

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: P332779-935

Luminaire Tested: **S124DIW-S795D470U935-4F0-1E-UDD-F**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P332779-935  
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-6,  
Test Lab: INNOVATION CENTER  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: NEO-RAY  
Catalog Number: S124DIW-S795D470U935-4F0-1E-UDD-F  
Description: DEFINE 4 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE  
DOWNLIGHT 795 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER  
UPLIGHT 470 LUMENS PER FOOT, NO LENS  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 4548.3 lumens  
Efficiency: N/A  
Efficacy: 120.6 lumens/watt  
Spacing Criteria (0/90/45): 1.2 / 1.17 / 1.3  
Luminous Opening: Rectangular (W 0.33' x L: 4' x H: 0')  
CIE Type: Semi-Direct

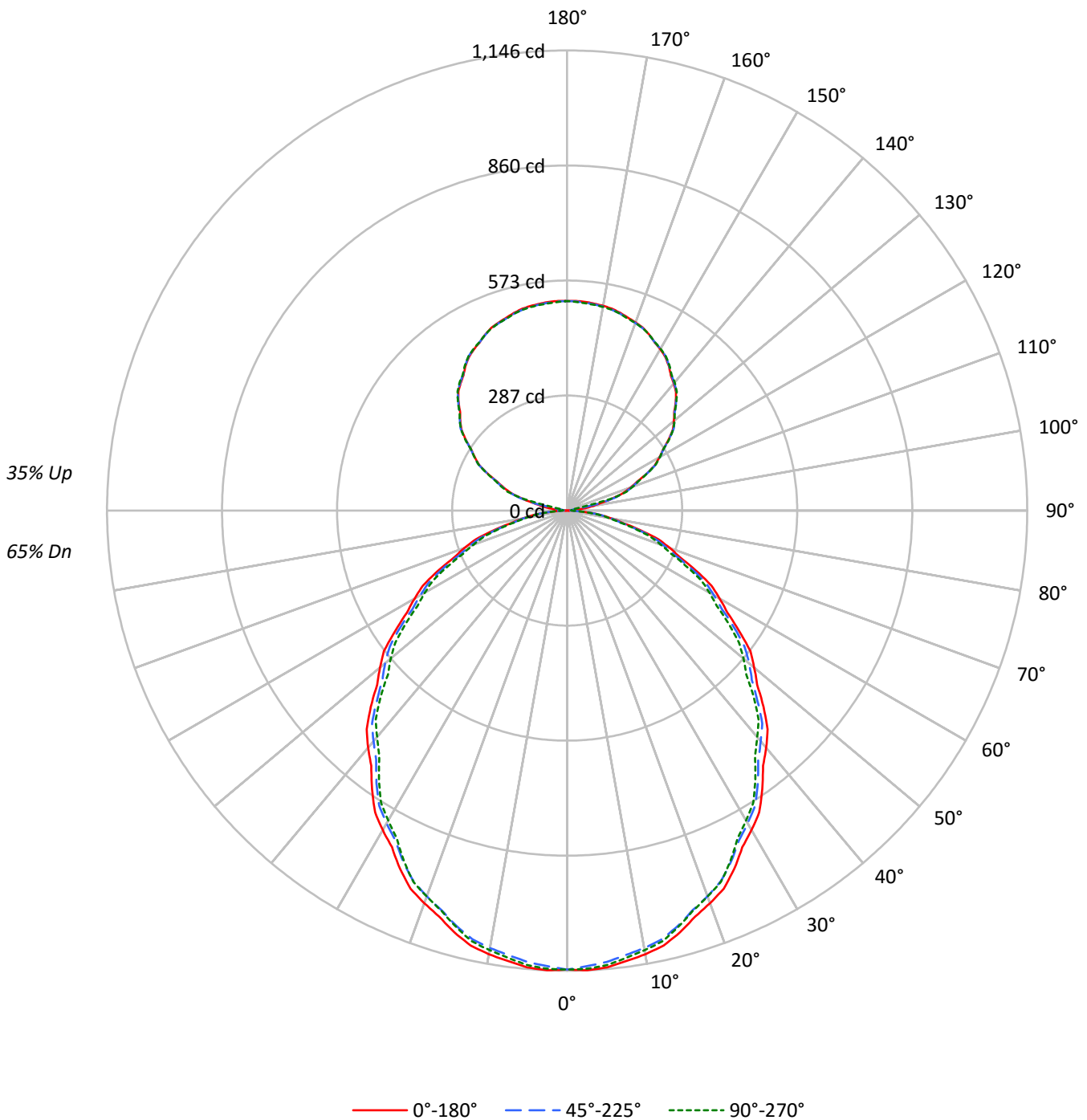
Input Watts (W): 37.7  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	111	111	111	111	104	104	104	104	91	91	91	80	80	80	69	69	69	65
1	101	97	93	89	95	91	87	84	80	78	75	70	68	67	61	60	59	54
2	92	84	78	73	86	79	74	69	70	66	62	62	59	56	54	52	49	45
3	84	74	67	61	79	70	63	58	62	57	52	55	51	47	48	45	42	38
4	77	66	58	51	72	62	55	49	55	49	45	49	44	40	43	39	36	33
5	71	59	50	44	66	55	48	42	49	43	39	44	39	35	39	35	32	29
6	65	53	44	38	61	50	42	37	45	38	34	40	35	31	35	31	28	25
7	60	48	39	34	56	45	38	32	40	34	30	36	31	27	32	28	25	22
8	56	43	35	30	53	41	34	29	37	31	27	33	28	24	29	25	22	20
9	52	40	32	27	49	38	31	26	34	28	24	30	26	22	27	23	20	18
10	49	36	29	24	46	35	28	23	31	26	22	28	23	20	25	21	18	16

