

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: P331827-830

Luminaire Tested: **S122RDIW-S865D435U830-4F0-1E-UDD-F**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P331827-830
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-2,
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S122RDIW-S865D435U830-4F0-1E-UDD-F
Description: DEFINE 2 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 865 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED
HOUSING
UPLIGHT 435 LUMENS PER FOOT, NO LENS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4475.4 lumens
Efficiency: N/A
Efficacy: 96.9 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular (W 0.17' x L: 4' x H: 0')
CIE Type: Semi-Direct

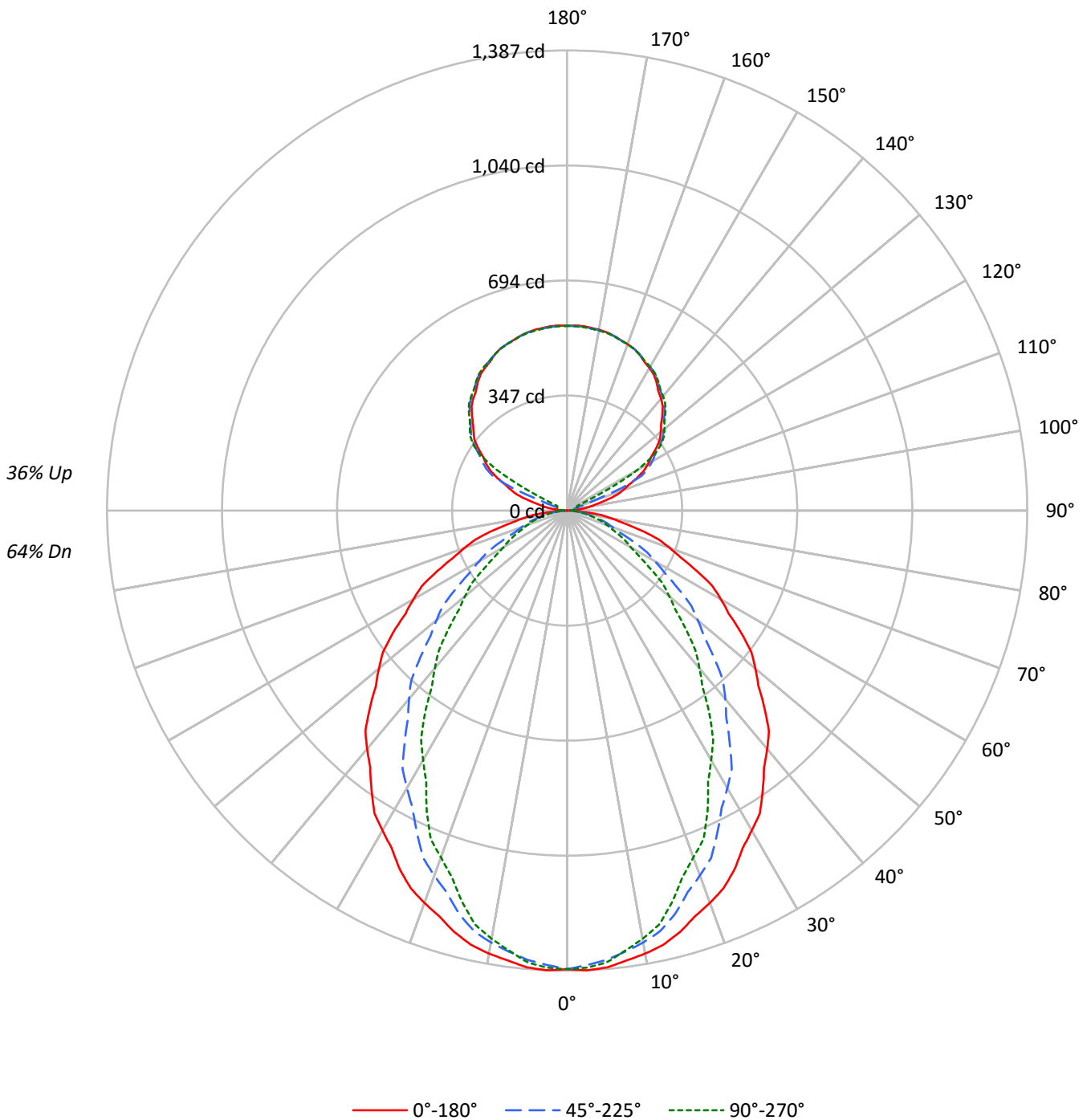
Input Watts (W): 46.2
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	0
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	0
RCR																		
0	110	110	110	110	104	104	104	104	91	91	91	79	79	79	69	69	69	64
1	101	97	93	90	95	91	88	85	81	78	76	71	69	67	62	60	59	55
2	93	86	80	75	87	81	75	71	71	67	64	63	60	57	55	53	51	47
3	85	76	69	63	80	72	65	60	64	59	54	56	52	49	49	46	44	40
4	78	68	60	54	73	64	57	52	57	51	47	50	46	43	44	41	38	35
5	72	61	53	47	68	57	50	45	51	46	41	46	41	37	40	37	34	31
6	67	55	47	41	63	52	45	39	47	41	36	42	37	33	37	33	30	28
7	62	50	42	36	58	47	40	35	42	37	32	38	33	30	34	30	27	25
8	58	45	38	32	54	43	36	31	39	33	29	35	30	27	31	27	24	22
9	54	42	34	29	51	40	33	28	36	30	26	32	28	24	29	25	22	20
10	50	38	31	26	47	37	30	25	33	28	24	30	25	22	27	23	20	18

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	22315	22315	22315
5°	22400	22034	22156
10°	22228	21674	21489
15°	21972	21031	20425
20°	21618	20113	19105
25°	21257	19073	17826
30°	20752	18000	16183
35°	20262	16837	14741
40°	19770	15633	13076
45°	19192	14280	11565
50°	18600	12913	10083
55°	17990	11443	8659
60°	17286	9894	7188
65°	16485	8313	6548
70°	15526	6850	6019
75°	14361	6245	5614
80°	12673	5579	5114
85°	9967	4409	4409



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	129.4	2.9
10°-20°	355.2	7.9
20°-30°	498.8	11.1
