

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: P332104-930

Luminaire Tested: **S123DIW-S340D1030U930-4F0-1E-UDD-D**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332104-930
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-S340D1030U930-4F0-1E-UDD-D
Description: DEFINE 3 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 340 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER
UPLIGHT 1030 LUMENS PER FOOT, NO LENS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4536.3 lumens
Efficiency: N/A
Efficacy: 119.4 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.26 / 1.37
Luminous Opening: Rectangular w/ Sides (W: 0.25' x L: 4' x H: 0.08')
CIE Type: Semi-Indirect

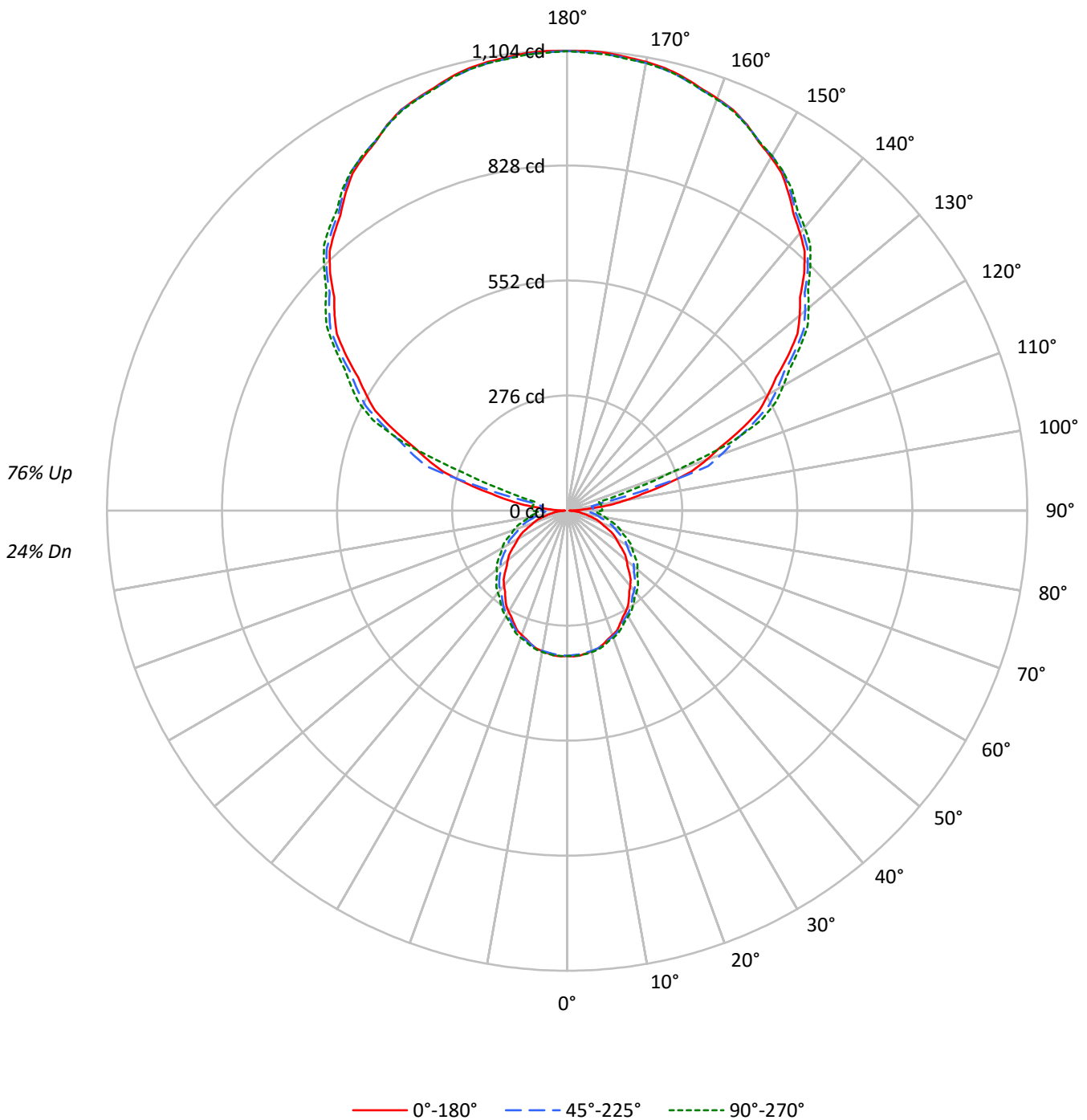
Input Watts (W): 38
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	69	69	69	50	50	50	32	32	32	24
1	91	87	83	80	81	77	74	71	59	57	55	43	41	40	27	27	26	19
2	83	76	70	64	73	67	62	58	52	48	45	37	35	33	24	23	21	15
3	75	66	59	53	67	59	53	48	45	41	38	33	30	28	21	19	18	13
4	69	58	51	45	61	52	45	40	40	35	32	29	26	23	19	17	15	11
5	63	52	44	38	56	46	39	34	36	31	27	26	23	20	17	15	13	9
6	58	46	38	33	51	41	35	30	32	27	23	23	20	17	15	13	12	8
7	53	42	34	28	47	37	30	26	29	24	20	21	18	15	14	12	10	7
8	49	37	30	25	44	34	27	23	26	21	18	19	16	13	13	11	9	6
9	46	34	27	22	41	31	24	20	24	19	16	17	14	12	12	10	8	6
10	43	31	24	19	38	28	22	18	22	17	14	16	13	11	11	9	7	5

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	3753	3753	3753
5°	3765	3659	3661
10°	3732	3575	3556
15°	3684	3479	3443
20°	3615	3370	3318
25°	3530	3245	3186
30°	3444	3132	3053
35°	3345	3012	2946
40°	3252	2903	2833
45°	3149	2798	2741
50°	3047	2695	2641
55°	2936	2589	2550
60°	2826	2482	2458
65°	2714	2366	2347
70°	2542	2237	2234
75°	2331	2092	2120
80°	2084	1946	1988
85°	1855	1845	1910



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	33.1	0.7
10°-20°	94.2	2.1
20°-30°	141.0	3.1
30°-40°	168.3	3.7
40°-50°	176.1	3.9
50°-60°	165.3	3.6
60°-70°	138.0	3.0
70°-80°	98.8	2.2
80°-90°	62.0	1.4
90°-100°	77.0	1.7
100°-110°	218.2	4.8
110°-120°	476.9	10.5
120°-130°	594.5	13.1