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

	0°	45°	90°
0°	9227	9227	9227
5°	9255	9143	9210
10°	9197	9069	9114
15°	9086	8940	8964
20°	8937	8781	8789
25°	8769	8598	8573
30°	8563	8383	8307
35°	8348	8159	8051
40°	8126	7904	7759
45°	7895	7654	7507
50°	7637	7430	7200
55°	7361	7142	6909
60°	7083	6817	6610
65°	6770	6508	6245
70°	6420	6097	5858
75°	5883	5599	5459
80°	5235	5026	4895
85°	4576	4409	4326



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	107.6	2.4
10°-20°	303.3	6.7
20°-30°	446.4	9.8
30°-40°	518.9	11.4
40°-50°	518.9	11.4
50°-60°	453.9	10.0
60°-70°	337.1	7.4
70°-80°	191.5	4.2
80°-90°	56.8	1.2
90°-100°	17.8	0.4
100°-110°	113.8	2.5
110°-120°	217.6	4.8
120°-130°	276.3	6.1
130°-140°	295.6	6.5
140°-150°	276.4	6.1
150°-160°	222.9	4.9
160°-170°	143.8	3.2
170°-180°	49.6	1.1
0°-30°	857.3	18.8
0°-40°	1376.2	30.3
0°-60°	2349.1	51.6
0°-90°	2934.5	64.5
90°-120°	349.2	7.7
90°-150°	1197.5	26.3
90°-180°	1614.0	35.5
0°-180°	4548.3	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1143	1143	1143	1143	1143	
5°	1142	1138	1128	1138	1136	108
15°	1087	1083	1070	1075	1072	306
25°	984	978	965	966	962	453
35°	847	840	828	822	817	529
45°	692	685	670	661	658	533
55°	523	520	507	497	491	468
65°	354	350	341	332	327	351
75°	189	184	180	176	175	200
85°	49	49	48	48	47	54
90°	1	5	9	11	12	4
95°	21	9	9	11	11	28
105°	117	120	122	124	111	123
115°	219	220	220	221	221	216
125°	308	310	309	310	311	275
135°	382	382	384	384	385	295
145°	441	442	442	443	443	275
155°	484	484	483	484	483	223
165°	510	508	508	511	508	144
175°	522	520	520	523	519	50
180°	522	522	522	522	522	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1143.0	1143.0	1143.0	1143.0	1143.0	1143.0	1143.0	1143.0	1143.0	1143.0	1143.0
2.5°	1145.9	1145.4	1144.9	1144.4	1143.9	1142.8	1141.0	1139.2	1137.4	1135.7	1137.2
5°	1142.0	1141.3	1140.4	1139.6	1138.8	1137.2	1135.0	1132.7	1130.5	1128.3	1130.5
7.5°	1131.4	1130.6	1129.8	1128.9	1128.2	1126.5	1124.0	1121.5	1119.0	1116.5	1118.4
10°	1121.9	1121.1	1120.2	1119.5	1118.6	1116.9	1114.2	1111.6	1109.0	1106.3	1107.9
12.5°	1109.4	1108.6	1107.8	1107.0	1106.2	1104.3	1101.6	1098.7	1096.0	1093.1	1094.9
15°	1087.1	1086.2	1085.5	1084.6	1083.8	1081.9	1078.8	1075.8	1072.7	1069.7	1070.9
17.5°	1060.1	1059.1	1058.1	1057.1	1056.1	1054.1	1051.3	1048.4	1045.4	1042.6	1043.4
20°	1040.3	1039.3	1038.4	1037.3	1036.3	1034.2	1031.2	1028.1	1025.1	1022.1	1022.7
22.5°	1019.2	1017.8	1016.4	1015.1	1013.7	1011.6	1008.5	1005.5	1002.4	999.4	1000.5
