7	201.5	201.3	201.1
132.5°	210.2	210.7	211.2	211.7	212.1	212.4	212.2	212.1	211.9	211.8	211.5
135°	225.9	226.3	226.6	227.0	227.4	227.6	227.5	227.4	227.4	227.4	227.0
137.5°	240.5	240.8	241.1	241.4	241.7	241.9	242.1	242.2	242.4	242.6	242.3
140°	250.6	250.9	251.2	251.5	251.8	252.0	252.1	252.1	252.2	252.2	252.2
142.5°	259.8	260.1	260.4	260.7	260.9	261.2	261.3	261.4	261.5	261.7	261.6
145°	274.1	274.2	274.3	274.4	274.6	274.7	274.9	275.1	275.3	275.4	275.4
147.5°	286.6	286.8	287.1	287.3	287.5	287.7	287.9	288.0	288.2	288.4	288.4
150°	295.3	295.5	295.6	295.7	295.9	296.0	296.1	296.2	296.4	296.4	296.4
152.5°	302.5	302.7	302.9	303.0	303.2	303.3	303.4	303.5	303.6	303.6	303.7
155°	313.9	313.9	313.9	313.9	313.9	313.9	313.9	313.9	314.0	314.1	314.3
157.5°	323.4	323.4	323.3	323.2	323.1	323.1	323.2	323.2	323.3	323.4	323.6
160°	329.5	329.4	329.2	329.2	329.0	328.9	328.9	328.9	328.9	328.9	329.2
162.5°	334.9	334.7	334.5	334.4	334.1	334.1	334.1	334.2	334.3	334.3	334.6
165°	341.8	341.7	341.4	341.3	341.0	341.0	341.0	341.0	341.0	341.0	341.4
167.5°	347.4	347.1	346.9	346.6	346.3	346.3	346.3	346.3	346.4	346.5	346.8
170°	350.5	350.2	350.0	349.7	349.5	349.4	349.4	349.4	349.4	349.4	349.8
172.5°	353.0	352.7	352.4	352.2	352.0	351.8	351.8	351.8	351.8	351.8	352.2
175°	355.5	355.3	355.1	354.8	354.6	354.4	354.4	354.4	354.4	354.4	354.8
177.5°	356.6	356.4	356.2	356.0	355.8	355.7	355.7	355.7	355.7	355.7	356.0
180°	356.4	356.4	356.4	356.4	356.4	356.4	356.4	356.4	356.4	356.4	356.4



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1329.4	1329.4	1329.4	1329.4	1329.4	1329.4	1329.4	1329.4
2.5°	1324.1	1326.3	1328.3	1329.2	1328.8	1328.5	1328.1	1327.7
5°	1315.4	1317.6	1319.7	1320.6	1320.1	1319.6	1319.1	1318.7
7.5°	1296.9	1298.1	1299.3	1299.5	1298.6	1297.8	1297.0	1296.2
10°	1280.3	1280.6	1280.8	1280.3	1279.1	1277.9	1276.7	1275.5
12.5°	1259.6	1259.6	1259.4	1258.6	1257.3	1255.8	1254.5	1253.1
15°	1223.5	1222.3	1221.1	1219.6	1218.0	1216.3	1214.7	1213.0
17.5°	1180.3	1177.7	1175.2	1172.7	1170.2	1167.7	1165.2	1162.7
20°	1150.6	1147.6	1144.5	1141.5	1138.6	1135.7	1132.8	1130.0
22.5°	1119.0	1115.1	1111.2	1107.9	1105.3	1102.6	1099.9	1097.2
25°	1067.1	1062.0	1057.0	1053.1	1050.5	1047.9	1045.3	1042.6
27.5°	1010.5	1003.5	996.5	991.0	987.0	982.9	978.9	974.9
30°	970.3	962.1	953.9	948.0	944.1	940.3	936.4	932.6
32.5°	930.7	921.9	912.9	906.5	902.5	898.4	894.4	890.3
35°	872.1	861.8	851.5	844.2	840.0	835.6	831.3	827.0
37.5°	809.2	797.5	785.8	777.3	772.0	766.7	761.4	756.1
40°	765.4	753.0	740.5	731.5	726.0	720.5	714.9	709.5
42.5°	723.4	709.8	696.2	686.9	682.0	677.1	672.1	667.2
45°	661.6	648.0	634.3	624.6	618.9	613.1	607.4	601.7
47.5°	597.8	583.0	568.1	558.1	552.9	547.9	542.7	537.6
50°	554.7	539.8	525.0	514.8	509.3	503.7	498.3	492.7
52.5°	513.0	497.6	482.1	471.9	467.0	462.1	457.2	452.2
55°	450.9	437.0	423.1	413.8	409.0	404.2	399.4	394.6
57.5°	389.9	376.8	363.7	355.1	351.0	346.9	342.9	338.7
60°	351.5	338.6	325.6	317.1	313.1	309.0	304.9	300.8
62.5°	313.3	301.2	289.0	280.7	276.6	272.3	268.0	263.7
65°	259.0	247.2	235.5	228.3	225.7	223.1	220.5	217.8
67.5°	207.2	198.4	189.6	183.8	181.0	178.2	175.3	172.5
70°	175.2	166.8	158.4	152.9	150.2	147.6	145.0	142.4
72.5°	146.3	139.4	132.6	128.7	127.5	126.4	125.3	124.2
75°	109.5	107.1	104.7	103.3	102.8	102.3	101.8	101.3
77.5°	82.6	81.3	80.0	79.1	78.7	78.2	77.7	77.2
80°	66.5	65.8	65.0	64.5	64.0	63.5	63.0	62.5
82.5°	50.9	50.2	49.5	49.1	49.0	49.0	48.8	48.7
85°	29.2	28.8	28.3	28.0	28.0	28.0	28.0	28.0
87.5°	12.3	12.1	12.0	11.8	11.6	11.5	11.3	11.2
90°	7.2	7.4	7.7	7.9	8.0	8.2	8.2	8.4
92.5°	11.2	11.3	11.6	11.6	11.6	11.5	11.4	11.3
95°	21.2	21.5	21.7	21.9	21.9	21.9	21.9	21.9
97.5°	33.0	33.3	33.6	33.7	33.7	33.7	33.6	33.6
100°	41.5	41.7	41.9	42.1	42.1	42.3	42.5	42.5
102.5°	51.4	51.6	51.7	51.8	51.8	51.8	51.7	51.7
105°	66.1	66.1	66.1	66.1	66.2	66.4	66.5	66.6
107.5°	82.0	82.1	82.4	82.5	82.4	82.3	82.2	82.1
110°	92.6	92.8	93.1	93.2	93.0	92.9	92.8	92.7