30°-40°	543.9	12.2
40°-50°	500.1	11.2
50°-60°	392.8	8.8
60°-70°	256.1	5.7
70°-80°	132.0	2.9
80°-90°	35.6	0.8
90°-100°	18.6	0.4
100°-110°	68.1	1.5
110°-120°	182.0	4.1
120°-130°	300.5	6.7
130°-140°	319.6	7.1
140°-150°	297.0	6.6
150°-160°	238.8	5.3
160°-170°	153.9	3.4
170°-180°	53.0	1.2
0°-30°	983.3	22.0
0°-40°	1527.2	34.1
0°-60°	2420.1	54.1
0°-90°	2843.8	63.5
90°-120°	268.7	6.0
90°-150°	1185.9	26.5
90°-180°	1632.0	36.5
0°-180°	4475.4	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1382	1382	1382	1382	1382	
5°	1382	1375	1360	1370	1367	131
15°	1314	1299	1258	1235	1222	370
25°	1193	1151	1071	1021	1001	548
35°	1028	962	854	778	748	643
45°	840	754	625	540	506	649
55°	639	539	406	334	308	571
65°	432	330	218	177	171	428
75°	230	145	100	92	90	244
85°	54	29	24	24	24	63
90°	0	5	8	10	11	3
95°	26	14	16	18	17	32
105°	122	128	25	29	31	131
115°	232	239	248	71	33	228
125°	328	333	340	343	344	292
135°	405	412	415	419	419	313
145°	470	470	476	479	477	294
155°	518	514	519	521	518	238
165°	545	543	544	547	544	154
175°	558	555	556	558	555	53
180°	557	557	557	557	557	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1382.1	1382.1	1382.1	1382.1	1382.1	1382.1	1382.1	1382.1	1382.1	1382.1	1382.1
2.5°	1387.0	1385.9	1384.8	1383.7	1382.6	1380.8	1378.4	1375.9	1373.5	1371.0	1373.3
5°	1382.1	1380.6	1379.2	1377.8	1376.5	1373.9	1370.4	1366.8	1363.1	1359.5	1362.0
7.5°	1367.7	1366.0	1364.3	1362.6	1360.8	1357.9	1353.7	1349.4	1345.2	1341.0	1341.7
10°	1355.8	1353.8	1351.9	1349.9	1347.9	1344.3	1338.7	1333.1	1327.6	1322.0	1321.2
12.5°	1340.8	1338.3	1336.0	1333.6	1331.2	1326.4	1319.3	1312.2	1305.0	1298.0	1296.5
15°	1314.5	1311.5	1308.3	1305.3	1302.2	1296.0	1286.6	1277.1	1267.6	1258.2	1252.9
17.5°	1282.2	1277.5	1272.9	1268.2	1263.6	1255.2	1243.0	1230.9	1218.8	1206.6	1200.4
20°	1258.2	1252.6	1247.1	1241.5	1236.0	1226.2	1212.3	1198.4	1184.6	1170.6	1163.7
22.5°	1232.2	1226.0	1219.7	1213.5	1207.3	1196.4	1180.6	1165.0	1149.3	1133.6	1124.6
25°	1193.2	1184.3	1175.4	1166.5	1157.6	1144.0	1125.6	1107.3	1088.9	1070.6	1059.2
27.5°	1146.1	1136.4	1126.8	1117.1	1107.5	1092.3	1071.6	1050.9	1030.2	1009.6	996.3
