

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: P331827-930

Luminaire Tested: **S122RDIW-S865D435U930-4F0-1E-UDD-F**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P331827-930  
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-S865D435U930-4F0-1E-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: 3871.2 lumens  
Efficiency: N/A  
Efficacy: 83.8 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

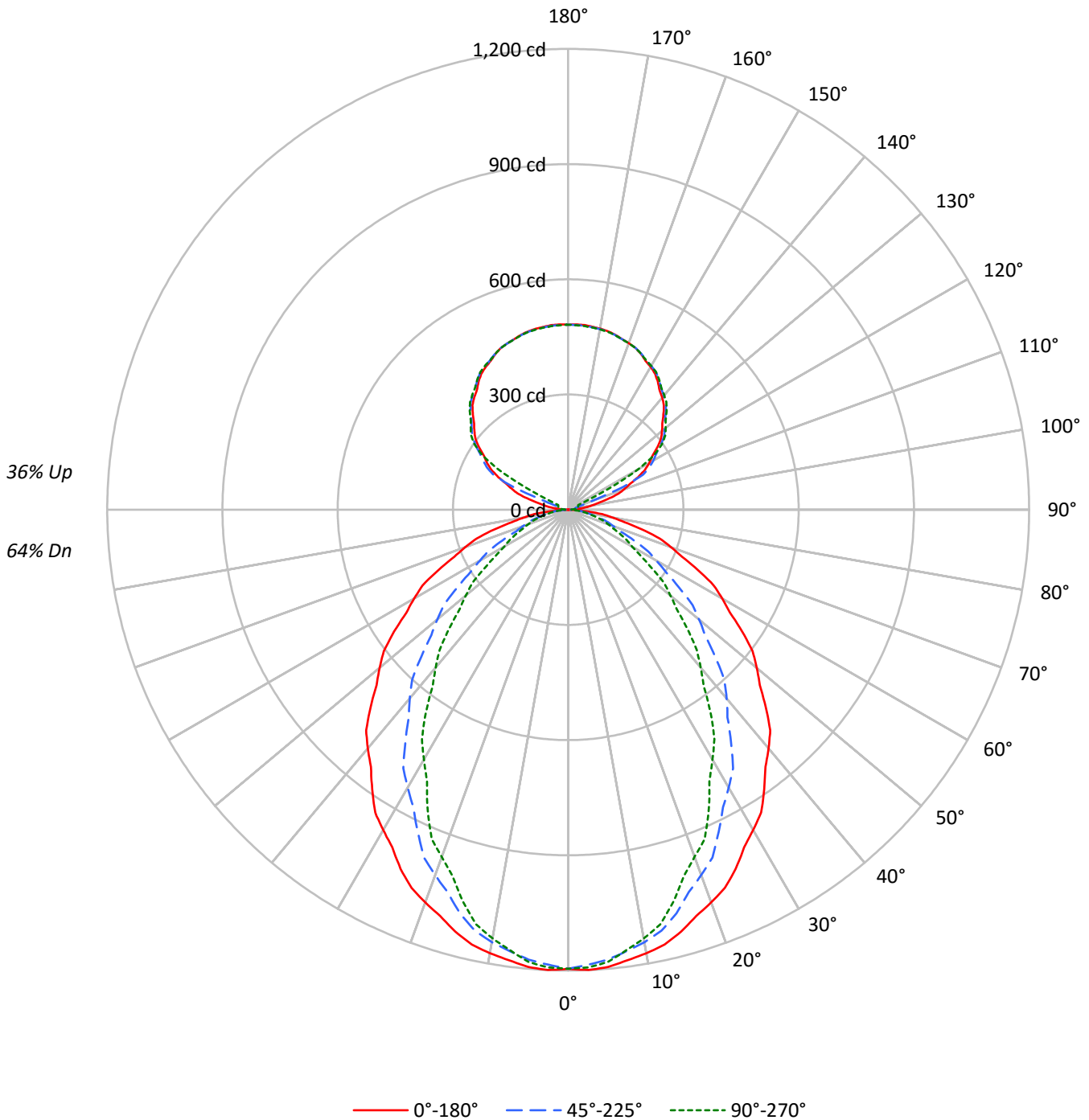
Input Watts (W): 46.2  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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°	19302	19302	19302
5°	19376	19060	19164
10°	19226	18748	18589
15°	19005	18191	17668
20°	18699	17399	16526
25°	18387	16498	15419
30°	17952	15571	13998
35°	17527	14564	12751
40°	17102	13523	11310
45°	16600	12353	10003
50°	16088	11170	8721
55°	15564	9897	7491
60°	14951	8561	6219
65°	14258	7194	5662
70°	13430	5925	5207
75°	12420	5402	4860
80°	10962	4826	4426
85°	8633	3798	3798



