

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: P332106-935

Luminaire Tested: **S123DIW-S340D1030U935-4F0-1E-UDD-F**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332106-935
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: S123DIW-S340D1030U935-4F0-1E-UDD-F
Description: DEFINE 3 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 340 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
UPLIGHT 1030 LUMENS PER FOOT, NO LENS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4767.0 lumens
Efficiency: N/A
Efficacy: 125.4 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.18 / 1.31
Luminous Opening: Rectangular (W 0.25' x L: 4' x H: 0')
CIE Type: Semi-Indirect

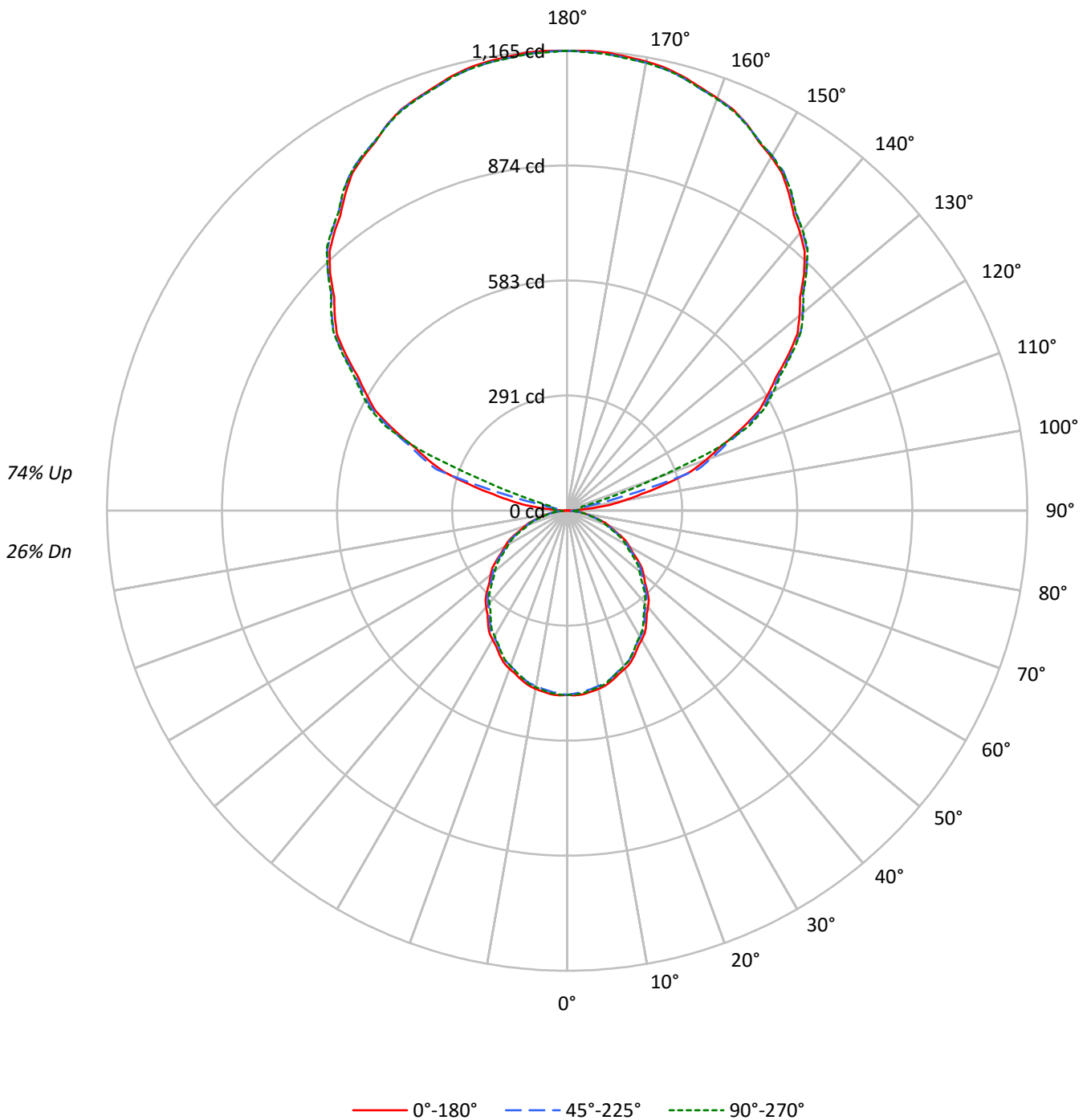
Input Watts (W): 38
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	101	101	101	101	90	90	90	90	70	70	70	51	51	51	34	34	34	26
1	92	88	84	81	82	79	75	73	61	59	57	45	43	42	30	29	28	21
2	84	77	71	66	75	69	64	60	53	50	47	39	37	35	26	25	24	18
3	77	67	60	55	68	60	54	50	47	43	39	35	32	30	23	21	20	15
4	70	60	52	46	62	53	47	42	42	37	33	31	28	25	21	19	17	13
5	64	53	45	39	57	47	41	36	37	32	29	27	24	22	18	17	15	11
6	59	47	39	34	52	42	36	31	33	28	25	25	21	19	17	15	13	10
7	54	42	35	30	48	38	32	27	30	25	22	22	19	17	15	13	12	9
8	50	38	31	26	45	35	28	24	27	23	19	20	17	15	14	12	10	8
9	47	35	28	23	42	31	25	21	25	20	17	19	15	13	13	11	9	7
10	43	32	25	20	39	29	23	19	23	18	15	17	14	12	12	10	9	6

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	5022	5022	5022
5°	5046	4976	5010
10°	5012	4933	4964
15°	4953	4878	4886
20°	4885	4798	4802
25°	4793	4703	4694
30°	4692	4598	4561
35°	4586	4486	4428
40°	4477	4363	4295
45°	4354	4250	4147
50°	4232	4113	3997
55°	4074	3969	3847
60°	3914	3800	3679
65°	3769	3617	3505
70°	3559	3408	3257
75°	3256	3136	3003
80°	2938	2814	2783
85°	2569	2482	2384



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	44.0	0.9
10°-20°	124.1	2.6
20°-30°	183.3	3.8
30°-40°	214.1	4.5
40°-50°	215.3	4.5
50°-60°	189.1	4.0
60°-70°	140.9	3.0
70°-80°	80.3	1.7
80°-90°	26.3	0.6
90°-100°	42.3	0.9
100°-110°	201.7	4.2
110°-120°	484.5	10.2