30°	1113.1	1102.6	1092.0	1081.5	1070.9	1054.5	1032.3	1010.0	987.8	965.5	951.4
32.5°	1081.1	1068.7	1056.4	1044.1	1031.7	1014.3	991.6	968.8	946.2	923.5	907.4
35°	1028.0	1013.9	999.8	985.5	971.4	952.1	927.6	903.1	878.7	854.2	836.7
37.5°	975.1	959.5	944.0	928.3	912.8	891.9	865.9	839.8	813.8	787.7	768.4
40°	938.0	921.3	904.7	888.0	871.3	849.5	822.6	795.6	768.6	741.7	721.9
42.5°	900.0	882.4	864.9	847.3	829.7	807.0	779.2	751.3	723.5	695.6	675.2
45°	840.5	821.8	803.2	784.6	766.0	742.1	712.9	683.7	654.5	625.4	605.6
47.5°	782.4	762.7	743.0	723.2	703.5	678.5	648.5	618.3	588.1	558.1	538.5
50°	740.5	720.7	701.0	681.2	661.5	636.3	605.8	575.1	544.6	514.1	494.8
52.5°	699.4	678.7	658.2	637.5	616.9	591.6	561.8	531.8	501.9	472.0	453.5
55°	639.1	617.5	595.8	574.1	552.4	526.5	496.5	466.5	436.5	406.5	389.8
57.5°	577.3	555.1	532.8	510.6	488.4	462.9	433.9	405.1	376.3	347.4	332.2
60°	535.3	513.0	490.9	468.6	446.4	420.9	392.3	363.6	335.1	306.4	292.3
62.5°	494.3	472.0	449.8	427.5	405.3	380.6	353.3	326.0	298.7	271.4	257.9
65°	431.5	409.0	386.4	363.9	341.5	317.6	292.7	267.7	242.6	217.6	208.2
67.5°	371.0	348.6	326.3	303.9	281.5	259.1	236.7	214.1	191.6	169.1	164.8
70°	328.9	307.3	285.6	263.9	242.2	221.8	202.6	183.4	164.3	145.1	142.3
72.5°	288.9	268.2	247.3	226.6	205.8	187.7	172.3	156.8	141.5	126.1	123.8
75°	230.2	210.7	191.2	171.7	152.3	137.9	128.4	118.9	109.5	100.1	98.1
77.5°	172.4	155.2	138.2	121.1	104.1	93.3	88.7	84.2	79.6	75.0	73.9
80°	136.3	122.2	108.0	93.8	79.6	71.2	68.3	65.6	62.8	60.0	58.9
82.5°	103.3	92.3	81.2	70.1	59.1	52.6	50.7	48.8	46.9	45.1	44.4
85°	53.8	48.0	42.1	36.3	30.4	27.1	26.3	25.4	24.6	23.8	23.8
87.5°	16.1	14.5	12.9	11.3	9.8	9.0	9.1	9.3	9.5	9.6	9.5
90°	0.4	1.4	2.4	3.4	4.3	5.2	5.9	6.6	7.4	8.0	8.5
92.5°	8.1	8.0	7.9	7.8	7.8	7.9	8.3	8.7	9.0	9.3	9.6
95°	26.2	23.2	20.3	17.3	14.3	13.2	13.9	14.4	15.1	15.7	16.1
97.5°	51.9	43.6	35.3	27.0	18.7	15.3	16.7	18.1	19.6	21.0	21.4
100°	71.4	59.0	46.8	34.5	22.2	16.9	18.4	19.9	21.4	23.0	23.7
102.5°	92.6	90.0	87.4	84.8	82.2	74.6	61.8	49.1	36.4	23.6	24.5
105°	122.4	125.2	127.8	130.5	133.2	122.3	97.9	73.4	49.0	24.6	25.5