130°-140°	628.8	13.9
140°-150°	584.7	12.9
150°-160°	470.8	10.4
160°-170°	303.9	6.7
170°-180°	104.7	2.3
0°-30°	268.3	5.9
0°-40°	436.6	9.6
0°-60°	778.0	17.1
0°-90°	1076.7	23.7
90°-120°	772.1	17.0
90°-150°	2580.1	56.9
90°-180°	3460.0	76.3
0°-180°	4536.3	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	349	349	349	349	349	
5°	349	348	346	349	349	33
15°	332	333	333	337	337	94
25°	300	304	305	310	310	138
35°	258	264	269	275	276	162
45°	211	220	230	237	240	163
55°	161	174	187	197	201	144
65°	111	126	143	154	158	110
75°	60	78	97	109	114	64
85°	19	38	58	70	74	20
90°	6	33	63	78	84	6
95°	54	38	63	80	84	65
105°	247	261	208	81	79	262
115°	460	470	490	507	514	454
125°	646	653	667	677	681	577
135°	804	809	816	825	825	619
145°	927	932	934	939	940	580
155°	1021	1020	1020	1024	1020	470
165°	1077	1074	1074	1079	1074	304
175°	1102	1098	1099	1104	1098	105
180°	1102	1102	1102	1102	1102	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	348.7	348.7	348.7	348.7	348.7	348.7	348.7	348.7	348.7	348.7	348.7
2.5°	350.3	350.1	349.8	349.7	349.4	349.1	348.5	348.0	347.5	346.9	347.5
5°	349.1	348.9	348.8	348.6	348.5	348.1	347.6	347.1	346.6	346.1	346.7
7.5°	345.7	345.8	345.8	345.8	345.8	345.6	345.1	344.6	344.1	343.6	344.5
10°	342.7	342.8	343.0	343.2	343.3	343.2	342.8	342.3	341.9	341.5	342.3
12.5°	339.0	339.2	339.5	339.7	340.0	339.9	339.7	339.3	339.1	338.8	339.6
15°	332.4	332.6	332.9	333.1	333.4	333.5	333.4	333.3	333.2	333.1	334.0
17.5°	324.1	324.6	325.1	325.5	326.0	326.3	326.3	326.2	326.2	326.2	326.9
20°	318.0	318.5	318.9	319.5	320.0	320.3	320.5	320.7	320.8	321.0	321.8
22.5°	311.6	312.1	312.6	313.1	313.6	314.0	314.2	314.5	314.7	315.0	315.9
25°	300.1	300.9	301.8	302.6	303.5	304.0	304.3	304.5	304.8	305.1	306.1
27.5°	288.5	289.5	290.5	291.5	292.4	293.2	293.7	294.2	294.8	295.3	296.3
30°	280.4	281.4	282.6	283.6	284.8	285.6	286.3	287.0	287.6	288.4	289.3
32.5°	271.3	272.5	273.7	274.9	276.1	277.2	278.1	279.0	279.9	280.7	281.8
35°	258.3	259.7	261.1	262.4	263.7	265.0	266.0	267.2	268.2	269.4	270.6
37.5°	244.7	246.1	247.7	249.2	250.7	252.2	253.5	254.9	256.2	257.6	259.0
