

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: P332093

Luminaire Tested: **S123DIW-S340D460U835-4F0-1E-UDD-D1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332093
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-9,
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S123DIW-S340D460U835-4F0-1E-UDD-D1
Description: DEFINE 3 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 340 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER
UPLIGHT 460 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3037.5 lumens
Efficiency: N/A
Efficacy: 132.1 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: General Diffuse

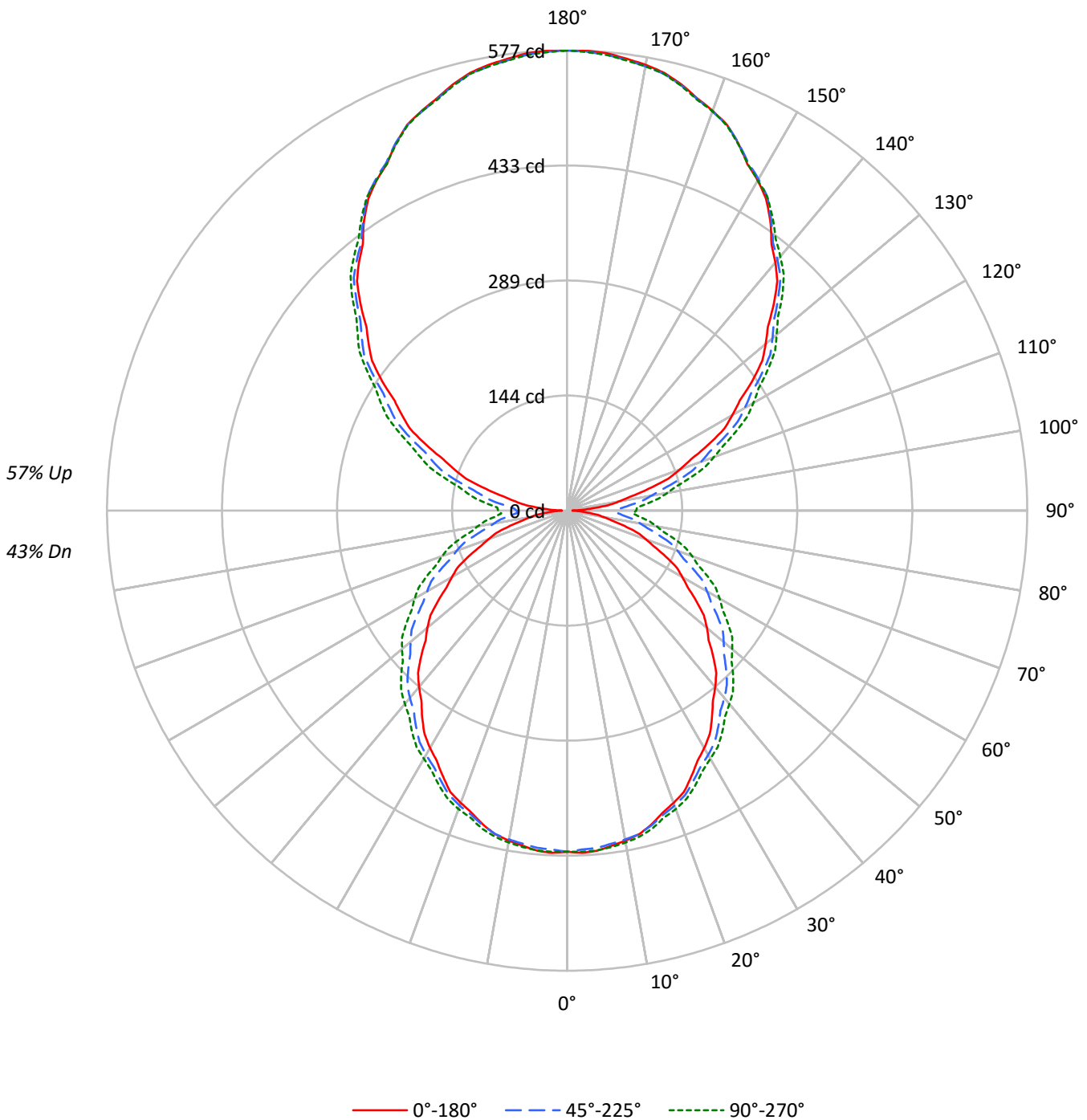
Input Watts (W): 23
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	106	106	106	106	97	97	97	97	80	80	80	64	64	64	50	50	50	43
1	95	91	86	83	87	83	79	76	68	66	63	55	53	52	43	42	40	35
2	86	79	72	67	79	72	66	62	59	55	52	48	45	42	37	35	33	28
3	79	69	61	55	71	63	56	51	52	47	43	42	38	35	33	30	28	24
4	72	61	53	46	65	56	49	43	46	41	36	37	33	30	29	26	24	20
5	66	54	46	39	60	49	42	37	41	35	31	33	29	26	26	23	21	17
6	60	48	40	34	55	44	37	32	37	31	27	30	26	23	23	20	18	15
7	56	43	35	30	51	40	33	28	33	28	24	27	23	20	21	18	16	13
8	52	39	32	26	47	36	29	24	30	25	21	25	21	18	20	17	14	12
9	48	36	28	23	44	33	26	22	28	22	19	23	19	16	18	15	13	11
10	45	33	26	21	41	30	24	19	26	20	17	21	17	14	17	14	12	10

