

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: P331808-840

Luminaire Tested: **S122RDIW-S675D435U840-4F0-1E-UDD-F1**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P331808-840  
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-8,  
Test Lab: INNOVATION CENTER  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: NEO-RAY  
Catalog Number: S122RDIW-S675D435U840-4F0-1E-UDD-F1  
Description: DEFINE 2 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE  
DOWNLIGHT 675 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED  
HOUSING  
UPLIGHT 435 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 3861.1 lumens  
Efficiency: N/A  
Efficacy: 102.4 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

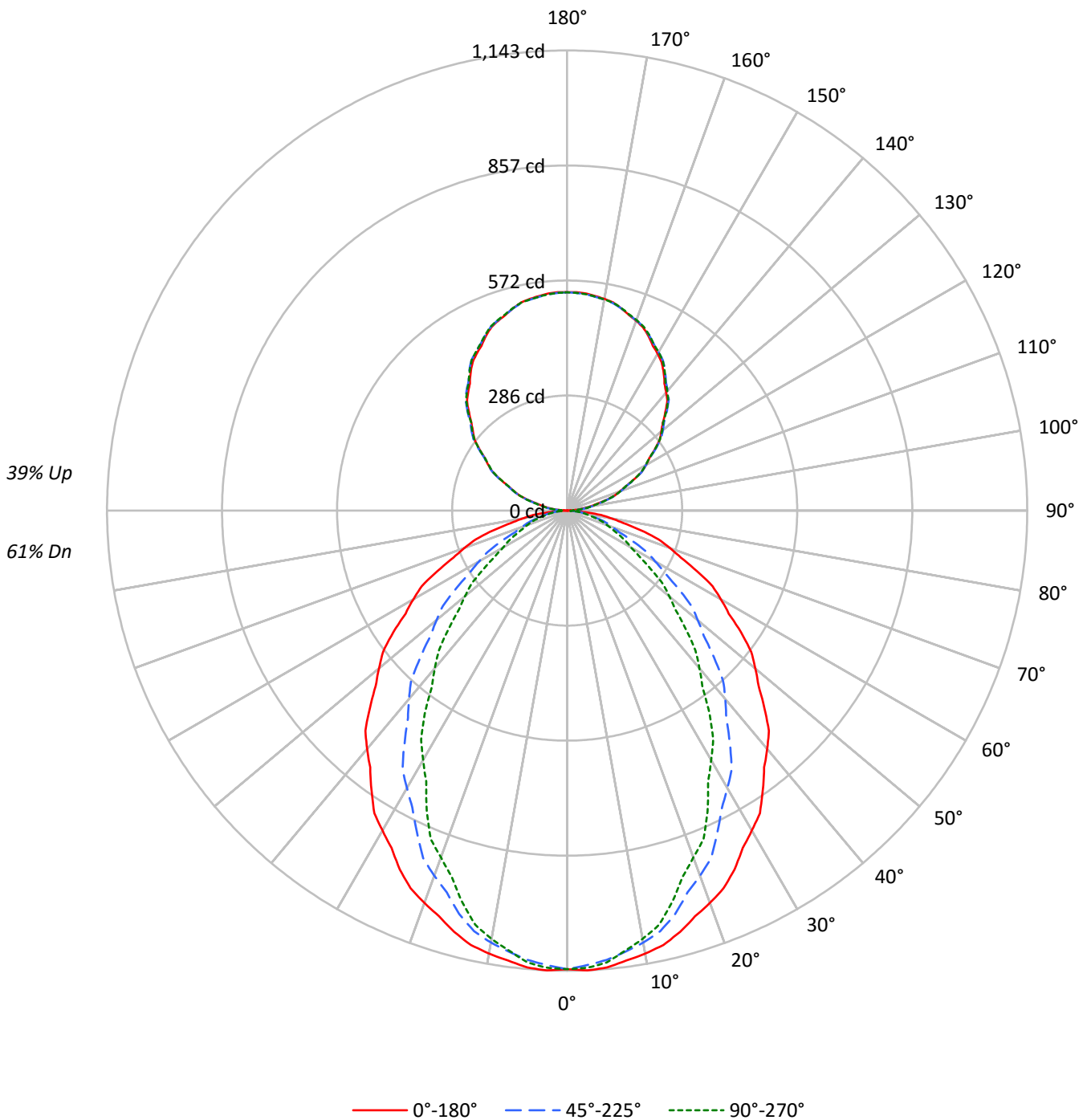
Input Watts (W): 37.7  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	103	103	103	103	89	89	89	77	77	77	66	66	66	61
1	101	97	93	89	94	91	87	84	79	77	75	69	67	65	59	58	57	52
2	92	85	79	74	86	80	75	70	70	66	63	61	58	56	53	51	49	45
3	85	75	68	62	79	71	64	59	62	57	53	55	51	48	47	45	42	39
4	78	67	59	53	72	63	56	51	56	50	46	49	45	41	43	40	37	34
5	72	60	52	46	67	57	50	44	50	45	40	44	40	36	39	35	33	30
6	66	54	46	41	62	51	44	39	46	40	35	40	36	32	35	32	29	26
7	61	49	41	36	57	47	39	34	42	36	32	37	32	29	33	29	26	24
8	57	45	37	32	53	43	36	31	38	32	28	34	29	26	30	26	23	21
9	53	41	34	29	50	39	32	28	35	29	26	31	27	23	28	24	21	19
10	50	38	31	26	47	36	29	25	32	27	23	29	25	21	26	22	20	18

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°
0°	18392	18392	18392
5°	18462	18162	18263
10°	18321	17864	17713
15°	18111	17336	16836
20°	17819	16579	15747
25°	17521	15720	14694
30°	17107	14838	13340
35°	16703	13878	12151
40°	16297	12886	10777
45°	15819	11768	9533
50°	15330	10643	8312
55°	14829	9433	7139
60°	14247	8157	5926
65°	13589	6854	5398
70°	12798	5646	4961
75°	11834	5147	4629
80°	10451	4603	4212
85°	8207	3631	3631



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	106.6	2.8
10°-20°	292.8	7.6
20°-30°	411.1	10.6
30°-40°	448.3	11.6
40°-50°	412.2	10.7
50°-60°	323.8	8.4
60°-70°	211.1	5.5