40°	235.5	237.1	238.6	240.1	241.6	243.2	244.9	246.6	248.3	250.0	251.4
42.5°	225.5	227.4	229.2	231.1	232.9	234.7	236.5	238.2	240.0	241.7	243.4
45°	211.2	213.3	215.2	217.3	219.3	221.4	223.5	225.6	227.7	229.8	231.5
47.5°	196.2	198.5	200.8	203.2	205.5	207.8	210.2	212.6	215.0	217.4	219.2
50°	186.5	188.9	191.3	193.6	196.0	198.4	201.1	203.7	206.4	209.0	210.9
52.5°	176.2	178.7	181.2	183.7	186.2	188.9	191.8	194.7	197.5	200.4	202.4
55°	161.1	163.9	166.6	169.4	172.2	175.1	178.1	181.2	184.3	187.3	189.6
57.5°	146.3	149.2	152.1	155.1	157.9	161.1	164.4	167.7	171.0	174.4	176.7
60°	136.0	139.0	142.1	145.1	148.1	151.4	154.9	158.3	161.8	165.3	167.6
62.5°	126.3	129.4	132.5	135.6	138.7	142.1	145.8	149.4	153.1	156.8	159.1
65°	111.3	114.6	117.9	121.2	124.5	128.0	131.7	135.4	139.1	142.8	145.4
67.5°	96.1	99.6	103.1	106.6	110.1	113.7	117.5	121.3	125.1	128.9	131.6
70°	85.4	89.1	92.7	96.4	100.0	103.9	107.9	111.9	116.0	120.0	122.8
72.5°	75.7	79.4	83.0	86.7	90.3	94.2	98.3	102.6	106.7	111.0	113.7
75°	60.4	64.4	68.3	72.3	76.3	80.4	84.6	88.8	93.0	97.3	100.0
77.5°	47.0	51.0	55.0	59.0	63.0	67.2	71.4	75.7	79.9	84.2	87.2
80°	37.6	41.7	45.9	50.1	54.1	58.5	62.8	67.2	71.6	76.0	78.8
82.5°	29.4	33.6	37.8	42.0	46.2	50.5	55.0	59.4	63.9	68.4	71.3
85°	18.6	22.8	27.1	31.3	35.5	39.9	44.4	48.8	53.2	57.7	60.6
87.5°	10.3	14.8	19.4	24.0	28.5	33.2	38.0	42.8	47.5	52.3	55.4
90°	5.8	11.7	17.7	23.6	29.6	35.9	42.6	49.2	55.9	62.6	66.2
92.5°	19.9	23.1	26.3	29.5	32.8	37.3	43.4	49.4	55.4	61.5	65.4
95°	54.1	50.0	45.8	41.7	37.4	38.5	44.6	50.7	56.8	63.0	66.9
97.5°	104.1	103.7	103.4	103.0	102.6	97.8	88.7	79.6	70.4	61.2	65.2
100°	141.8	148.1	154.5	160.9	167.1	158.1	133.6	109.1	84.5	60.1	64.0
102.5°	184.7	189.8	194.9	199.9	205.0	193.9	166.7	139.5	112.3	85.1	83.0
105°	247.0	251.1	255.1	259.2	263.2	258.9	246.1	233.3	220.5	207.8	178.0
107.5°	312.4	315.8	319.1	322.5	325.7	330.4	336.5	342.5	348.5	354.6	333.2
110°	356.0	359.0	362.0	364.9	367.9	372.1	377.5	382.9	388.2	393.6	389.8



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	397.9	400.6	403.1	405.6	408.2	412.1	417.4	422.6	427.9	433.1	435.3