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	4604	4604	4604
5°	4618	4488	4490
10°	4577	4385	4363
15°	4518	4267	4223
20°	4434	4133	4070
25°	4330	3980	3908
30°	4224	3841	3744
35°	4103	3694	3614
40°	3990	3560	3474
45°	3864	3432	3362
50°	3739	3305	3239
55°	3601	3175	3128
60°	3466	3044	3015
65°	3328	2903	2878
70°	3120	2744	2740
75°	2859	2565	2600
80°	2556	2387	2438
85°	2274	2264	2344



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	40.5	1.3
10°-20°	115.6	3.8
20°-30°	172.9	5.7
30°-40°	206.5	6.8
40°-50°	216.0	7.1
50°-60°	202.7	6.7
60°-70°	169.3	5.6
70°-80°	121.1	4.0
80°-90°	73.9	2.4
90°-100°	82.9	2.7
100°-110°	145.8	4.8
110°-120°	213.6	7.0
120°-130°	264.4	8.7
130°-140°	288.6	9.5
140°-150°	279.3	9.2
150°-160°	234.1	7.7
160°-170°	155.8	5.1
170°-180°	54.6	1.8
0°-30°	329.0	10.8
0°-40°	535.5	17.6
0°-60°	954.2	31.4
0°-90°	1318.6	43.4
90°-120°	442.3	14.6
90°-150°	1274.4	42.0
90°-180°	1719.0	56.6
0°-180°	3037.5	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	428	428	428	428	428	
5°	428	427	424	428	428	41
15°	408	409	409	413	413	115
25°	368	373	374	380	380	170
35°	317	324	330	337	339	198
45°	259	270	282	290	294	200
55°	198	213	230	242	246	177
65°	136	155	175	189	194	135
75°	74	96	119	134	140	79
85°	23	46	71	86	91	24
90°	6	34	64	80	87	6
95°	32	53	80	95	101	34
105°	106	118	142	154	160	113
115°	195	202	218	229	233	193
125°	283	285	297	305	307	253
135°	367	369	374	380	382	282
145°	444	445	446	449	449	277
155°	508	508	508	510	507	234
165°	553	552	552	554	552	156
175°	576	574	574	576	573	55
180°	577	577	577	577	577	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	427.7	427.7	427.7	427.7	427.7	427.7	427.7	427.7	427.7	427.7	427.7
2.5°	429.6	429.4	429.1	428.9	428.6	428.2	427.5	426.8	426.2	425.5	426.2
5°	428.2	428.0	427.8	427.6	427.4	427.0	426.3	425.7	425.1	424.5	425.3
7.5°	424.0	424.1	424.1	424.1	424.2	423.9	423.3	422.7	422.1	421.5	422.5
10°	420.3	420.5	420.7	420.9	421.1	421.0	420.4	419.9	419.4	418.9	419.9
12.5°	415.8	416.1	416.4	416.7	417.0	416.9	416.6	416.2	415.9	415.5	416.5
15°	407.7	408.0	408.3	408.6	408.9	409.1	408.9	408.8	408.7	408.6	409.7
17.5°	397.5	398.1	398.7	399.3	399.9	400.2	400.2	400.1	400.1	400.1	401.0
20°	390.0	390.6	391.2	391.9	392.5	392.9	393.1	393.3	393.5	393.7	394.7
22.5°	382.2	382.8	383.4	384.0	384.7	385.1	385.4	385.7	386.0	386.3	387.5
25°	368.1	369.1	370.2	371.2	372.2	372.9	373.2	373.5	373.8	374.2	375.5