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	111.9	2.9
10°-20°	307.2	7.9
20°-30°	431.5	11.1
30°-40°	470.5	12.2
40°-50°	432.6	11.2
50°-60°	339.7	8.8
60°-70°	221.5	5.7
70°-80°	114.2	2.9
80°-90°	30.8	0.8
90°-100°	16.1	0.4
100°-110°	58.9	1.5
110°-120°	157.5	4.1
120°-130°	259.9	6.7
130°-140°	276.4	7.1
140°-150°	256.9	6.6
150°-160°	206.6	5.3
160°-170°	133.1	3.4
170°-180°	45.8	1.2
0°-30°	850.6	22.0
0°-40°	1321.1	34.1
0°-60°	2093.4	54.1
0°-90°	2459.9	63.5
90°-120°	232.4	6.0
90°-150°	1025.8	26.5
90°-180°	1411.0	36.4
0°-180°	3871.2	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1196	1196	1196	1196	1196	
5°	1196	1190	1176	1185	1182	113
15°	1137	1124	1088	1068	1057	320
25°	1032	995	926	883	866	474
35°	889	832	739	673	647	556
45°	727	652	541	467	438	561
55°	553	467	352	289	266	494
65°	373	285	188	153	148	370
75°	199	126	87	79	78	211
85°	47	25	20	20	20	55
90°	0	4	7	9	9	3
95°	23	12	14	15	15	28
105°	106	110	21	25	26	113
115°	200	206	215	61	28	197
125°	283	288	294	297	298	252
135°	351	356	359	362	362	271
145°	407	407	412	414	413	254
155°	448	445	449	451	448	206
165°	472	470	471	473	471	133
175°	483	480	481	483	480	46
180°	482	482	482	482	482	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1195.5	1195.5	1195.5	1195.5	1195.5	1195.5	1195.5	1195.5	1195.5	1195.5	1195.5
2.5°	1199.8	1198.8	1197.8	1196.9	1196.0	1194.4	1192.3	1190.2	1188.1	1185.9	1187.9
5°	1195.5	1194.3	1193.0	1191.8	1190.7	1188.5	1185.4	1182.3	1179.1	1176.0	1178.1
7.5°	1183.1	1181.6	1180.1	1178.7	1177.1	1174.6	1170.9	1167.3	1163.6	1159.9	1160.6
10°	1172.7	1171.0	1169.4	1167.7	1166.0	1162.8	1158.0	1153.2	1148.3	1143.5	1142.8
12.5°	1159.8	1157.6	1155.6	1153.6	1151.4	1147.4	1141.2	1135.1	1128.9	1122.7	1121.4
15°	1137.0	1134.4	1131.7	1129.1	1126.4	1121.0	1112.9	1104.7	1096.5	1088.3	1083.8
17.5°	1109.1	1105.1	1101.1	1097.0	1093.0	1085.7	1075.2	1064.7	1054.3	1043.7	1038.4
20°	1088.3	1083.5	1078.7	1073.9	1069.1	1060.7	1048.6	1036.7	1024.7	1012.6	1006.6
22.5°	1065.8	1060.5	1055.1	1049.7	1044.3	1034.9	1021.2	1007.7	994.2	980.6	972.8
25°	1032.1	1024.4	1016.7	1009.0	1001.4	989.5	973.6	957.8	941.9	926.1	916.2
27.5°	991.4	983.0	974.7	966.3	958.0	944.9	926.9	909.1	891.1	873.3	861.8
30°	962.9	953.7	944.6	935.5	926.3	912.2	892.9	873.7	854.4	835.2	823.0
32.5°	935.1	924.5	913.8	903.1	892.4	877.3	857.7	838.0	818.5	798.8	784.9
35°	889.2	877.0	864.8	852.5	840.2	823.5	802.3	781.2	760.1	738.9	723.7
37.5°	843.4	830.0	816.5	803.0	789.5	771.5	749.0	726.4	703.9	681.3	664.6
40°	811.4	797.0	782.5	768.1	753.7	734.8	711.5	688.2	664.9	641.6	624.4
42.5°	778.5	763.3	748.1	733.0	717.7	698.1	674.0	649.9	625.8	601.7	584.1
45°	727.0	710.9	694.8	678.7	662.6	641.9	616.7	591.4	566.1	541.0	523.8
47.5°	676.8	659.7	642.7	625.6	608.5	586.9	560.9	534.8	508.7	482.7	465.8
50°	640.5	623.4	606.3	589.2	572.2	550.4	524.0	497.5	471.1	444.7	428.0
52.5°	605.0	587.1	569.3	551.5	533.6	511.8	485.9	460.0	434.1	408.3	392.2
55°	552.9	534.1	515.4	496.6	477.8	455.4	429.5	403.5	377.6	351.6	337.2
57.5°	499.4	480.1	460.9	441.6	422.5	400.4	375.4	350.4	325.5	300.5	287.3
60°	463.0	443.8	424.6	405.4	386.1	364.1	339.3	314.5	289.8	265.1	252.8
62.5°	427.5	408.3	389.1	369.8	350.6	329.2	305.6	282.0	258.4	234.7	223.1
65°	373.2	353.8	334.3	314.8	295.4	274.8	253.2	231.5	209.9	188.3	180.1
67.5°	320.9	301.6	282.3	262.9	243.5	224.1	204.7	185.2	165.8	146.3	142.5
70°	284.5	265.8	247.0	228.3	209.5	191.8	175.3	158.7	142.1	125.5	123.1
72.5°	249.9	232.0	213.9	196.0	178.0	162.3	149.0	135.7	122.4	109.1	107.0
75°	199.1	182.2	165.4	148.5	131.8	119.3	111.0	102.9	94.7	86.6	84.9
77.5°	149.1	134.3	119.5	104.8	90.0	80.7	76.7	72.8	68.9	64.9	63.9
80°	117.9	105.7	93.4	81.1	68.9	61.6	59.1	56.7	54.3	51.9	51.0
82.5°	89.4	79.8	70.2	60.7	51.1	45.5	43.9	42.2	40.6	39.0	38.4
85°	46.6	41.5	36.4	31.4	26.3	23.5	22.7	22.0	21.3	20.5	20.5
87.5°	13.9	12.6	11.2	9.8	8.5	7.8	7.9	8.1	8.2	8.3	8.2
90°	0.3	1.2	2.0	2.9	3.8	4.5	5.1	5.7	6.4	6.9	7.3
92.5°	7.0	6.9	6.8	6.8	6.8	6.8	7.2	7.5	7.7	8.1	8.3
95°	22.7	20.1	17.5	15.0	12.4	11.4	12.0	12.5	13.0	13.6	13.9
97.5°	44.9	37.7	30.6	23.3	16.1	13.2	14.4	15.7	17.0	18.2	18.5
100°	61.7	51.0	40.4	29.8	19.2	14.6	15.9	17.2	18.5	19.9	20.5
102.5°	80.1	77.9	75.6	73.4	71.1	64.5	53.5	42.5	31.5	20.4	21.2
105°	105.9	108.3	110.6	112.9	115.2	105.8	84.7	63.5	42.4	21.3	22.1
107.5°	135.4	137.3	139.2	141.0	142.9	131.2	105.8	80.5	55.1	29.8	28.9
110°	154.3	156.0	157.6	159.2	160.9	150.5	128.1	105.7	83.3	61.0	53.2