115°	459.7	461.8	463.9	465.9	468.1	471.5	476.1	480.9	485.5	490.2	494.0
117.5°	519.7	521.6	523.7	525.6	527.6	530.4	534.1	537.8	541.4	545.2	548.6
120°	556.8	558.8	560.8	562.9	565.0	567.7	571.0	574.3	577.6	581.0	584.4
122.5°	594.8	596.3	597.9	599.4	601.0	603.4	606.7	610.1	613.4	616.8	619.7
125°	646.5	647.9	649.3	650.8	652.2	654.6	657.7	660.9	664.1	667.2	669.4
127.5°	696.8	698.2	699.6	701.0	702.4	704.5	707.4	710.3	713.2	716.1	718.4
130°	728.3	729.7	731.1	732.5	733.8	735.7	738.1	740.5	743.0	745.3	747.7
132.5°	758.1	759.6	761.0	762.5	763.9	765.6	767.5	769.5	771.4	773.3	775.6
135°	804.1	805.1	806.1	807.1	808.1	809.4	811.1	812.8	814.4	816.1	818.2
137.5°	843.3	844.7	846.0	847.3	848.6	849.7	850.6	851.6	852.5	853.4	855.6
140°	869.2	870.3	871.4	872.5	873.6	874.6	875.3	876.1	876.9	877.8	879.7
142.5°	893.5	894.5	895.5	896.5	897.6	898.4	898.9	899.6	900.2	900.7	902.5
145°	927.4	928.5	929.8	930.9	932.1	932.9	933.3	933.6	934.0	934.3	935.4
147.5°	959.0	959.8	960.6	961.4	962.3	962.9	963.2	963.6	963.9	964.3	964.9
150°	978.6	979.1	979.7	980.2	980.7	981.2	981.5	981.9	982.3	982.7	983.0
152.5°	996.3	996.5	996.8	997.0	997.3	997.5	997.8	997.9	998.2	998.4	999.1
155°	1021.2	1020.8	1020.4	1020.1	1019.7	1019.6	1019.8	1019.9	1020.2	1020.3	1021.2
157.5°	1040.5	1040.5	1040.4	1040.4	1040.3	1040.2	1040.1	1039.8	1039.7	1039.5	1040.6
160°	1052.3	1052.1	1051.9	1051.7	1051.6	1051.3	1051.2	1051.0	1050.8	1050.7	1051.7
162.5°	1063.4	1062.9	1062.5	1062.0	1061.5	1061.2	1061.0	1060.9	1060.6	1060.5	1061.7
165°	1076.8	1076.3	1075.8	1075.2	1074.6	1074.3	1074.1	1073.9	1073.7	1073.6	1075.1
167.5°	1087.3	1086.6	1085.9	1085.2	1084.4	1084.0	1084.0	1084.0	1084.0	1084.0	1085.5
170°	1093.2	1092.5	1091.8	1091.0	1090.3	1090.0	1090.0	1090.0	1090.0	1090.0	1091.4
172.5°	1097.1	1096.3	1095.4	1094.5	1093.6	1093.3	1093.4	1093.6	1093.7	1093.9	1095.4
175°	1102.2	1101.3	1100.4	1099.5	1098.6	1098.2	1098.4	1098.6	1098.8	1098.9	1100.2
177.5°	1103.5	1102.8	1102.1	1101.4	1100.7	1100.3	1100.5	1100.7	1100.7	1100.9	1102.1
180°	1102.2	1102.2	1102.2	1102.2	1102.2	1102.2	1102.2	1102.2	1102.2	1102.2	1102.2