27.5°	353.9	355.1	356.3	357.5	358.7	359.6	360.2	360.9	361.6	362.2	363.4
30°	343.9	345.2	346.6	347.9	349.3	350.3	351.2	352.0	352.8	353.7	354.9
32.5°	332.7	334.2	335.7	337.2	338.7	340.0	341.1	342.2	343.3	344.3	345.7
35°	316.8	318.5	320.2	321.8	323.5	325.0	326.3	327.7	329.0	330.4	331.9
37.5°	300.1	301.9	303.8	305.7	307.5	309.3	310.9	312.6	314.3	315.9	317.7
40°	288.9	290.8	292.6	294.5	296.3	298.3	300.4	302.5	304.5	306.6	308.4
42.5°	276.6	278.9	281.1	283.4	285.7	287.9	290.1	292.2	294.4	296.5	298.5
45°	259.1	261.6	264.0	266.5	269.0	271.5	274.1	276.7	279.3	281.9	283.9
47.5°	240.7	243.5	246.3	249.2	252.0	254.9	257.8	260.8	263.7	266.7	268.9
50°	228.8	231.7	234.6	237.5	240.4	243.4	246.6	249.9	253.1	256.3	258.7
52.5°	216.1	219.2	222.2	225.3	228.4	231.7	235.2	238.8	242.3	245.8	248.3
55°	197.6	201.0	204.4	207.8	211.2	214.8	218.5	222.3	226.0	229.7	232.5
57.5°	179.5	183.0	186.6	190.2	193.7	197.6	201.6	205.7	209.8	213.9	216.7
60°	166.8	170.5	174.3	178.0	181.7	185.7	190.0	194.2	198.4	202.7	205.6
62.5°	154.9	158.7	162.5	166.3	170.1	174.3	178.8	183.3	187.8	192.3	195.1
65°	136.5	140.6	144.6	148.6	152.7	157.0	161.5	166.1	170.6	175.2	178.3
67.5°	117.9	122.2	126.5	130.7	135.0	139.5	144.1	148.8	153.4	158.1	161.4
70°	104.8	109.3	113.7	118.2	122.6	127.4	132.3	137.3	142.3	147.2	150.6
72.5°	92.9	97.4	101.8	106.3	110.7	115.5	120.6	125.8	130.9	136.1	139.5
75°	74.1	79.0	83.8	88.7	93.6	98.6	103.8	108.9	114.1	119.3	122.7
77.5°	57.7	62.6	67.5	72.4	77.3	82.4	87.6	92.8	98.0	103.3	106.9
80°	46.1	51.2	56.3	61.4	66.4	71.7	77.0	82.4	87.8	93.2	96.7
82.5°	36.1	41.2	46.4	51.5	56.7	62.0	67.5	72.9	78.4	83.9	87.4
85°	22.8	28.0	33.2	38.4	43.5	48.9	54.4	59.8	65.3	70.8	74.3
87.5°	12.5	17.8	23.2	28.6	33.9	39.4	44.9	50.5	56.0	61.5	65.1
90°	6.5	12.6	18.7	24.8	30.8	37.2	43.8	50.3	56.9	63.5	67.5
92.5°	16.7	21.9	27.2	32.4	37.7	43.3	49.2	55.2	61.1	67.1	70.8
95°	31.9	36.6	41.3	46.1	50.8	56.1	62.0	67.9	73.8	79.7	83.3
97.5°	52.1	56.2	60.4	64.6	68.7	73.5	79.0	84.4	89.8	95.3	98.8
100°	65.8	69.7	73.7	77.6	81.5	86.1	91.4	96.6	101.9	107.2	110.5
102.5°	81.8	85.1	88.5	91.8	95.1	99.5	104.8	110.2	115.5	120.9	124.1
105°	105.7	108.4	111.1	113.8	116.4	120.5	125.8	131.2	136.5	141.9	144.8
107.5°	133.0	135.3	137.5	139.7	142.0	145.4	150.0	154.6	159.2	163.7	166.8
110°	150.1	152.1	154.2	156.3	158.3	161.5	165.9	170.2	174.6	178.9	182.0