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	172.2	173.7	175.1	176.5	178.0	175.9	170.4	164.9	159.3	153.8	125.6
115°	200.4	201.7	203.0	204.3	205.6	207.2	209.2	211.2	213.0	215.0	179.1
117.5°	225.5	227.0	228.4	229.9	231.4	232.8	234.2	235.5	236.8	238.1	229.5
120°	243.9	245.1	246.2	247.4	248.6	249.9	251.3	252.7	254.0	255.4	256.3
122.5°	259.5	260.7	262.0	263.2	264.4	265.8	267.3	268.8	270.4	271.9	272.5
125°	283.3	284.3	285.4	286.3	287.3	288.5	290.1	291.6	293.0	294.5	295.0
127.5°	304.8	306.0	307.0	308.2	309.3	310.4	311.5	312.6	313.7	314.8	315.6
130°	318.5	319.8	321.0	322.2	323.4	324.5	325.4	326.2	327.1	327.9	328.7
132.5°	332.5	333.5	334.5	335.6	336.6	337.6	338.4	339.3	340.1	341.0	341.8
135°	350.6	351.8	353.0	354.2	355.6	356.4	357.2	357.9	358.6	359.3	360.0
137.5°	368.9	369.7	370.6	371.5	372.3	373.2	374.0	374.8	375.5	376.3	377.1
140°	380.9	381.5	382.1	382.7	383.4	384.1	385.0	385.8	386.6	387.5	388.2
142.5°	390.9	391.5	392.0	392.6	393.1	394.0	394.8	395.8	396.8	397.8	398.4
145°	406.7	406.6	406.5	406.4	406.3	407.0	408.3	409.6	410.9	412.2	412.8
147.5°	420.4	420.1	419.8	419.6	419.2	419.7	421.0	422.3	423.6	424.9	425.3
150°	429.3	428.8	428.2	427.7	427.1	427.5	428.8	430.0	431.2	432.4	432.9
152.5°	436.8	436.3	435.6	435.0	434.4	434.7	435.9	437.1	438.2	439.4	439.9
155°	447.8	447.1	446.4	445.7	445.0	445.2	446.1	446.9	447.9	448.8	449.3
157.5°	456.3	455.8	455.2	454.6	454.0	454.0	454.7	455.3	456.0	456.6	457.1
160°	461.4	460.9	460.5	460.0	459.5	459.5	460.0	460.5	460.9	461.4	461.9
162.5°	465.9	465.4	464.9	464.5	464.0	464.0	464.3	464.7	465.1	465.5	466.1
165°	471.8	471.4	470.9	470.4	469.9	469.9	470.1	470.3	470.6	470.8	471.3
167.5°	476.3	475.8	475.4	474.9	474.4	474.3	474.5	474.7	475.0	475.2	475.7
170°	478.8	478.3	477.8	477.4	477.0	476.8	477.0	477.1	477.3	477.4	477.9
172.5°	480.5	480.0	479.6	479.1	478.6	478.5	478.6	478.7	478.9	479.1	479.6
175°	482.7	482.1	481.5	481.0	480.5	480.3	480.5	480.6	480.7	480.9	481.4
177.5°	483.0	482.6	482.1	481.7	481.3	481.0	481.1	481.2	481.3	481.3	481.8
180°	481.6	481.6	481.6	481.6	481.6	481.6	481.6	481.6	481.6	481.6	481.6