25°	984.5	983.1	981.6	980.2	978.8	976.6	973.8	970.9	968.1	965.3	965.4
27.5°	944.9	943.5	942.0	940.6	939.1	937.0	934.4	931.8	929.1	926.4	925.9
30°	918.6	917.0	915.3	913.7	912.1	909.9	907.2	904.7	902.0	899.3	898.5
32.5°	890.7	889.2	887.8	886.3	884.8	882.7	879.9	877.1	874.3	871.5	870.6
35°	847.1	845.7	844.3	842.8	841.5	839.3	836.5	833.6	830.8	827.9	826.5
37.5°	801.2	799.9	798.6	797.3	795.9	793.8	790.7	787.6	784.6	781.5	780.0
40°	771.1	769.5	767.8	766.2	764.6	762.2	759.2	756.1	753.1	750.0	748.0
42.5°	738.9	737.9	736.9	736.0	734.9	732.8	729.4	726.1	722.6	719.3	717.0
45°	691.5	690.0	688.6	687.2	685.8	683.4	680.2	676.9	673.6	670.4	668.1
47.5°	641.8	640.8	639.9	638.9	637.9	635.9	632.9	629.9	626.9	623.9	621.3
50°	608.1	607.3	606.5	605.6	604.9	603.0	600.2	597.4	594.4	591.6	588.8
52.5°	575.1	574.2	573.2	572.2	571.2	569.2	566.2	563.2	560.2	557.2	554.7
55°	523.0	522.3	521.7	521.1	520.5	518.8	515.9	513.1	510.2	507.4	504.9
57.5°	473.1	472.4	471.7	471.1	470.4	468.6	465.8	463.0	460.2	457.4	455.0
60°	438.7	437.6	436.6	435.7	434.6	432.7	430.2	427.5	424.8	422.2	420.3
62.5°	405.0	404.2	403.3	402.4	401.6	399.8	396.9	394.1	391.3	388.5	386.8
65°	354.4	353.4	352.4	351.4	350.3	348.8	346.8	344.7	342.7	340.7	338.6
67.5°	303.5	302.6	301.6	300.7	299.8	298.3	296.4	294.4	292.5	290.5	288.5
70°	272.0	270.6	269.1	267.7	266.3	264.8	263.1	261.5	259.8	258.3	256.7
72.5°	238.3	236.9	235.5	234.0	232.6	231.3	230.0	228.6	227.3	226.0	224.7
75°	188.6	187.6	186.7	185.6	184.6	183.6	182.5	181.5	180.6	179.5	178.7
77.5°	141.2	140.8	140.3	139.9	139.4	138.8	137.8	137.0	136.0	135.2	134.9
80°	112.6	112.0	111.4	110.8	110.2	109.7	109.3	108.9	108.5	108.1	107.6
82.5°	84.8	84.6	84.2	83.9	83.7	83.5	83.4	83.3	83.3	83.2	82.9
85°	49.4	49.4	49.4	49.4	49.4	49.2	48.8	48.5	48.0	47.6	47.6
87.5°	19.3	19.3	19.4	19.4	19.4	19.4	19.4	19.4	19.3	19.3	19.4
90°	1.2	2.2	3.1	4.0	5.0	5.8	6.5	7.2	7.9	8.6	9.1
92.5°	4.9	5.0	5.0	5.1	5.2	5.5	6.2	6.9	7.6	8.3	8.8
95°	21.4	18.5	15.6	12.7	9.6	8.3	8.4	8.4	8.5	8.6	9.1
97.5°	45.5	47.4	49.2	51.1	53.0	49.0	39.3	29.6	20.0	10.3	10.3
100°	64.0	65.5	67.2	68.7	70.3	65.0	53.0	41.1	29.1	17.1	15.7
102.5°	84.6	85.8	86.9	88.0	89.2	88.9	87.4	85.8	84.3	82.7	66.8
105°	117.4	118.0	118.5	119.0	119.5	120.0	120.5	120.9	121.3	121.7	122.5
107.5°	148.0	148.3	148.5	148.8	149.0	149.5	150.0	150.6	151.2	151.8	152.1
110°	168.6	168.8	169.1	169.4	169.6	170.0	170.5	171.1	171.6	172.1	172.3