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	168.2	169.9	171.5	173.2	174.8	177.7	181.7	185.7	189.7	193.7	196.8
115°	194.9	196.5	198.0	199.6	201.1	203.6	207.2	210.7	214.2	217.7	220.3
117.5°	222.2	223.2	224.1	225.1	226.1	228.2	231.4	234.7	237.9	241.1	243.6
120°	238.9	240.0	241.1	242.2	243.4	245.4	248.3	251.2	254.1	257.0	259.3
122.5°	256.6	257.4	258.1	258.8	259.5	261.3	264.3	267.3	270.3	273.3	275.3
125°	283.3	283.6	283.9	284.2	284.5	286.0	288.8	291.6	294.4	297.2	299.0
127.5°	308.3	308.8	309.4	309.9	310.5	311.9	314.1	316.4	318.6	320.9	322.4
130°	325.0	325.7	326.4	327.1	327.8	329.0	330.8	332.5	334.3	336.1	337.6
132.5°	341.3	342.1	342.8	343.6	344.4	345.5	347.0	348.4	349.8	351.3	352.7
135°	366.6	367.1	367.6	368.1	368.6	369.4	370.5	371.5	372.5	373.6	375.0
137.5°	390.1	390.5	391.0	391.4	391.8	392.5	393.4	394.3	395.2	396.1	397.3
140°	406.1	406.6	407.1	407.6	408.1	408.5	408.9	409.4	409.8	410.2	411.6
142.5°	420.9	421.3	421.8	422.2	422.6	422.9	423.2	423.4	423.7	423.9	425.2
145°	444.1	444.2	444.3	444.4	444.5	444.7	445.0	445.3	445.6	445.9	446.7
147.5°	464.0	464.3	464.7	465.0	465.4	465.7	466.0	466.3	466.6	466.9	467.1
150°	478.1	478.3	478.5	478.7	478.9	479.1	479.3	479.5	479.7	479.9	479.9
152.5°	489.7	490.0	490.3	490.5	490.8	491.0	491.1	491.3	491.4	491.5	491.7
155°	508.0	508.0	508.0	508.0	508.0	508.1	508.2	508.3	508.4	508.5	508.9
157.5°	523.6	523.5	523.4	523.2	523.1	523.1	523.2	523.3	523.3	523.4	523.8
160°	533.4	533.2	533.0	532.8	532.6	532.5	532.5	532.5	532.5	532.5	533.0
162.5°	542.1	541.8	541.5	541.2	541.0	540.9	540.9	541.0	541.1	541.2	541.7
165°	553.3	553.0	552.7	552.4	552.1	552.0	552.0	552.0	552.0	552.0	552.6
167.5°	562.3	561.9	561.5	561.1	560.7	560.5	560.6	560.7	560.8	560.8	561.5
170°	567.4	567.0	566.6	566.2	565.8	565.6	565.6	565.6	565.6	565.6	566.3
172.5°	571.4	571.0	570.6	570.2	569.7	569.5	569.5	569.5	569.5	569.5	570.2
175°	575.5	575.1	574.7	574.3	573.9	573.7	573.7	573.7	573.7	573.7	574.3
177.5°	577.3	576.9	576.6	576.3	576.0	575.8	575.8	575.8	575.8	575.8	576.3
180°	576.9	576.9	576.9	576.9	576.9	576.9	576.9	576.9	576.9	576.9	576.9



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	427.7	427.7	427.7	427.7	427.7	427.7	427.7	427.7
2.5°	426.8	427.5	428.2	428.4	428.4	428.3	428.2	428.1
5°	426.1	427.0	427.8	428.2	428.1	427.9	427.8	427.7
7.5°	423.6	424.6	425.6	426.1	426.0	425.8	425.7	425.6
10°	421.0	422.0	423.0	423.4	423.2	423.0	422.8	422.6
12.5°	417.4	418.4	419.3	419.7	419.5	419.3	419.1	418.9
15°	410.7	411.7	412.8	413.2	413.1	413.0	412.9	412.8
17.5°	401.9	402.9	403.8	404.2	404.0	403.9	403.8	403.6
20°	395.6	396.5	397.5	398.0	398.1	398.2	398.3	398.4
22.5°	388.6	389.8	391.0	391.6	391.5	391.4	391.4	391.3
25°	376.8	378.2	379.5	380.2	380.2	380.2	380.2	380.2
27.5°	364.5	365.7	366.9	367.5	367.6	367.7	367.7	367.8
30°	356.1	357.4	358.6	359.2	359.2	359.2	359.2	359.2
32.5°	347.0	348.3	349.6	350.4	350.7	350.9	351.2	351.4
35°	333.5	335.0	336.6	337.6	338.0	338.4	338.8	339.2
37.5°	319.4	321.2	323.0	324.0	324.3	324.7	325.0	325.3
40°	310.1	311.9	313.6	314.7	315.1	315.6	316.0	316.4
42.5°	300.4	302.3	304.2	305.5	306.1	306.6	307.2	307.8
45°	285.8	287.8	289.8	291.2	292.0	292.8	293.7	294.5
47.5°	271.1	273.4	275.6	277.0	277.6	278.3	278.9	279.6
50°	261.0	263.4	265.8	267.4	268.1	268.8	269.5	270.3
52.5°	250.8	253.2	255.7	257.4	258.3	259.2	260.0	260.9
55°	235.3	238.1	240.9	242.7	243.5	244.4	245.2	246.0
57.5°	219.5	222.3	225.1	227.0	228.0	229.0	230.0	230.9
60°	208.5	211.4	214.3	216.3	217.4	218.6	219.7	220.9
62.5°	198.0	200.9	203.8	205.8	206.9	207.9	209.0	210.1
65°	181.4	184.5	187.6	189.7	190.7	191.8	192.8	193.8
67.5°	164.8	168.2	171.6	173.8	174.6	175.5	176.4	177.2
70°	153.9	157.2	160.5	162.7	163.7	164.7	165.8	166.8
72.5°	142.8	146.2	149.6	151.9	152.9	153.9	155.0	156.0
75°	126.1	129.5	133.0	135.3	136.5	137.8	139.0	140.3
77.5°	110.5	114.1	117.7	119.9	120.9	121.9	122.8	123.8
80°	100.2	103.8	107.3	109.5	110.6	111.6	112.7	113.7
82.5°	90.9	94.4	98.0	100.2	101.3	102.3	103.3	104.4
85°	77.9	81.4	84.9	87.2	88.2	89.3	90.3	91.3
87.5°	68.7	72.3	75.9	78.3	79.4	80.4	81.5	82.6
90°	71.4	75.3	79.2	81.8	83.0	84.3	85.5	86.7
92.5°	74.6	78.4	82.1	84.4	85.2	86.1	86.9	87.7
95°	86.9	90.5	94.1	96.4	97.5	98.5	99.5	100.6
97.5°	102.3	105.9	109.4	111.7	112.7	113.7	114.7	115.7
100°	113.8	117.1	120.4	122.6	123.9	125.1	126.4	127.6
102.5°	127.3	130.5	133.8	135.9	136.9	137.9	138.9	139.8
105°	147.7	150.6	153.5	155.5	156.6	157.8	158.9	160.0
107.5°	169.9	173.0	176.1	178.1	178.9	179.7	180.4	181.2
110°	185.1	188.2	191.3	193.2	193.8	194.4	195.0	195.7