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	348.7	348.7	348.7	348.7	348.7	348.7	348.7	348.7
2.5°	348.0	348.5	349.1	349.3	349.3	349.2	349.1	349.0
5°	347.4	348.1	348.8	349.1	349.0	348.9	348.8	348.7
7.5°	345.4	346.2	347.0	347.4	347.3	347.2	347.1	347.0
10°	343.2	344.1	344.9	345.2	345.0	344.9	344.7	344.5
12.5°	340.3	341.1	341.9	342.2	342.0	341.9	341.7	341.5
15°	334.8	335.7	336.6	336.9	336.8	336.7	336.6	336.6
17.5°	327.7	328.5	329.2	329.5	329.4	329.3	329.2	329.1
20°	322.5	323.3	324.1	324.5	324.6	324.7	324.7	324.8
22.5°	316.8	317.8	318.8	319.3	319.2	319.1	319.1	319.0
25°	307.2	308.3	309.4	310.0	310.0	310.0	310.0	310.0
27.5°	297.2	298.2	299.1	299.6	299.7	299.8	299.8	299.9
30°	290.3	291.4	292.4	292.9	292.9	292.9	292.9	292.9
32.5°	282.9	284.0	285.0	285.7	285.9	286.1	286.3	286.5
35°	271.9	273.1	274.4	275.2	275.6	275.9	276.2	276.5
37.5°	260.4	261.9	263.3	264.2	264.4	264.7	265.0	265.2
40°	252.8	254.3	255.7	256.6	256.9	257.3	257.6	258.0
42.5°	244.9	246.5	248.0	249.1	249.6	250.0	250.5	250.9
45°	233.0	234.6	236.3	237.4	238.1	238.7	239.5	240.1
47.5°	221.0	222.9	224.7	225.8	226.3	226.9	227.4	228.0
50°	212.8	214.7	216.7	218.0	218.6	219.2	219.7	220.4
52.5°	204.5	206.4	208.5	209.9	210.6	211.3	212.0	212.7
55°	191.8	194.1	196.4	197.9	198.5	199.3	199.9	200.6
57.5°	179.0	181.2	183.5	185.1	185.9	186.7	187.5	188.3
60°	170.0	172.4	174.7	176.3	177.2	178.2	179.1	180.1
62.5°	161.4	163.8	166.2	167.8	168.7	169.5	170.4	171.3
65°	147.9	150.4	153.0	154.7	155.5	156.4	157.2	158.0
67.5°	134.4	137.1	139.9	141.7	142.4	143.1	143.8	144.5
70°	125.5	128.2	130.9	132.6	133.5	134.3	135.2	136.0
72.5°	116.4	119.2	122.0	123.8	124.7	125.5	126.4	127.2
75°	102.8	105.6	108.4	110.3	111.3	112.3	113.3	114.4
77.5°	90.1	93.0	96.0	97.8	98.6	99.4	100.1	100.9
80°	81.7	84.6	87.5	89.3	90.2	91.0	91.9	92.7
82.5°	74.1	77.0	79.9	81.7	82.6	83.4	84.2	85.1
85°	63.5	66.4	69.2	71.1	71.9	72.8	73.6	74.4
87.5°	58.4	61.4	64.4	66.4	67.3	68.2	69.1	70.0
90°	69.8	73.4	77.0	79.4	80.6	81.8	83.0	84.2
92.5°	69.4	73.4	77.3	79.8	80.8	81.8	82.8	83.8
95°	70.8	74.7	78.6	81.0	81.8	82.6	83.5	84.3
97.5°	69.2	73.1	77.1	79.7	80.6	81.7	82.7	83.7