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CATALOG NUMBER: S123RDIP-S1000D365U927-4F0-1E-UDD-F1

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	103.2	103.5	103.9	103.9	103.9	103.9	103.9	103.9
115°	119.4	119.5	119.5	119.5	119.5	119.4	119.3	119.2
117.5°	135.7	135.7	135.7	135.5	135.4	135.2	135.1	134.9
120°	146.6	146.5	146.5	146.3	146.2	146.1	146.0	145.8
122.5°	157.6	157.4	157.2	157.1	156.9	156.7	156.5	156.4
125°	173.9	173.6	173.4	173.2	172.9	172.7	172.4	172.1
127.5°	190.0	189.7	189.3	189.0	188.8	188.5	188.2	187.9
130°	200.8	200.5	200.3	199.9	199.6	199.1	198.7	198.2
132.5°	211.2	210.9	210.6	210.3	209.9	209.6	209.3	209.0
135°	226.8	226.6	226.3	226.2	226.0	225.9	225.8	225.6
137.5°	242.1	241.9	241.5	241.3	241.1	240.8	240.6	240.3
140°	252.1	252.1	252.0	251.8	251.3	250.9	250.4	250.0
142.5°	261.5	261.4	261.4	261.2	260.9	260.5	260.2	259.8
145°	275.4	275.3	275.2	275.0	274.8	274.6	274.3	274.1
147.5°	288.4	288.4	288.4	288.2	287.9	287.5	287.1	286.7
150°	296.4	296.4	296.4	296.3	295.9	295.6	295.2	294.8
152.5°	303.8	304.0	304.0	303.9	303.6	303.2	302.9	302.6
155°	314.6	314.8	315.1	315.0	314.6	314.1	313.7	313.2
157.5°	323.8	324.2	324.4	324.3	324.0	323.7	323.3	323.0
160°	329.5	329.9	330.2	330.2	329.9	329.7	329.5	329.2
162.5°	334.9	335.3	335.6	335.5	335.1	334.7	334.3	333.9
165°	341.7	342.1	342.5	342.5	342.0	341.6	341.1	340.7
167.5°	347.2	347.6	348.0	348.0	347.6	347.2	346.8	346.5
170°	350.2	350.7	351.1	351.1	350.7	350.2	349.8	349.4
172.5°	352.6	353.0	353.4	353.4	352.9	352.5	352.0	351.6
175°	355.1	355.5	355.9	355.8	355.5	355.0	354.6	354.1
177.5°	356.3	356.6	356.9	356.9	356.6	356.2	355.8	355.5
180°	356.4	356.4	356.4	356.4	356.4	356.4	356.4	356.4

(END OF REPORT)