107.5°	156.6	158.7	160.9	163.1	165.2	151.7	122.3	93.0	63.7	34.4	33.4
110°	178.4	180.3	182.2	184.1	186.0	174.0	148.1	122.2	96.3	70.5	61.5



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	199.1	200.8	202.5	204.1	205.8	203.4	197.0	190.6	184.2	177.9	145.2
115°	231.7	233.2	234.7	236.2	237.7	239.6	241.9	244.1	246.3	248.5	207.1
117.5°	260.7	262.4	264.1	265.8	267.5	269.2	270.7	272.2	273.8	275.3	265.3
120°	282.0	283.3	284.6	286.1	287.4	288.9	290.5	292.1	293.7	295.3	296.3
122.5°	300.0	301.4	302.8	304.3	305.7	307.3	309.1	310.8	312.5	314.3	315.0
125°	327.5	328.7	329.9	331.0	332.2	333.6	335.4	337.1	338.7	340.4	341.0
127.5°	352.4	353.7	355.0	356.3	357.6	358.8	360.1	361.4	362.7	363.9	364.9
130°	368.3	369.7	371.1	372.5	373.9	375.1	376.2	377.1	378.1	379.1	380.0
132.5°	384.4	385.5	386.7	388.0	389.2	390.3	391.2	392.3	393.2	394.3	395.1
135°	405.3	406.7	408.1	409.5	411.0	412.1	412.9	413.8	414.5	415.4	416.2
137.5°	426.5	427.4	428.5	429.5	430.5	431.4	432.3	433.3	434.1	435.1	435.9
140°	440.4	441.0	441.8	442.4	443.2	444.0	445.1	446.0	447.0	448.0	448.7
142.5°	451.9	452.6	453.2	453.8	454.5	455.4	456.5	457.6	458.7	459.9	460.6
145°	470.1	470.0	470.0	469.9	469.8	470.5	472.0	473.5	475.0	476.5	477.2
147.5°	486.0	485.7	485.3	485.0	484.7	485.2	486.7	488.2	489.7	491.3	491.7
150°	496.3	495.7	495.0	494.5	493.8	494.2	495.7	497.1	498.5	499.9	500.5
152.5°	505.0	504.4	503.6	502.9	502.2	502.6	503.9	505.3	506.6	508.0	508.5
155°	517.6	516.9	516.0	515.3	514.4	514.6	515.7	516.7	517.8	518.9	519.4
157.5°	527.5	526.9	526.2	525.6	524.9	524.9	525.7	526.4	527.2	527.9	528.5
160°	533.4	532.8	532.3	531.8	531.2	531.2	531.8	532.3	532.8	533.4	534.0
162.5°	538.6	538.0	537.4	537.0	536.4	536.4	536.8	537.2	537.7	538.2	538.9
165°	545.4	545.0	544.4	543.8	543.3	543.2	543.5	543.8	544.0	544.2	544.9
167.5°	550.6	550.1	549.6	549.0	548.5	548.4	548.6	548.8	549.1	549.3	550.0
170°	553.6	553.0	552.4	552.0	551.4	551.2	551.4	551.6	551.8	552.0	552.5
172.5°	555.4	555.0	554.4	553.8	553.3	553.2	553.3	553.5	553.6	553.8	554.5
175°	558.0	557.3	556.7	556.1	555.4	555.3	555.4	555.6	555.7	555.9	556.6
177.5°	558.4	557.9	557.3	556.9	556.4	556.1	556.2	556.3	556.4	556.4	556.9