100°	67.9	71.7	75.7	78.2	79.2	80.2	81.2	82.3
102.5°	80.9	78.7	76.6	76.1	77.3	78.4	79.7	80.8
105°	148.1	118.3	88.5	74.1	75.2	76.3	77.5	78.6
107.5°	311.9	290.5	269.1	246.6	223.1	199.6	176.0	152.5
110°	386.0	382.2	378.4	363.8	338.4	313.2	287.8	262.4



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CATALOG NUMBER: S123DIW-S340D1030U930-4F0-1E-UDD-D

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	437.6	439.8	442.1	440.8	436.0	431.3	426.5	421.8
115°	497.9	501.7	505.6	508.2	509.6	511.0	512.4	513.8
117.5°	552.1	555.5	559.1	561.2	562.0	562.8	563.5	564.4
120°	587.7	591.2	594.6	596.6	597.1	597.8	598.3	598.9
122.5°	622.6	625.5	628.4	630.2	631.0	631.7	632.4	633.2
125°	671.6	673.7	675.8	677.4	678.3	679.3	680.2	681.2
127.5°	720.6	722.8	725.1	726.4	726.5	726.8	727.0	727.2
130°	750.0	752.4	754.7	755.9	756.0	756.2	756.4	756.5
132.5°	777.9	780.1	782.4	783.5	783.6	783.7	783.7	783.8
135°	820.2	822.3	824.3	825.3	825.2	825.1	824.9	824.8
137.5°	857.8	860.1	862.3	863.4	863.4	863.5	863.6	863.6
140°	881.7	883.7	885.7	886.7	886.8	886.9	886.9	887.0
142.5°	904.2	905.9	907.6	908.4	908.3	908.2	908.2	908.1
145°	936.5	937.5	938.5	939.2	939.6	939.9	940.2	940.5
147.5°	965.5	966.0	966.6	966.6	966.0	965.6	965.0	964.5
150°	983.4	983.7	984.1	984.1	983.7	983.3	983.0	982.6
152.5°	999.7	1000.4	1001.0	1000.9	1000.1	999.3	998.5	997.8
155°	1022.1	1023.0	1024.0	1023.9	1022.8	1021.7	1020.6	1019.5
157.5°	1041.7	1042.8	1043.8	1043.7	1042.3	1040.9	1039.4	1038.0
160°	1052.8	1053.9	1055.0	1054.9	1053.6	1052.4	1051.1	1049.8
162.5°	1062.9	1064.2	1065.4	1065.4	1064.4	1063.2	1062.1	1060.9
165°	1076.4	1077.9	1079.4	1079.5	1078.2	1076.9	1075.6	1074.4
167.5°	1087.0	1088.4	1089.9	1089.9	1088.4	1087.0	1085.5	1084.0
170°	1092.8	1094.3	1095.8	1095.8	1094.3	1092.8	1091.4	1090.0
172.5°	1096.8	1098.2	1099.7	1099.6	1098.0	1096.4	1094.8	1093.2
175°	1101.5	1102.8	1104.1	1104.0	1102.5	1101.1	1099.6	1098.1
177.5°	1103.3	1104.4	1105.5	1105.5	1104.0	1102.5	1101.1	1099.6
180°	1102.2	1102.2	1102.2	1102.2	1102.2	1102.2	1102.2	1102.2

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