70°-80°	108.8	2.8
80°-90°	30.4	0.8
90°-100°	34.4	0.9
100°-110°	106.7	2.8
110°-120°	182.4	4.7
120°-130°	239.9	6.2
130°-140°	269.2	7.0
140°-150°	263.9	6.8
150°-160°	221.4	5.7
160°-170°	146.8	3.8
170°-180°	51.3	1.3
0°-30°	810.5	21.0
0°-40°	1258.9	32.6
0°-60°	1994.8	51.7
0°-90°	2345.1	60.7
90°-120°	323.4	8.4
90°-150°	1096.4	28.4
90°-180°	1516.0	39.3
0°-180°	3861.1	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1139	1139	1139	1139	1139	
5°	1139	1134	1121	1129	1127	108
15°	1084	1071	1037	1018	1007	305
25°	984	949	882	842	825	452
35°	847	793	704	642	616	530
45°	693	622	515	445	418	535
55°	527	445	335	276	254	471
65°	356	272	179	146	141	352
75°	190	120	82	76	74	201
85°	44	24	20	20	20	52
90°	0	6	16	15	16	3
95°	24	28	29	29	28	27
105°	98	100	101	102	102	104
115°	183	186	185	184	183	181
125°	266	270	269	268	267	238
135°	345	349	350	350	349	266
145°	418	421	424	424	423	261
155°	478	480	481	483	482	220
165°	520	520	520	523	521	147
175°	541	540	539	542	540	51
180°	542	542	542	542	542	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1139.1	1139.1	1139.1	1139.1	1139.1	1139.1	1139.1	1139.1	1139.1	1139.1	1139.1
2.5°	1143.3	1142.4	1141.5	1140.5	1139.6	1138.1	1136.1	1134.1	1132.2	1130.1	1132.0
5°	1139.1	1138.0	1136.9	1135.7	1134.6	1132.6	1129.5	1126.6	1123.6	1120.6	1122.7
7.5°	1127.4	1126.0	1124.6	1123.2	1121.8	1119.2	1115.8	1112.4	1108.8	1105.4	1105.9
10°	1117.5	1115.9	1114.3	1112.7	1111.1	1108.0	1103.4	1098.8	1094.3	1089.6	1089.0
12.5°	1105.1	1103.2	1101.2	1099.2	1097.2	1093.4	1087.5	1081.7	1075.7	1069.9	1068.6
15°	1083.5	1081.0	1078.4	1075.9	1073.4	1068.2	1060.5	1052.7	1044.9	1037.1	1032.8
17.5°	1056.9	1053.1	1049.2	1045.3	1041.5	1034.6	1024.6	1014.6	1004.6	994.6	989.5
20°	1037.1	1032.5	1027.9	1023.4	1018.8	1010.8	999.3	987.8	976.4	964.9	959.2
22.5°	1015.6	1010.6	1005.4	1000.3	995.1	986.1	973.2	960.3	947.4	934.4	927.1
25°	983.5	976.1	968.9	961.5	954.2	942.9	927.9	912.7	897.6	882.4	873.0
27.5°	944.7	936.8	928.8	920.8	912.8	900.3	883.3	866.3	849.2	832.1	821.2
30°	917.6	908.8	900.1	891.4	882.7	869.2	850.8	832.5	814.2	795.9	784.2