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	188.6	189.0	189.5	189.9	190.5	190.8	191.1	191.2	191.5	191.7	191.7
115°	219.3	219.6	219.8	220.1	220.3	220.4	220.3	220.2	220.2	220.1	220.2
117.5°	247.0	247.4	247.7	248.1	248.4	248.7	248.8	249.0	249.3	249.4	249.3
120°	265.7	266.0	266.4	266.7	267.1	267.3	267.2	267.1	267.0	266.9	267.1
122.5°	283.2	283.4	283.6	283.9	284.0	284.2	284.3	284.5	284.6	284.7	284.8
125°	308.2	308.6	308.9	309.3	309.6	309.7	309.5	309.4	309.2	309.0	309.3
127.5°	332.0	332.1	332.2	332.3	332.3	332.6	332.9	333.4	333.8	334.2	334.2
130°	347.2	347.3	347.5	347.6	347.7	347.8	348.1	348.4	348.6	348.9	349.0
132.5°	361.4	361.4	361.6	361.8	362.0	362.2	362.6	362.8	363.2	363.5	363.6
135°	382.4	382.3	382.2	382.1	382.0	382.2	382.5	382.9	383.2	383.6	383.7
137.5°	401.1	401.1	401.1	401.1	401.2	401.4	401.7	402.2	402.5	402.9	403.1
140°	413.2	413.4	413.5	413.7	413.9	414.1	414.2	414.5	414.7	414.8	415.1
142.5°	424.1	424.5	424.8	425.1	425.4	425.6	425.7	425.9	425.9	426.0	426.2
145°	440.9	441.2	441.4	441.7	442.0	442.1	442.1	442.1	442.1	442.1	442.2
147.5°	454.3	454.8	455.2	455.7	456.2	456.4	456.3	456.2	456.2	456.1	456.2
150°	464.0	464.3	464.7	465.0	465.4	465.5	465.4	465.3	465.2	465.1	465.1
152.5°	472.1	472.3	472.6	472.9	473.2	473.2	473.1	472.9	472.8	472.6	472.8
155°	483.5	483.5	483.6	483.7	483.8	483.7	483.5	483.2	482.9	482.7	483.0
157.5°	493.1	493.0	492.9	492.9	492.8	492.7	492.4	492.1	491.8	491.5	492.0
160°	498.7	498.4	498.2	497.9	497.7	497.5	497.4	497.3	497.2	497.1	497.7
162.5°	503.7	503.3	503.0	502.7	502.4	502.1	502.0	502.0	501.9	501.8	502.3
165°	510.0	509.5	509.1	508.7	508.2	508.1	508.1	508.1	508.1	508.1	508.8
167.5°	515.0	514.5	514.1	513.7	513.2	512.9	512.9	512.8	512.8	512.7	513.5
170°	517.8	517.3	516.8	516.3	515.7	515.5	515.6	515.7	515.7	515.8	516.5
172.5°	519.7	519.2	518.7	518.1	517.6	517.4	517.5	517.5	517.6	517.7	518.4
175°	521.7	521.2	520.6	520.1	519.6	519.4	519.5	519.6	519.7	519.8	520.6
177.5°	522.6	522.2	521.7	521.2	520.7	520.6	520.6	520.8	520.9	521.1	521.6
180°	521.7	521.7	521.7	521.7	521.7	521.7	521.7	521.7	521.7	521.7	521.7