120°-130°	616.9	12.9
130°-140°	659.2	13.8
140°-150°	616.4	12.9
150°-160°	497.2	10.4
160°-170°	320.9	6.7
170°-180°	110.6	2.3
0°-30°	351.4	7.4
0°-40°	565.5	11.9
0°-60°	969.9	20.3
0°-90°	1217.3	25.5
90°-120°	728.5	15.3
90°-150°	2621.0	55.0
90°-180°	3550.0	74.5
0°-180°	4767.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	467	467	467	467	467	
5°	467	465	460	464	464	44
15°	444	443	438	441	438	125
25°	404	401	396	396	395	186
35°	349	346	341	339	337	218
45°	286	284	279	275	272	221
55°	217	216	212	207	205	194
65°	148	146	142	139	138	146
75°	78	77	75	73	72	84
85°	21	20	20	19	19	23
90°	1	10	21	24	26	4
95°	53	20	27	33	33	65
105°	258	262	189	45	38	273
115°	484	489	496	505	508	477
125°	682	688	692	694	695	608
135°	848	853	857	859	857	653
145°	979	985	987	988	988	613
155°	1078	1077	1078	1081	1077	497
165°	1137	1135	1134	1140	1135	321
175°	1164	1160	1160	1166	1160	111
180°	1164	1164	1164	1164	1164	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	466.6	466.6	466.6	466.6	466.6	466.6	466.6	466.6	466.6	466.6	466.6
2.5°	468.2	467.9	467.6	467.4	467.0	466.5	465.7	464.9	464.2	463.4	464.1
5°	467.0	466.5	466.1	465.6	465.2	464.5	463.5	462.5	461.5	460.5	461.4
7.5°	462.4	461.9	461.5	461.1	460.6	459.9	458.9	457.9	456.8	455.8	456.6
10°	458.6	458.1	457.6	457.2	456.8	456.0	454.8	453.7	452.5	451.3	452.1
12.5°	453.4	453.1	452.6	452.3	451.9	451.2	450.1	449.0	447.9	446.9	447.5
15°	444.5	444.2	443.8	443.4	443.1	442.3	441.2	440.0	438.9	437.7	438.4
17.5°	434.1	433.7	433.3	432.7	432.3	431.5	430.3	429.2	428.0	426.9	427.3
20°	426.5	425.9	425.4	424.8	424.3	423.4	422.3	421.1	420.0	418.9	419.2
22.5°	417.8	417.2	416.7	416.2	415.7	414.8	413.6	412.5	411.3	410.2	410.4
25°	403.6	403.0	402.5	402.0	401.5	400.6	399.4	398.3	397.1	396.0	396.1
27.5°	388.4	387.9	387.4	386.8	386.3	385.5	384.3	383.0	381.8	380.5	380.6
30°	377.5	377.0	376.6	376.2	375.7	374.9	373.7	372.4	371.2	369.9	369.9
32.5°	366.6	366.0	365.4	364.8	364.3	363.4	362.5	361.5	360.6	359.6	359.1
35°	349.0	348.5	347.9	347.4	346.9	346.0	344.9	343.7	342.6	341.4	340.9
37.5°	331.1	330.4	329.7	329.0	328.4	327.4	326.2	325.0	323.9	322.7	322.1