32.5°	891.1	880.9	870.8	860.6	850.4	836.0	817.3	798.6	779.9	761.2	747.9
35°	847.4	835.8	824.0	812.3	800.7	784.8	764.6	744.5	724.3	704.1	689.6
37.5°	803.8	790.8	778.0	765.2	752.3	735.2	713.8	692.3	670.8	649.2	633.4
40°	773.2	759.4	745.7	732.0	718.2	700.2	678.0	655.8	633.6	611.4	595.1
42.5°	741.8	727.4	712.9	698.4	684.0	665.2	642.3	619.4	596.3	573.4	556.5
45°	692.8	677.4	662.1	646.7	631.4	611.7	587.6	563.6	539.5	515.4	499.2
47.5°	644.9	628.6	612.4	596.1	579.9	559.4	534.5	509.7	484.8	460.0	443.8
50°	610.3	594.0	577.7	561.5	545.2	524.5	499.3	474.1	448.9	423.7	407.9
52.5°	576.5	559.5	542.5	525.5	508.5	487.7	463.0	438.4	413.7	389.1	373.9
55°	526.8	509.0	491.1	473.2	455.3	434.0	409.3	384.6	359.8	335.1	321.3
57.5°	475.8	457.6	439.2	420.9	402.5	381.5	357.7	334.0	310.1	286.4	273.8
60°	441.2	422.9	404.6	386.3	367.9	347.0	323.4	299.7	276.2	252.6	240.9
62.5°	407.4	389.1	370.7	352.4	334.1	313.7	291.2	268.7	246.2	223.7	212.6
65°	355.7	337.1	318.5	300.0	281.4	261.9	241.3	220.7	200.0	179.4	171.6
67.5°	305.8	287.3	268.9	250.5	232.1	213.6	195.0	176.5	157.9	139.4	135.8
70°	271.1	253.3	235.4	217.5	199.7	182.8	167.0	151.2	135.4	119.6	117.2
72.5°	238.1	221.0	203.9	186.7	169.6	154.7	142.0	129.3	116.6	103.9	102.0
75°	189.7	173.7	157.6	141.6	125.5	113.6	105.8	98.1	90.3	82.5	80.9
77.5°	142.1	127.9	113.9	99.9	85.8	76.9	73.1	69.4	65.6	61.9	60.9
80°	112.4	100.7	89.0	77.4	65.6	58.7	56.4	54.0	51.8	49.5	48.6
82.5°	85.1	76.0	67.0	57.8	48.7	43.3	41.8	40.2	38.7	37.2	36.6
85°	44.3	39.5	34.7	29.9	25.0	22.3	21.6	21.0	20.3	19.6	19.6
87.5°	13.3	12.0	10.8	9.6	8.4	8.0	8.5	8.9	9.4	9.8	9.6
90°	0.5	1.7	2.9	4.1	5.4	7.1	9.3	11.5	13.7	16.1	15.9
92.5°	8.2	9.1	9.9	10.8	11.7	12.4	12.9	13.5	14.0	14.5	14.5
95°	23.8	24.8	25.9	26.9	27.9	28.5	28.7	28.9	29.1	29.3	29.3
97.5°	43.4	44.3	45.2	46.2	47.1	47.7	48.1	48.5	48.9	49.2	49.2
100°	58.1	58.9	59.7	60.6	61.4	61.9	62.2	62.5	62.8	63.1	63.1
102.5°	73.5	74.1	74.7	75.4	76.0	76.6	77.0	77.4	77.8	78.2	78.3
105°	98.4	98.7	99.0	99.3	99.6	99.9	100.1	100.3	100.5	100.7	100.9
107.5°	123.4	123.9	124.3	124.8	125.2	125.4	125.4	125.4	125.4	125.4	125.5