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1195.5	1195.5	1195.5	1195.5	1195.5	1195.5	1195.5	1195.5
2.5°	1189.8	1191.7	1193.6	1194.4	1194.0	1193.6	1193.3	1192.9
5°	1180.3	1182.4	1184.6	1185.4	1184.6	1183.9	1183.2	1182.4
7.5°	1161.2	1161.8	1162.5	1162.1	1160.9	1159.7	1158.4	1157.2
10°	1142.1	1141.3	1140.6	1139.5	1138.1	1136.7	1135.2	1133.8
12.5°	1120.1	1118.8	1117.5	1115.7	1113.3	1110.9	1108.5	1106.1
15°	1079.2	1074.6	1070.1	1066.6	1064.2	1061.8	1059.4	1057.0
17.5°	1032.9	1027.4	1022.1	1017.2	1013.1	1009.0	1004.9	1000.7
20°	1000.6	994.6	988.6	982.9	977.6	972.3	967.0	961.8
22.5°	965.2	957.4	949.7	943.8	939.9	935.9	932.0	928.1
25°	906.4	896.5	886.6	879.9	876.3	872.7	869.1	865.5
27.5°	850.3	838.8	827.3	818.7	813.0	807.2	801.5	795.8
30°	810.7	798.4	786.1	776.7	770.3	763.8	757.3	750.8
32.5°	770.9	756.8	742.9	732.8	726.8	720.6	714.5	708.4
35°	708.6	693.5	678.3	668.1	662.8	657.5	652.2	646.9
37.5°	648.0	631.3	614.7	603.2	597.2	591.1	585.1	579.0
40°	607.4	590.4	573.2	561.6	555.4	549.1	542.8	536.6
42.5°	566.5	548.8	531.2	519.3	513.2	507.2	501.1	495.0
45°	506.8	489.8	472.6	461.2	455.4	449.7	443.9	438.1
47.5°	448.7	431.8	414.8	403.7	398.5	393.2	388.0	382.8
50°	411.5	394.8	378.3	367.5	362.4	357.3	352.3	347.2
52.5°	376.3	360.3	344.2	333.9	329.2	324.6	319.9	315.3
55°	322.8	308.3	293.9	284.4	279.8	275.2	270.7	266.1
57.5°	274.1	260.9	247.7	239.1	235.3	231.4	227.6	223.7
60°	240.5	228.3	216.0	208.0	204.1	200.2	196.4	192.6
62.5°	211.4	199.7	188.0	181.0	178.7	176.4	174.1	171.8
65°	171.9	163.7	155.6	151.1	150.3	149.7	149.0	148.2
67.5°	138.8	135.0	131.3	129.0	128.2	127.4	126.7	126.0
70°	120.7	118.3	115.9	114.2	113.2	112.3	111.3	110.3
72.5°	105.0	103.0	100.9	99.7	99.1	98.5	97.9	97.3
75°	83.2	81.5	79.8	78.8	78.6	78.4	78.1	77.9
77.5°	63.0	62.0	61.1	60.4	60.0	59.6	59.3	58.9
80°	50.0	49.1	48.1	47.6	47.6	47.6	47.6	47.6
82.5°	37.8	37.2	36.6	36.4	36.4	36.4	36.4	36.4
85°	20.5	20.5	20.5	20.5	20.5	20.5	20.5	20.5
87.5°	8.1	8.0	7.8	7.8	7.8	7.9	7.9	7.9
90°	7.7	8.2	8.5	8.8	9.0	9.1	9.3	9.4
92.5°	8.5	8.7	8.9	9.0	9.1	9.2	9.3	9.4
95°	14.3	14.8	15.2	15.3	15.2	15.2	15.1	15.0
97.5°	18.8	19.2	19.4	19.6	19.7	19.8	19.9	20.0
100°	21.1	21.7	22.3	22.7	22.9	23.1	23.2	23.3
102.5°	22.0	22.8	23.6	24.1	24.4	24.6	24.8	25.0
105°	23.0	23.8	24.7	25.3	25.5	25.8	26.2	26.5
107.5°	28.0	27.1	26.3	26.0	26.3	26.7	26.9	27.2
110°	45.5	37.7	30.0	26.3	26.6	26.9	27.2	27.6