40°	318.6	318.0	317.5	316.9	316.4	315.5	314.3	313.0	311.8	310.5	309.8
42.5°	306.0	305.4	304.8	304.2	303.6	302.6	301.4	300.1	298.9	297.6	297.0
45°	286.0	285.7	285.3	285.0	284.6	283.9	282.7	281.5	280.3	279.2	278.2
47.5°	266.2	265.7	265.2	264.7	264.2	263.4	262.3	261.1	260.1	259.0	258.0
50°	252.7	252.3	251.8	251.4	251.0	250.1	249.0	247.9	246.7	245.6	244.5
52.5°	238.6	238.3	238.0	237.7	237.4	236.6	235.4	234.2	233.0	231.7	230.9
55°	217.1	217.0	216.9	216.8	216.7	216.0	214.9	213.7	212.6	211.5	210.4
57.5°	196.5	196.2	195.9	195.6	195.3	194.7	193.7	192.8	191.9	191.0	190.1
60°	181.8	181.7	181.6	181.5	181.4	180.8	179.7	178.7	177.6	176.5	175.7
62.5°	168.6	168.3	168.2	167.9	167.6	167.0	165.9	164.9	163.8	162.7	162.0
65°	148.0	147.6	147.1	146.7	146.3	145.6	144.7	143.8	142.9	142.0	141.3
67.5°	126.3	125.9	125.5	125.1	124.8	124.2	123.6	122.9	122.2	121.5	120.9
70°	113.1	112.6	112.1	111.5	111.0	110.5	109.9	109.3	108.8	108.3	107.7
72.5°	99.4	98.9	98.6	98.2	97.7	97.3	96.7	96.1	95.5	94.9	94.3
75°	78.3	77.8	77.5	77.1	76.8	76.5	76.2	75.9	75.7	75.4	75.0
77.5°	59.5	59.3	59.2	59.0	58.7	58.5	58.2	57.9	57.5	57.2	56.9
80°	47.4	47.1	46.8	46.6	46.2	46.1	45.9	45.7	45.5	45.4	45.2
82.5°	35.5	35.4	35.4	35.3	35.2	35.2	35.1	35.1	35.1	35.0	34.9
85°	20.8	20.7	20.5	20.3	20.1	20.1	20.1	20.1	20.1	20.1	19.9
87.5°	8.5	8.7	8.9	9.0	9.2	9.5	9.9	10.3	10.8	11.2	11.3
90°	0.9	2.8	4.7	6.6	8.5	10.8	13.3	15.8	18.3	20.8	21.5
92.5°	16.1	15.6	15.0	14.5	13.9	14.6	16.5	18.3	20.2	22.1	23.3
95°	52.8	44.9	37.0	29.1	21.3	18.3	20.5	22.6	24.7	26.8	28.2
97.5°	106.0	102.5	98.9	95.4	91.9	83.2	69.4	55.5	41.7	27.8	29.4
100°	146.1	150.0	153.9	157.6	161.5	148.4	118.5	88.5	58.5	28.5	30.0
102.5°	191.8	194.6	197.3	200.1	202.9	187.9	155.2	122.4	89.6	56.9	52.2
105°	257.7	259.8	261.9	264.1	266.1	258.6	241.3	223.9	206.7	189.4	155.4
107.5°	327.3	328.9	330.6	332.3	334.0	336.2	339.0	341.6	344.4	347.2	322.2
110°	373.6	375.1	376.7	378.2	379.7	381.6	383.7	385.8	387.9	390.0	383.7



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	417.8	419.2	420.6	422.1	423.4	425.2	427.2	429.4	431.5	433.6	433.7