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1143.0	1143.0	1143.0	1143.0	1143.0	1143.0	1143.0	1143.0
2.5°	1138.8	1140.5	1142.1	1142.9	1142.7	1142.5	1142.4	1142.2
5°	1132.7	1135.0	1137.2	1138.2	1137.7	1137.4	1137.0	1136.5
7.5°	1120.2	1122.0	1123.7	1124.5	1124.3	1124.0	1123.8	1123.5
10°	1109.6	1111.2	1112.8	1113.4	1113.0	1112.6	1112.2	1111.8
12.5°	1096.7	1098.5	1100.3	1100.9	1100.4	1099.8	1099.2	1098.6
15°	1072.1	1073.3	1074.5	1074.9	1074.3	1073.7	1073.1	1072.5
17.5°	1044.1	1044.9	1045.7	1045.9	1045.4	1045.0	1044.7	1044.2
20°	1023.3	1023.9	1024.5	1024.6	1024.2	1023.8	1023.4	1023.0
22.5°	1001.5	1002.6	1003.8	1003.9	1003.2	1002.5	1001.7	1001.0
25°	965.7	965.9	966.1	965.8	965.0	964.1	963.4	962.5
27.5°	925.5	925.0	924.5	923.8	922.7	921.7	920.7	919.6
30°	897.7	896.9	896.0	895.2	894.1	893.1	892.1	891.1
32.5°	869.5	868.6	867.6	866.6	865.6	864.5	863.5	862.5
35°	825.1	823.6	822.2	821.0	819.9	819.0	817.9	816.9
37.5°	778.4	776.9	775.4	774.0	772.6	771.3	769.9	768.5
40°	746.0	744.0	741.9	740.4	739.3	738.4	737.4	736.3
42.5°	714.5	712.2	709.8	708.3	707.7	707.0	706.3	705.6
45°	665.9	663.7	661.4	660.0	659.4	658.8	658.1	657.5
47.5°	618.8	616.3	613.7	611.7	610.2	608.6	607.1	605.5
50°	585.9	583.1	580.2	578.2	577.0	575.8	574.5	573.3
52.5°	552.2	549.6	547.1	545.1	543.5	542.0	540.4	538.9
55°	502.5	500.1	497.6	495.8	494.6	493.4	492.1	490.9
57.5°	452.7	450.4	448.1	446.3	445.1	443.9	442.8	441.6
60°	418.5	416.7	414.8	413.5	412.4	411.4	410.4	409.4
62.5°	385.1	383.5	381.9	380.5	379.4	378.4	377.5	376.4
65°	336.7	334.6	332.5	331.1	330.0	329.0	328.0	326.9
67.5°	286.6	284.6	282.7	281.5	281.3	281.0	280.7	280.4
70°	255.0	253.4	251.8	250.6	250.0	249.4	248.8	248.2
72.5°	223.4	222.1	220.8	219.9	219.2	218.6	218.0	217.4
75°	177.9	177.0	176.2	175.7	175.6	175.3	175.1	175.0
77.5°	134.7	134.4	134.2	133.8	133.3	132.8	132.2	131.7
80°	107.3	106.9	106.4	106.2	105.9	105.7	105.6	105.3
82.5°	82.7	82.4	82.1	82.0	81.8	81.5	81.4	81.1
85°	47.6	47.6	47.6	47.5	47.4	47.1	46.9	46.7
87.5°	19.5	19.6	19.7	19.8	19.8	19.9	19.9	19.9
90°	9.6	10.2	10.7	11.0	11.2	11.4	11.5	11.7
92.5°	9.3	9.8	10.3	10.6	10.7	10.7	10.8	10.8
95°	9.6	10.2	10.7	10.9	11.0	11.1	11.2	11.3
97.5°	10.4	10.4	10.5	10.6	10.7	10.8	10.8	10.9
100°	14.2	12.7	11.3	10.6	10.7	10.8	10.8	10.9
102.5°	50.9	35.0	19.1	11.2	11.2	11.2	11.2	11.3
105°	123.3	124.1	124.8	123.7	120.5	117.4	114.3	111.2
107.5°	152.6	152.9	153.3	153.7	154.0	154.3	154.6	155.0
110°	172.5	172.6	172.8	173.0	173.2	173.5	173.7	174.0





