

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: P332333-927

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

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332333-927
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-S1000D365U927-4F0-1E-UDD-F
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 1000 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: 4153.3 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

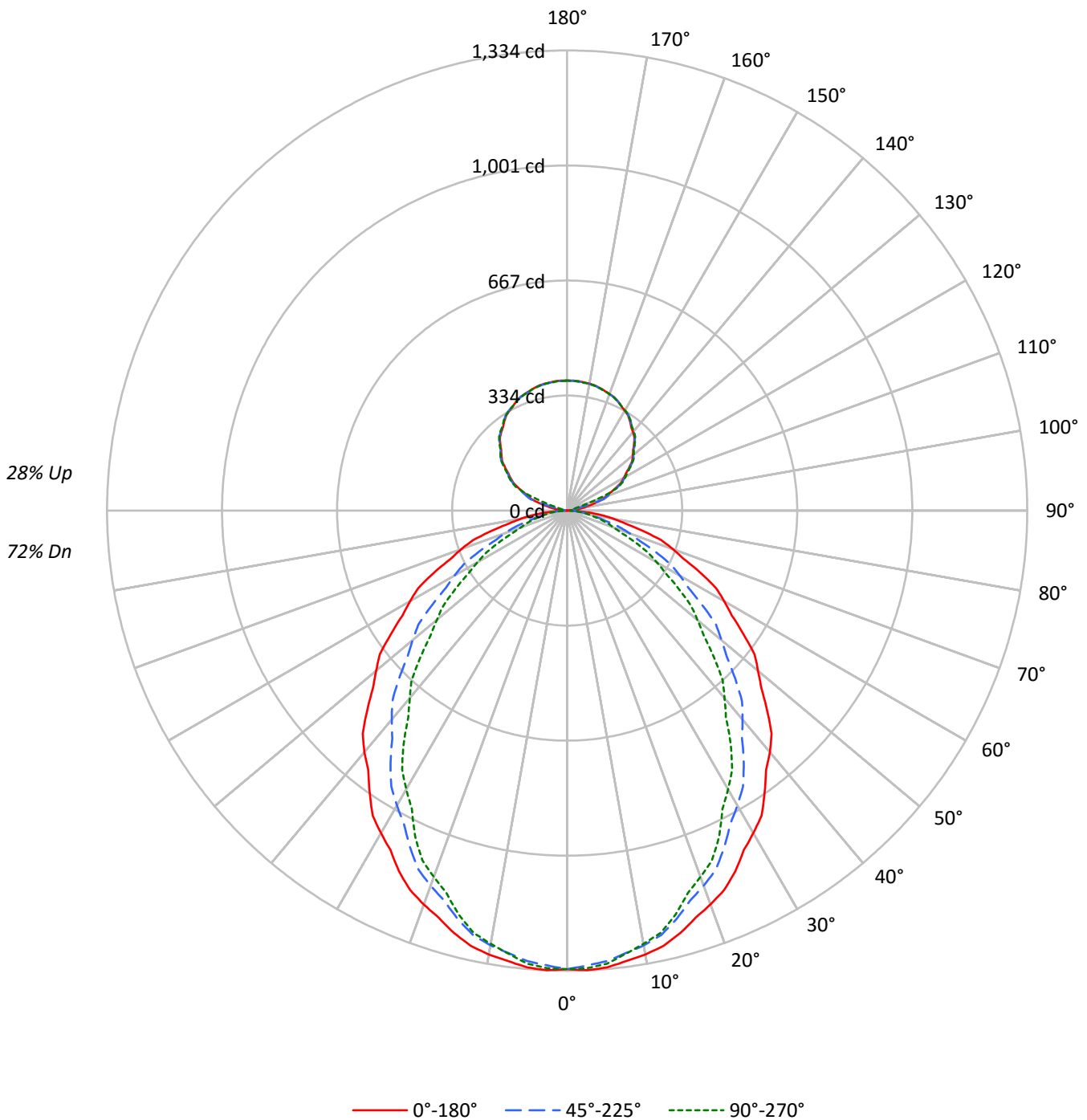
Input Watts (W): 43.5
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	112	112	112	112	107	107	107	107	96	96	96	86	86	86	77	77	77	72
1	103	99	95	92	98	94	91	88	85	82	80	76	74	73	69	67	66	62
2	94	87	81	76	89	83	77	73	75	71	67	68	64	61	61	58	56	53
3	86	77	70	64	82	73	67	61	67	61	57	60	56	52	54	51	48	45
4	79	68	60	54	75	65	58	53	59	54	49	54	49	45	49	45	42	39
5	73	61	53	47	69	59	51	46	54	47	43	49	44	40	44	40	37	34
6	68	55	47	41	64	53	45	40	48	42	37	44	39	35	40	36	33	30
7	63	50	42	36	59	48	41	35	44	38	33	40	35	31	37	33	29	27
8	58	46	38	33	55	44	37	32	40	34	30	37	32	28	34	30	26	24
9	55	42	34	29	52	40	33	28	37	31	27	34	29	25	32	27	24	22
10	51	39	31	27	49	37	30	26	34	29	24	32	27	23	29	25	22	20