180°	556.8	556.8	556.8	556.8	556.8	556.8	556.8	556.8	556.8	556.8	556.8



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1382.1	1382.1	1382.1	1382.1	1382.1	1382.1	1382.1	1382.1
2.5°	1375.5	1377.7	1379.9	1380.8	1380.4	1379.9	1379.5	1379.0
5°	1364.5	1367.0	1369.5	1370.4	1369.5	1368.7	1367.8	1367.0
7.5°	1342.5	1343.1	1343.9	1343.5	1342.1	1340.7	1339.2	1337.8
10°	1320.3	1319.5	1318.6	1317.4	1315.7	1314.1	1312.4	1310.7
12.5°	1295.0	1293.5	1291.9	1289.9	1287.0	1284.3	1281.5	1278.7
15°	1247.6	1242.4	1237.1	1233.0	1230.3	1227.5	1224.7	1221.9
17.5°	1194.1	1187.8	1181.6	1176.0	1171.2	1166.5	1161.7	1156.9
20°	1156.8	1149.8	1142.8	1136.3	1130.2	1124.1	1117.9	1111.9
22.5°	1115.8	1106.8	1097.9	1091.1	1086.6	1081.9	1077.4	1072.9
25°	1047.8	1036.4	1025.0	1017.2	1013.0	1008.9	1004.8	1000.6
27.5°	983.0	969.7	956.4	946.5	939.9	933.2	926.6	920.0
30°	937.2	923.0	908.8	898.0	890.5	883.0	875.5	868.0
32.5°	891.2	875.0	858.8	847.2	840.2	833.1	826.0	819.0
35°	819.2	801.7	784.2	772.4	766.3	760.2	754.0	747.9
37.5°	749.1	729.8	710.6	697.4	690.4	683.3	676.4	669.4
40°	702.2	682.5	662.7	649.2	642.1	634.8	627.5	620.4
42.5°	654.9	634.4	614.1	600.3	593.3	586.4	579.3	572.3
45°	585.9	566.2	546.4	533.2	526.5	519.9	513.2	506.5
47.5°	518.8	499.2	479.6	466.7	460.7	454.6	448.6	442.5
50°	475.7	456.5	437.3	424.8	419.0	413.1	407.3	401.4
52.5°	435.0	416.5	397.9	386.1	380.6	375.2	369.9	364.5
55°	373.2	356.5	339.8	328.8	323.5	318.2	312.9	307.6
57.5°	316.9	301.6	286.3	276.4	272.0	267.5	263.1	258.6
60°	278.1	263.9	249.7	240.4	235.9	231.5	227.1	222.6
62.5°	244.4	230.9	217.4	209.2	206.6	204.0	201.2	198.6
65°	198.7	189.3	179.8	174.7	173.8	173.1	172.2	171.4
67.5°	160.4	156.1	151.7	149.1	148.3	147.3	146.5	145.6
70°	139.5	136.8	133.9	132.1	130.9	129.8	128.7	127.5
72.5°	121.4	119.0	116.7	115.3	114.5	113.9	113.2	112.5
75°	96.1	94.3	92.3	91.1	90.9	90.6	90.3	90.0
77.5°	72.9	71.7	70.6	69.8	69.4	68.9	68.5	68.1
80°	57.8	56.7	55.6	55.0	55.0	55.0	55.0	55.0
82.5°	43.7	43.0	42.3	42.0	42.0	42.0	42.0	42.0
85°	23.8	23.8	23.8	23.8	23.8	23.8	23.8	23.8
87.5°	9.3	9.2	9.0	9.0	9.0	9.1	9.1	9.1