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CATALOG NUMBER: S124DIW-S795D470U935-4F0-1E-UDD-F

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	191.7	191.7	191.6	191.7	192.1	192.4	192.8	193.0
115°	220.4	220.6	220.8	220.8	220.8	220.8	220.8	220.8
117.5°	249.3	249.3	249.3	249.3	249.2	249.2	249.2	249.1
120°	267.3	267.4	267.6	267.6	267.4	267.3	267.1	266.9
122.5°	284.9	285.0	285.1	285.1	284.9	284.7	284.6	284.4
125°	309.5	309.8	310.0	310.2	310.3	310.4	310.5	310.6
127.5°	334.1	334.0	334.0	333.9	333.8	333.7	333.7	333.6
130°	349.0	349.1	349.2	349.2	349.2	349.2	349.2	349.2
132.5°	363.7	363.8	363.9	363.9	363.8	363.8	363.7	363.6
135°	383.9	384.1	384.3	384.4	384.6	384.8	385.0	385.1
137.5°	403.3	403.5	403.7	403.7	403.7	403.6	403.6	403.6
140°	415.3	415.6	415.9	416.0	416.1	416.2	416.3	416.4
142.5°	426.4	426.6	426.8	426.9	426.9	427.0	427.0	427.0
145°	442.3	442.4	442.5	442.6	442.7	442.9	443.1	443.2
147.5°	456.2	456.2	456.3	456.4	456.5	456.6	456.7	456.8
150°	465.1	465.1	465.1	465.2	465.3	465.4	465.5	465.5
152.5°	472.9	473.0	473.2	473.2	473.2	473.1	473.0	473.0
155°	483.4	483.7	484.1	484.1	483.9	483.6	483.4	483.1
157.5°	492.4	492.8	493.3	493.3	492.8	492.4	492.0	491.5
160°	498.2	498.7	499.2	499.2	498.7	498.2	497.7	497.1
162.5°	502.8	503.3	503.9	503.9	503.3	502.7	502.0	501.5
165°	509.5	510.1	510.8	510.7	510.0	509.2	508.4	507.6
167.5°	514.3	515.1	515.8	515.7	514.9	514.0	513.2	512.3
170°	517.2	517.9	518.7	518.6	517.6	516.8	515.9	515.1
172.5°	519.1	519.8	520.5	520.4	519.4	518.5	517.5	516.6
175°	521.3	522.1	522.9	522.7	521.7	520.6	519.6	518.6
177.5°	522.2	522.7	523.3	523.1	522.4	521.5	520.6	519.9
180°	521.7	521.7	521.7	521.7	521.7	521.7	521.7	521.7

(END OF REPORT)