115°	483.5	484.6	485.7	486.9	488.0	489.5	491.2	492.9	494.6	496.4	498.3
117.5°	546.9	548.3	549.7	551.1	552.6	553.7	554.7	555.5	556.4	557.2	558.8
120°	586.3	588.1	589.8	591.5	593.2	594.4	595.0	595.6	596.2	596.7	598.2
122.5°	626.5	627.8	629.3	630.7	632.1	633.2	634.0	634.6	635.4	636.1	637.2
125°	681.5	683.0	684.5	686.0	687.6	688.8	689.5	690.3	691.0	691.8	692.2
127.5°	734.7	736.2	737.8	739.3	740.9	742.1	743.0	744.0	744.9	745.8	746.4
130°	767.9	769.5	771.0	772.6	774.1	775.2	776.0	776.8	777.6	778.3	779.1
132.5°	799.8	801.3	802.8	804.3	805.9	807.0	807.6	808.2	808.8	809.4	810.2
135°	848.3	849.5	850.7	851.8	853.0	853.9	854.7	855.5	856.3	857.0	857.6
137.5°	889.8	891.3	892.8	894.2	895.7	896.6	897.1	897.5	897.9	898.4	899.2
140°	917.6	918.7	919.9	921.0	922.1	923.0	923.6	924.2	924.7	925.3	926.1
142.5°	943.1	944.3	945.5	946.6	947.8	948.6	949.2	949.8	950.4	950.9	951.6
145°	979.0	980.2	981.6	983.0	984.3	985.2	985.6	985.9	986.4	986.7	987.1
147.5°	1012.7	1013.6	1014.4	1015.3	1016.2	1016.8	1017.2	1017.6	1018.0	1018.4	1018.7
150°	1033.5	1034.0	1034.6	1035.2	1035.7	1036.2	1036.6	1037.0	1037.3	1037.8	1038.1
152.5°	1052.1	1052.4	1052.7	1052.9	1053.2	1053.4	1053.7	1053.9	1054.1	1054.4	1055.1
155°	1078.4	1078.0	1077.6	1077.3	1076.9	1076.8	1076.9	1077.1	1077.4	1077.5	1078.5
157.5°	1098.8	1098.8	1098.7	1098.7	1098.6	1098.5	1098.4	1098.1	1097.9	1097.8	1098.9
160°	1111.3	1111.0	1110.9	1110.7	1110.5	1110.3	1110.1	1109.9	1109.7	1109.6	1110.7
162.5°	1123.0	1122.5	1122.1	1121.5	1121.0	1120.7	1120.5	1120.3	1120.1	1119.9	1121.2
165°	1137.2	1136.6	1136.1	1135.5	1134.9	1134.5	1134.3	1134.1	1133.9	1133.8	1135.3
167.5°	1148.2	1147.5	1146.8	1146.0	1145.2	1144.8	1144.8	1144.8	1144.8	1144.8	1146.3
170°	1154.5	1153.7	1153.0	1152.2	1151.4	1151.1	1151.1	1151.1	1151.1	1151.1	1152.5
172.5°	1158.6	1157.7	1156.8	1155.9	1154.9	1154.6	1154.7	1154.9	1155.0	1155.2	1156.8
175°	1164.0	1163.0	1162.1	1161.1	1160.2	1159.8	1159.9	1160.2	1160.4	1160.5	1161.9
177.5°	1165.4	1164.6	1163.9	1163.1	1162.4	1162.0	1162.2	1162.4	1162.4	1162.6	1163.9
180°	1164.0	1164.0	1164.0	1164.0	1164.0	1164.0	1164.0	1164.0	1164.0	1164.0	1164.0