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CATALOG NUMBER: S122RDIW-S865D435U930-4F0-1E-UDD-F

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	97.3	69.1	40.8	26.8	27.1	27.3	27.6	27.8
115°	143.3	107.5	71.6	50.9	45.3	39.7	34.2	28.5
117.5°	220.8	212.1	203.4	190.0	171.6	153.3	135.0	116.7
120°	257.3	258.2	259.2	254.4	243.9	233.5	223.0	212.5
122.5°	273.0	273.5	274.1	273.4	271.3	269.3	267.3	265.2
125°	295.5	296.1	296.6	297.0	297.3	297.5	297.7	297.9
127.5°	316.4	317.2	318.0	318.4	318.5	318.5	318.5	318.5
130°	329.6	330.4	331.3	331.7	331.7	331.6	331.5	331.4
132.5°	342.5	343.2	343.9	344.2	344.1	344.1	344.1	344.0
135°	360.9	361.6	362.4	362.6	362.6	362.4	362.2	362.1
137.5°	377.9	378.6	379.4	379.6	379.4	379.1	378.9	378.5
140°	388.9	389.6	390.3	390.4	390.0	389.6	389.3	388.9
142.5°	399.1	399.7	400.4	400.5	400.1	399.7	399.3	398.9
145°	413.4	413.8	414.4	414.5	414.1	413.7	413.4	412.9
147.5°	425.7	426.2	426.6	426.6	426.2	425.9	425.6	425.3
150°	433.4	433.8	434.3	434.4	434.0	433.6	433.2	432.8
152.5°	440.3	440.8	441.3	441.2	440.8	440.3	439.7	439.2
155°	449.8	450.2	450.7	450.6	450.0	449.4	448.7	448.2
157.5°	457.7	458.2	458.8	458.7	458.1	457.5	456.9	456.3
160°	462.3	462.8	463.3	463.2	462.7	462.1	461.5	461.1
162.5°	466.6	467.2	467.7	467.6	466.9	466.3	465.6	465.0
165°	471.9	472.4	473.0	473.0	472.4	471.9	471.3	470.8
167.5°	476.3	476.8	477.4	477.3	476.5	475.9	475.2	474.5
170°	478.5	479.1	479.6	479.5	478.8	478.1	477.4	476.7
172.5°	480.1	480.7	481.3	481.2	480.5	479.8	479.1	478.4
175°	482.0	482.5	483.1	483.0	482.2	481.4	480.6	479.9
177.5°	482.2	482.6	483.1	483.0	482.4	481.8	481.3	480.8
180°	481.6	481.6	481.6	481.6	481.6	481.6	481.6	481.6

(END OF REPORT)