110°	139.6	140.2	140.8	141.4	142.0	142.3	142.3	142.3	142.3	142.3	142.3



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	157.1	157.7	158.3	159.0	159.6	159.9	159.8	159.7	159.6	159.5	159.3
115°	183.0	183.6	184.2	184.8	185.4	185.6	185.4	185.2	185.0	184.8	184.7
117.5°	208.8	209.6	210.5	211.3	212.1	212.2	211.7	211.1	210.5	210.0	209.6
120°	226.0	226.8	227.6	228.4	229.2	229.2	228.4	227.6	226.8	226.0	226.0
122.5°	241.8	242.8	243.7	244.7	245.7	245.9	245.3	244.7	244.2	243.6	243.4
125°	266.3	267.2	268.1	269.0	269.9	270.2	269.9	269.6	269.3	269.0	268.7
127.5°	290.1	291.3	292.5	293.7	294.8	295.2	294.9	294.5	294.1	293.8	293.4
130°	305.2	306.5	307.8	309.1	310.4	311.0	310.8	310.6	310.4	310.2	310.0
132.5°	322.0	323.1	324.2	325.3	326.3	326.9	326.9	327.0	327.0	327.0	326.6
135°	344.6	345.7	346.8	347.9	349.0	349.6	349.8	350.0	350.2	350.4	350.3
137.5°	368.2	369.1	370.0	370.9	371.8	372.4	372.7	373.0	373.2	373.5	373.4
140°	382.5	383.4	384.4	385.3	386.2	386.9	387.4	387.9	388.4	388.9	388.9
142.5°	397.2	398.1	399.0	399.9	400.8	401.4	401.7	402.1	402.4	402.8	402.9
145°	418.2	418.9	419.6	420.3	421.0	421.7	422.3	422.9	423.5	424.1	424.2
147.5°	437.0	437.8	438.7	439.5	440.4	441.0	441.4	441.8	442.2	442.6	442.8
150°	449.8	450.4	451.0	451.6	452.2	452.7	453.1	453.5	453.9	454.3	454.6
152.5°	461.1	461.7	462.3	462.9	463.5	464.1	464.5	465.0	465.5	466.1	466.5
155°	478.1	478.4	478.7	479.1	479.4	479.7	480.0	480.3	480.6	480.9	481.4
157.5°	492.7	492.9	493.1	493.3	493.5	493.6	493.8	494.0	494.2	494.4	495.1
160°	501.5	501.7	501.9	502.1	502.3	502.4	502.5	502.6	502.7	502.8	503.4
162.5°	509.5	509.6	509.6	509.6	509.7	509.8	509.9	510.0	510.1	510.2	510.8
165°	520.2	520.1	520.0	519.9	519.8	519.8	519.8	519.8	519.8	519.8	520.5
167.5°	529.2	528.9	528.6	528.3	528.0	527.8	527.8	527.8	527.8	527.8	528.5
170°	533.9	533.6	533.3	533.0	532.7	532.5	532.4	532.3	532.2	532.1	532.8
172.5°	537.2	536.9	536.6	536.3	536.0	535.8	535.7	535.6	535.5	535.4	536.1
175°	541.3	541.0	540.7	540.4	540.1	539.8	539.6	539.4	539.2	539.0	539.7
177.5°	542.9	542.7	542.4	542.2	541.9	541.7	541.6	541.4	541.2	541.1	541.6