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	466.6	466.6	466.6	466.6	466.6	466.6	466.6	466.6
2.5°	464.8	465.5	466.2	466.6	466.5	466.4	466.3	466.2
5°	462.4	463.2	464.2	464.5	464.3	464.2	463.9	463.7
7.5°	457.4	458.2	459.0	459.3	459.3	459.2	459.1	458.9
10°	453.0	453.7	454.5	454.9	454.7	454.5	454.3	454.2
12.5°	448.0	448.6	449.2	449.4	449.4	449.2	449.1	449.0
15°	439.1	439.8	440.6	440.7	440.1	439.5	439.0	438.5
17.5°	427.8	428.3	428.9	429.0	428.8	428.6	428.4	428.3
20°	419.6	419.9	420.3	420.3	420.0	419.7	419.5	419.2
22.5°	410.7	411.0	411.3	411.3	411.0	410.6	410.3	409.9
25°	396.1	396.2	396.3	396.2	396.0	395.7	395.5	395.2
27.5°	380.6	380.7	380.7	380.6	380.3	380.0	379.6	379.3
30°	369.9	369.9	369.9	369.5	368.9	368.3	367.7	367.0
32.5°	358.6	358.1	357.7	357.2	356.9	356.5	356.2	355.9
35°	340.4	339.8	339.2	338.8	338.4	337.9	337.4	337.0
37.5°	321.4	320.8	320.1	319.7	319.4	319.1	318.8	318.6
40°	309.1	308.4	307.6	307.1	306.8	306.4	306.1	305.7
42.5°	296.3	295.5	294.8	294.3	293.9	293.6	293.3	292.8
45°	277.1	276.0	274.9	274.2	273.7	273.3	272.9	272.4
47.5°	256.9	255.9	254.8	254.1	253.7	253.3	252.9	252.5
50°	243.6	242.5	241.6	240.8	240.3	239.8	239.3	238.7
52.5°	230.1	229.2	228.3	227.6	227.1	226.6	226.1	225.6
55°	209.5	208.4	207.5	206.8	206.4	205.9	205.4	205.0
57.5°	189.2	188.3	187.4	186.8	186.2	185.7	185.2	184.7
60°	175.0	174.1	173.3	172.7	172.2	171.8	171.3	170.9
62.5°	161.1	160.3	159.5	158.9	158.7	158.3	158.1	157.7
65°	140.6	139.9	139.1	138.7	138.4	138.1	137.8	137.6
67.5°	120.2	119.6	119.0	118.5	118.1	117.7	117.4	117.0
70°	107.1	106.4	105.8	105.3	104.9	104.4	103.9	103.5
72.5°	93.8	93.2	92.6	92.2	92.0	91.8	91.5	91.3
75°	74.6	74.0	73.6	73.3	73.0	72.8	72.5	72.2
77.5°	56.6	56.3	56.0	55.9	55.9	55.9	55.9	55.9
80°	45.1	45.0	44.9	44.9	44.9	44.9	44.9	44.9
82.5°	34.8	34.6	34.4	34.3	34.3	34.2	34.1	34.0
85°	19.7	19.5	19.4	19.3	19.3	19.3	19.3	19.3
87.5°	11.4	11.5	11.5	11.6	11.7	11.8	11.9	12.0
90°	22.3	23.1	23.8	24.4	24.8	25.1	25.6	25.9
92.5°	24.6	25.8	27.0	27.8	28.0	28.2	28.5	28.7
95°	29.5	30.8	32.2	32.9	32.9	32.9	32.9	32.9
97.5°	30.9	32.5	34.0	34.9	35.0	35.2	35.5	35.6