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	3.0
10°-20°	347.3	8.4
20°-30°	500.2	12.0
30°-40°	563.4	13.6
40°-50°	539.0	13.0
50°-60°	441.4	10.6
60°-70°	297.8	7.2
70°-80°	149.8	3.6
80°-90°	40.7	1.0
90°-100°	13.7	0.3
100°-110°	65.3	1.6
110°-120°	156.8	3.8
120°-130°	199.7	4.8
130°-140°	213.4	5.1
140°-150°	199.5	4.8
150°-160°	160.9	3.9
160°-170°	103.9	2.5
170°-180°	35.8	0.9
0°-30°	972.3	23.4
0°-40°	1535.7	37.0
0°-60°	2516.0	60.6
0°-90°	3004.3	72.3
90°-120°	235.8	5.7
90°-150°	848.4	20.4
90°-180°	1149.0	27.7
0°-180°	4153.3	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	6	9	11	11	21
105°	83	85	61	15	12	88
115°	156	158	161	163	165	154
125°	221	223	224	224	225	197
135°	275	276	277	278	277	211
145°	317	319	319	320	320	198
155°	349	349	349	350	348	161
165°	368	367	367	369	367	104
175°	377	376	376	377	375	36
180°	377	377	377	377	377	



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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°	5.2	5.1	4.8	4.7	4.5	4.8	5.3	5.9	6.6	7.1	7.5
95°	17.1	14.5	12.0	9.4	6.9	5.9	6.7	7.3	8.0	8.7	9.1
97.5°	34.3	33.2	32.0	30.9	29.7	26.9	22.4	18.0	13.5	9.0	9.5
100°	47.3	48.6	49.8	51.0	52.3	48.1	38.3	28.7	18.9	9.3	9.7
102.5°	62.1	63.0	63.8	64.8	65.7	60.8	50.2	39.6	29.0	18.5	16.9
105°	83.4	84.1	84.8	85.5	86.2	83.7	78.1	72.5	66.9	61.3	50.3
107.5°	105.9	106.5	107.0	107.6	108.1	108.8	109.7	110.6	111.5	112.3	104.3
110°	121.0	121.4	121.9	122.4	122.9	123.5	124.2	124.8	125.6	126.3	124.2



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	135.2	135.7	136.2	136.6	137.0	137.6	138.3	139.0	139.7	140.4	140.4
115°	156.5	156.9	157.2	157.6	158.0	158.4	159.0	159.5	160.1	160.7	161.3
117.5°	177.1	177.5	177.9	178.4	178.9	179.3	179.5	179.8	180.1	180.4	180.9
120°	189.8	190.4	190.9	191.5	192.0	192.4	192.6	192.8	193.0	193.1	193.7
122.5°	202.8	203.3	203.7	204.1	204.6	204.9	205.2	205.4	205.7	205.9	206.3
125°	220.6	221.1	221.6	222.0	222.6	222.9	223.2	223.5	223.7	223.9	224.1
127.5°	237.8	238.4	238.8	239.3	239.8	240.2	240.5	240.8	241.1	241.4	241.6
130°	248.6	249.1	249.5	250.1	250.6	251.0	251.2	251.4	251.7	251.9	252.2
132.5°	258.9	259.4	259.9	260.4	260.9	261.2	261.4	261.7	261.8	262.1	262.3
135°	274.6	275.0	275.4	275.8	276.1	276.4	276.6	276.9	277.2	277.4	277.6
137.5°	288.0	288.5	289.0	289.5	289.9	290.3	290.4	290.5	290.7	290.8	291.1
140°	297.0	297.4	297.8	298.1	298.5	298.8	299.0	299.1	299.4	299.5	299.8
142.5°	305.3	305.7	306.0	306.4	306.8	307.0	307.3	307.4	307.6	307.8	308.0
145°	316.9	317.3	317.7	318.2	318.6	318.9	319.0	319.2	319.2	319.4	319.6
147.5°	327.8	328.1	328.4	328.7	328.9	329.2	329.3	329.4	329.5	329.6	329.8
150°	334.5	334.7	334.9	335.1	335.3	335.4	335.6	335.6	335.8	335.9	336.0
152.5°	340.6	340.6	340.7	340.8	340.9	341.0	341.0	341.1	341.2	341.3	341.5
155°	349.1	349.0	348.8	348.7	348.6	348.6	348.6	348.6	348.7	348.8	349.1
157.5°	355.7	355.7	355.7	355.6	355.6	355.6	355.5	355.5	355.4	355.4	355.7
160°	359.7	359.7	359.6	359.5	359.5	359.4	359.3	359.3	359.3	359.2	359.5
162.5°	363.5	363.4	363.2	363.1	362.9	362.7	362.7	362.7	362.6	362.5	362.9
165°	368.1	367.9	367.7	367.6	367.3	367.3	367.2	367.1	367.0	367.0	367.5
167.5°	371.7	371.5	371.2	371.0	370.7	370.6	370.6	370.6	370.6	370.6	371.1
170°	373.7	373.4	373.2	373.0	372.7	372.6	372.6	372.6	372.6	372.6	373.1
172.5°	375.0	374.8	374.5	374.1	373.8	373.8	373.8	373.8	373.9	373.9	374.5
175°	376.8	376.4	376.1	375.9	375.6	375.4	375.5	375.6	375.6	375.7	376.1
177.5°	377.2	377.0	376.8	376.5	376.2	376.1	376.2	376.2	376.3	376.4	376.8
180°	376.8	376.8	376.8	376.8	376.8	376.8	376.8	376.8	376.8	376.8	376.8