180°	542.2	542.2	542.2	542.2	542.2	542.2	542.2	542.2	542.2	542.2	542.2



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1139.1	1139.1	1139.1	1139.1	1139.1	1139.1	1139.1	1139.1
2.5°	1133.8	1135.6	1137.4	1138.1	1137.8	1137.4	1137.1	1136.7
5°	1124.7	1126.8	1128.8	1129.5	1128.8	1128.1	1127.5	1126.8
7.5°	1106.5	1107.1	1107.7	1107.4	1106.2	1105.1	1103.9	1102.7
10°	1088.3	1087.6	1086.9	1085.9	1084.5	1083.2	1081.8	1080.4
12.5°	1067.4	1066.2	1064.9	1063.2	1060.9	1058.6	1056.3	1054.0
15°	1028.4	1024.0	1019.7	1016.3	1014.1	1011.8	1009.5	1007.2
17.5°	984.3	979.1	973.9	969.4	965.4	961.5	957.6	953.6
20°	953.5	947.8	942.0	936.6	931.6	926.6	921.5	916.5
22.5°	919.7	912.3	904.9	899.4	895.5	891.8	888.1	884.3
25°	863.6	854.2	844.9	838.5	835.1	831.6	828.2	824.8
27.5°	810.2	799.3	788.4	780.1	774.7	769.2	763.8	758.3
30°	772.5	760.8	749.1	740.2	734.0	727.8	721.6	715.5
32.5°	734.6	721.2	707.9	698.3	692.5	686.7	680.9	675.1
35°	675.3	660.9	646.4	636.6	631.6	626.5	621.6	616.5
37.5°	617.4	601.6	585.7	574.8	569.1	563.3	557.5	551.8
40°	578.8	562.5	546.2	535.1	529.2	523.2	517.3	511.3
42.5°	539.8	522.9	506.1	494.8	489.1	483.3	477.6	471.7
45°	482.9	466.7	450.4	439.5	434.0	428.5	423.0	417.5
47.5°	427.7	411.5	395.3	384.8	379.7	374.8	369.7	364.8
50°	392.1	376.3	360.5	350.1	345.4	340.5	335.8	330.9
52.5°	358.6	343.3	328.0	318.2	313.8	309.3	304.9	300.4
55°	307.6	293.8	280.0	271.0	266.7	262.3	257.9	253.6
57.5°	261.2	248.6	236.0	227.8	224.2	220.6	216.8	213.2
60°	229.2	217.5	205.8	198.1	194.5	190.9	187.1	183.5
62.5°	201.5	190.3	179.2	172.5	170.3	168.1	165.9	163.7
65°	163.8	156.0	148.2	144.0	143.3	142.6	141.9	141.3
67.5°	132.2	128.7	125.1	122.9	122.2	121.5	120.8	120.0
70°	115.0	112.7	110.4	108.9	107.9	106.9	106.0	105.1
72.5°	100.1	98.2	96.2	95.0	94.4	93.9	93.3	92.8
75°	79.3	77.7	76.0	75.1	74.9	74.7	74.4	74.2
77.5°	60.0	59.1	58.2	57.6	57.2	56.9	56.5	56.0
80°	47.7	46.8	45.8	45.3	45.3	45.3	45.3	45.3
82.5°	36.1	35.4	34.9	34.6	34.6	34.6	34.6	34.6
85°	19.6	19.6	19.6	19.6	19.6	19.6	19.6	19.6
87.5°	9.4	9.1	8.9	8.8	8.8	8.9	8.9	8.9
90°	15.7	15.5	15.2	15.1	15.2	15.3	15.5	15.6