100°	31.6	33.1	34.7	35.6	35.7	35.9	36.2	36.3
102.5°	47.4	42.6	37.8	35.6	36.0	36.3	36.7	37.0
105°	121.4	87.3	53.3	36.5	36.9	37.3	37.6	38.1
107.5°	297.2	272.3	247.4	222.1	196.4	170.8	145.2	119.5
110°	377.4	371.0	364.6	347.8	320.3	292.7	265.3	237.8



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CATALOG NUMBER: S123DIW-S340D1030U935-4F0-1E-UDD-F

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	433.9	433.9	434.0	431.2	425.4	419.7	413.8	408.0
115°	500.2	502.1	504.1	505.4	506.2	507.0	507.7	508.5
117.5°	560.3	561.9	563.4	564.3	564.4	564.6	564.7	564.9
120°	599.8	601.3	602.9	603.6	603.6	603.6	603.6	603.6
122.5°	638.3	639.4	640.4	641.1	641.2	641.4	641.5	641.7
125°	692.6	693.0	693.4	693.8	694.1	694.5	694.9	695.3
127.5°	747.0	747.6	748.3	748.4	748.0	747.6	747.3	746.8
130°	779.9	780.6	781.4	781.6	781.2	780.8	780.4	780.1
132.5°	811.0	811.8	812.5	812.6	812.1	811.6	811.1	810.5
135°	858.2	858.8	859.3	859.3	858.8	858.2	857.6	857.0
137.5°	900.2	901.1	902.1	902.3	901.9	901.6	901.1	900.8
140°	926.9	927.6	928.4	928.6	928.2	927.8	927.5	927.0
142.5°	952.2	952.8	953.4	953.4	952.9	952.4	951.8	951.2
145°	987.5	987.9	988.3	988.4	988.4	988.4	988.4	988.4
147.5°	1019.2	1019.5	1019.9	1019.7	1018.8	1017.9	1017.0	1016.2
150°	1038.5	1038.9	1039.3	1039.2	1038.6	1038.0	1037.5	1036.9
152.5°	1055.8	1056.4	1057.1	1057.0	1056.1	1055.2	1054.4	1053.5
155°	1079.4	1080.4	1081.4	1081.2	1080.1	1079.0	1077.8	1076.7
157.5°	1100.1	1101.2	1102.3	1102.2	1100.7	1099.2	1097.7	1096.2
160°	1111.8	1113.0	1114.1	1114.0	1112.7	1111.4	1110.0	1108.6
162.5°	1122.5	1123.9	1125.2	1125.2	1124.0	1122.8	1121.6	1120.4
165°	1136.8	1138.3	1139.9	1140.0	1138.7	1137.3	1135.9	1134.6
167.5°	1147.9	1149.4	1151.0	1151.0	1149.4	1147.9	1146.3	1144.8
170°	1154.1	1155.6	1157.2	1157.2	1155.6	1154.1	1152.5	1151.1
172.5°	1158.3	1159.8	1161.3	1161.2	1159.6	1157.9	1156.2	1154.5
175°	1163.2	1164.6	1166.0	1165.9	1164.3	1162.8	1161.2	1159.7
177.5°	1165.1	1166.3	1167.5	1167.4	1165.9	1164.3	1162.8	1161.2
180°	1164.0	1164.0	1164.0	1164.0	1164.0	1164.0	1164.0	1164.0

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