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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°	8.0	8.4	8.8	9.0	9.0	9.1	9.2	9.3
95°	9.6	10.0	10.5	10.6	10.6	10.6	10.6	10.6
97.5°	10.0	10.5	11.0	11.2	11.3	11.4	11.5	11.6
100°	10.2	10.7	11.2	11.5	11.6	11.6	11.7	11.7
102.5°	15.4	13.8	12.3	11.6	11.6	11.7	11.9	12.0
105°	39.3	28.3	17.3	11.8	12.0	12.0	12.2	12.3
107.5°	96.3	88.2	80.1	71.9	63.6	55.3	47.0	38.7
110°	122.2	120.1	118.0	112.6	103.7	94.7	85.9	77.0



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

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	140.5	140.5	140.5	139.6	137.7	135.9	134.0	132.1
115°	161.9	162.6	163.2	163.6	163.8	164.1	164.4	164.6
117.5°	181.4	181.9	182.4	182.7	182.7	182.8	182.8	182.8
120°	194.2	194.6	195.1	195.4	195.4	195.4	195.4	195.4
122.5°	206.6	207.0	207.3	207.5	207.6	207.6	207.6	207.7
125°	224.2	224.3	224.4	224.6	224.7	224.8	225.0	225.1
127.5°	241.8	242.0	242.2	242.2	242.1	242.0	241.9	241.8
130°	252.5	252.7	252.9	253.0	252.9	252.8	252.6	252.5
132.5°	262.5	262.8	263.0	263.1	262.8	262.7	262.5	262.4
135°	277.8	278.0	278.1	278.1	278.0	277.8	277.6	277.4
137.5°	291.4	291.7	292.0	292.1	291.9	291.8	291.7	291.6
140°	300.0	300.2	300.6	300.6	300.5	300.3	300.2	300.1
142.5°	308.2	308.4	308.6	308.6	308.5	308.2	308.1	307.9
145°	319.6	319.8	319.9	320.0	320.0	320.0	320.0	320.0
147.5°	329.9	330.0	330.2	330.1	329.8	329.5	329.2	328.9
150°	336.2	336.3	336.4	336.4	336.2	336.0	335.8	335.6
152.5°	341.7	342.0	342.2	342.1	341.9	341.6	341.3	341.0
155°	349.4	349.7	350.1	350.0	349.7	349.3	348.9	348.5
157.5°	356.1	356.5	356.9	356.8	356.3	355.8	355.3	354.8
160°	359.9	360.3	360.7	360.6	360.2	359.7	359.3	358.9
162.5°	363.4	363.8	364.2	364.2	363.8	363.5	363.1	362.7
165°	368.0	368.5	369.0	369.0	368.6	368.1	367.7	367.3
167.5°	371.5	372.1	372.6	372.6	372.1	371.5	371.1	370.6
170°	373.6	374.1	374.5	374.5	374.1	373.6	373.1	372.6
172.5°	374.9	375.4	375.9	375.9	375.3	374.8	374.2	373.7
175°	376.5	377.0	377.4	377.4	376.9	376.4	375.9	375.4
177.5°	377.2	377.6	378.0	377.9	377.4	376.9	376.4	375.9
180°	376.8	376.8	376.8	376.8	376.8	376.8	376.8	376.8

(END OF REPORT)