92.5°	14.6	14.6	14.7	14.7	14.7	14.7	14.8	14.8
95°	29.3	29.3	29.3	29.2	29.0	28.8	28.6	28.4
97.5°	49.2	49.2	49.2	49.2	49.2	49.2	49.2	49.2
100°	63.1	63.1	63.1	63.1	63.0	62.9	62.8	62.7
102.5°	78.3	78.4	78.5	78.5	78.4	78.3	78.2	78.1
105°	101.1	101.3	101.5	101.6	101.6	101.6	101.6	101.6
107.5°	125.6	125.7	125.8	125.6	125.1	124.6	124.2	123.7
110°	142.3	142.3	142.3	142.1	141.8	141.5	141.2	140.9





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CATALOG NUMBER: S122RDIW-S675D435U840-4F0-1E-UDD-F1

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	159.1	158.8	158.5	158.2	158.0	157.8	157.6	157.4
115°	184.6	184.5	184.4	184.2	183.9	183.6	183.3	183.0
117.5°	209.4	209.1	208.9	208.6	208.3	208.0	207.7	207.4
120°	226.0	226.0	226.0	225.9	225.6	225.3	225.0	224.7
122.5°	243.1	242.9	242.6	242.4	242.2	242.0	241.7	241.5
125°	268.4	268.1	267.8	267.6	267.5	267.4	267.3	267.2
127.5°	293.0	292.7	292.3	292.0	291.5	291.2	290.9	290.6
130°	309.8	309.6	309.4	309.1	308.7	308.3	307.9	307.5
132.5°	326.2	325.7	325.3	324.9	324.6	324.2	323.9	323.6
135°	350.2	350.1	350.0	349.8	349.5	349.2	348.9	348.6
137.5°	373.3	373.2	373.2	372.9	372.5	372.1	371.7	371.3
140°	388.9	388.9	388.9	388.7	388.3	387.9	387.5	387.1
142.5°	402.9	403.0	403.1	402.9	402.5	402.1	401.7	401.3
145°	424.3	424.4	424.5	424.3	423.9	423.5	423.1	422.7
147.5°	443.0	443.3	443.5	443.4	443.0	442.6	442.2	441.9
150°	454.9	455.2	455.6	455.6	455.2	454.9	454.6	454.3
152.5°	466.8	467.2	467.6	467.6	467.2	466.8	466.5	466.1
155°	481.9	482.4	482.9	483.0	482.7	482.4	482.1	481.8
157.5°	495.7	496.4	497.2	497.3	496.8	496.2	495.8	495.3
160°	504.0	504.6	505.2	505.3	504.9	504.5	504.1	503.7
162.5°	511.5	512.2	512.9	513.0	512.5	512.0	511.5	511.1
165°	521.2	521.9	522.6	522.7	522.2	521.7	521.2	520.7
167.5°	529.2	529.9	530.6	530.7	530.1	529.6	529.1	528.6
170°	533.5	534.2	534.9	535.0	534.4	533.8	533.2	532.6
172.5°	536.8	537.6	538.3	538.3	537.7	537.0	536.4	535.8
175°	540.4	541.1	541.8	541.9	541.3	540.7	540.1	539.5
177.5°	542.1	542.5	543.0	543.0	542.5	542.1	541.6	541.1
180°	542.2	542.2	542.2	542.2	542.2	542.2	542.2	542.2

(END OF REPORT)