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CATALOG NUMBER: S123DIW-S340D460U835-4F0-1E-UDD-D1

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	199.9	203.0	206.1	208.1	208.9	209.8	210.7	211.6
115°	222.9	225.5	228.1	229.7	230.5	231.2	231.9	232.7
117.5°	246.0	248.5	250.9	252.4	252.9	253.4	254.0	254.5
120°	261.6	263.9	266.2	267.6	268.1	268.6	269.1	269.7
122.5°	277.4	279.4	281.4	282.7	283.1	283.6	284.0	284.5
125°	300.8	302.6	304.3	305.4	305.7	306.0	306.3	306.7
127.5°	323.9	325.4	326.9	327.7	328.0	328.2	328.4	328.7
130°	339.2	340.8	342.3	343.1	343.0	342.9	342.8	342.7
132.5°	354.1	355.5	356.9	357.6	357.8	358.0	358.1	358.3
135°	376.5	378.0	379.4	380.3	380.6	380.9	381.2	381.6
137.5°	398.5	399.7	400.9	401.6	401.7	401.9	402.0	402.1
140°	413.1	414.5	416.0	416.6	416.4	416.2	416.1	415.9
142.5°	426.5	427.8	429.1	429.7	429.7	429.6	429.6	429.6
145°	447.4	448.1	448.8	449.2	449.2	449.2	449.2	449.2
147.5°	467.4	467.6	467.9	467.9	467.6	467.4	467.2	466.9
150°	479.9	479.9	479.9	479.7	479.3	478.9	478.5	478.1
152.5°	491.8	492.0	492.2	492.0	491.5	491.0	490.5	490.1
155°	509.3	509.7	510.1	509.9	509.2	508.5	507.8	507.1
157.5°	524.3	524.7	525.1	525.0	524.5	523.9	523.3	522.8
160°	533.5	534.0	534.5	534.5	534.1	533.7	533.3	532.9
162.5°	542.2	542.7	543.2	543.1	542.5	541.8	541.2	540.5
165°	553.2	553.8	554.4	554.3	553.6	552.9	552.2	551.5
167.5°	562.1	562.7	563.3	563.3	562.7	562.1	561.5	560.8
170°	567.0	567.7	568.4	568.4	567.7	567.0	566.3	565.6
172.5°	570.8	571.4	572.0	572.0	571.3	570.6	569.9	569.2
175°	574.9	575.5	576.1	576.1	575.4	574.7	574.0	573.3
177.5°	576.8	577.3	577.7	577.7	577.1	576.6	576.0	575.4
180°	576.9	576.9	576.9	576.9	576.9	576.9	576.9	576.9

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