90°	9.0	9.4	9.8	10.2	10.4	10.6	10.7	10.8
92.5°	9.8	10.1	10.3	10.5	10.6	10.7	10.7	10.8
95°	16.6	17.1	17.5	17.7	17.6	17.5	17.4	17.3
97.5°	21.8	22.1	22.4	22.7	22.8	22.9	23.0	23.1
100°	24.4	25.1	25.8	26.3	26.5	26.7	26.8	27.0
102.5°	25.4	26.4	27.3	27.9	28.2	28.5	28.7	28.9
105°	26.6	27.5	28.6	29.2	29.5	29.9	30.3	30.6
107.5°	32.4	31.4	30.3	30.1	30.4	30.8	31.1	31.5
110°	52.6	43.6	34.7	30.3	30.7	31.1	31.5	31.9



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CATALOG NUMBER: S122RDIW-S865D435U830-4F0-1E-UDD-F

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	112.5	79.8	47.2	31.0	31.3	31.6	31.9	32.1
115°	165.7	124.2	82.8	58.8	52.4	45.9	39.5	33.0
117.5°	255.2	245.2	235.2	219.6	198.4	177.2	156.1	134.9
120°	297.5	298.5	299.6	294.1	282.0	269.9	257.8	245.7
122.5°	315.6	316.2	316.9	316.0	313.7	311.3	309.0	306.6
125°	341.7	342.3	342.9	343.4	343.7	343.9	344.2	344.4
127.5°	365.8	366.6	367.6	368.1	368.2	368.2	368.3	368.3
130°	381.1	382.0	383.0	383.5	383.4	383.3	383.2	383.1
132.5°	396.0	396.7	397.6	397.9	397.8	397.8	397.8	397.7
135°	417.2	418.0	419.0	419.2	419.1	419.0	418.8	418.6
137.5°	436.9	437.7	438.6	438.8	438.6	438.3	438.0	437.6
140°	449.6	450.4	451.2	451.4	450.9	450.4	450.1	449.6
142.5°	461.4	462.1	462.9	463.0	462.5	462.1	461.7	461.2
145°	477.9	478.4	479.1	479.2	478.7	478.2	477.9	477.4
147.5°	492.2	492.7	493.1	493.1	492.8	492.4	492.0	491.6
150°	501.1	501.5	502.1	502.2	501.7	501.2	500.8	500.4
152.5°	509.1	509.6	510.2	510.1	509.5	509.0	508.3	507.7
155°	520.0	520.5	521.0	520.9	520.2	519.5	518.8	518.1
157.5°	529.1	529.7	530.4	530.3	529.6	528.9	528.2	527.5
160°	534.4	535.0	535.6	535.5	534.9	534.2	533.6	533.0
162.5°	539.4	540.1	540.6	540.5	539.8	539.0	538.3	537.5
165°	545.5	546.1	546.8	546.8	546.1	545.5	544.9	544.2
167.5°	550.6	551.2	551.9	551.8	550.9	550.2	549.3	548.6
170°	553.2	553.8	554.4	554.3	553.6	552.7	552.0	551.1
172.5°	555.1	555.7	556.4	556.3	555.4	554.7	553.8	553.1
175°	557.2	557.8	558.5	558.4	557.4	556.6	555.6	554.8
177.5°	557.4	557.9	558.5	558.4	557.7	557.0	556.4	555.8
180°	556.8	556.8	556.8	556.8	556.8	556.8	556.8	556.8

(END OF REPORT)