

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: P332098-930

Luminaire Tested: **S123DIW-S340D755U930-4F0-1E-UDD-D**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P332098-930  
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-S340D755U930-4F0-1E-UDD-D  
Description: DEFINE 3 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE  
DOWNLIGHT 340 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER  
UPLIGHT 755 LUMENS PER FOOT, NO LENS  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 3636.8 lumens  
Efficiency: N/A  
Efficacy: 119.6 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

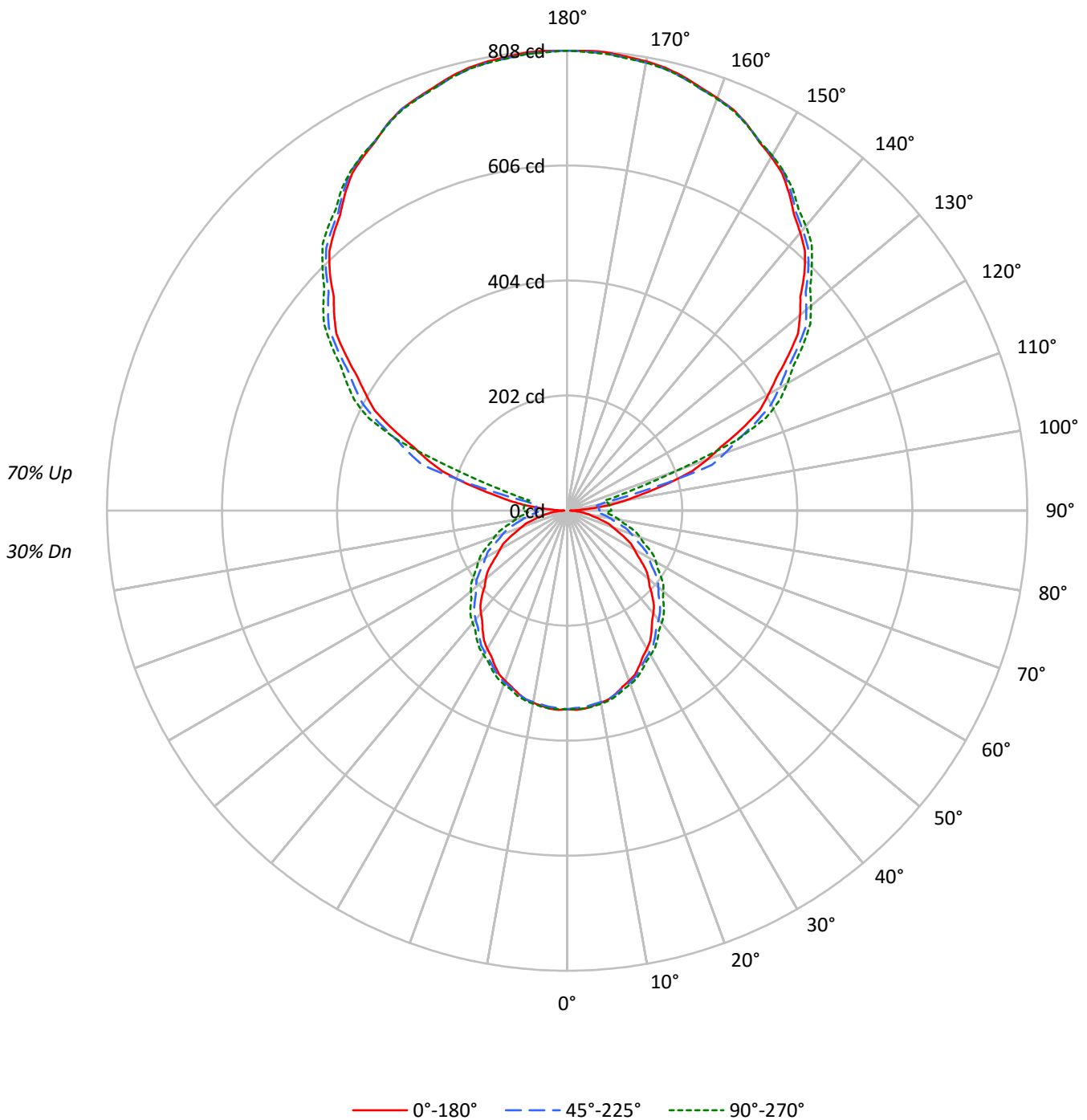
Input Watts (W): 30.4  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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### Luminous Intensity Polar Plot





TEST NUMBER: P332098-930

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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	50	30	10	0	
RCR																						
0	102	102	102	102	92	92	92	92	72	72	72	54	54	54	37	37	37	30				
1	93	88	84	80	83	79	76	73	62	60	58	46	45	43	32	31	30	24				
2	84	77	70	65	75	69	63	59	54	50	47	40	38	36	28	26	25	19				
3	76	67	60	54	68	60	54	49	47	43	39	35	32	30	24	23	21	16				
4	70	59	51	45	62	53	46	41	42	37	33	31	28	25	22	20	18	14				
5	64	52	44	38	57	47	40	35	37	32	28	28	25	22	19	17	15	12				
6	59	47	39	33	52	42	35	30	33	28	25	25	22	19	18	15	13	10				
7	54	42	34	29	48	38	31	26	30	25	21	23	19	17	16	14	12	9				
8	50	38	30	25	45	34	28	23	27	22	19	21	17	15	15	12	11	8				
9	47	35	27	22	42	31	25	20	25	20	17	19	16	13	13	11	10	7				
10	43	32	25	20	39	29	22	18	23	18	15	18	14	12	12	10	9	7				

**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	0.9
10°-20°	94.2	2.6
20°-30°	141.0	3.9
30°-40°	168.3	4.6
40°-50°	176.1	4.8
50°-60°	165.3	4.5
60°-70°	138.0	3.8
70°-80°	98.8	2.7
80°-90°	61.2	1.7
90°-100°	66.3	1.8
100°-110°	167.1	4.6
110°-120°	354.2	9.7
120°-130°	438.4	12.1
130°-140°	461.9	12.7
140°-150°	428.6	11.8
150°-160°	344.9	9.5
160°-170°	222.6	6.1
170°-180°	76.7	2.1
0°-30°	268.3	7.4
0°-40°	436.6	12.0
0°-60°	778.0	21.4
0°-90°	1075.9	29.6
90°-120°	587.6	16.2
90°-150°	1916.6	52.7
90°-180°	2561.0	70.4
0°-180°	3636.8	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	30	57	72	78	5
95°	41	33	56	72	76	49
105°	182	195	160	70	69	193
115°	337	346	364	379	385	333
125°	474	479	492	501	505	423
135°	589	593	599	607	608	453
145°	680	683	684	689	690	425
155°	748	747	748	750	747	345
165°	789	787	786	791	787	223
175°	808	805	805	809	804	77
180°	808	808	808	808	808	



TEST NUMBER: P332098-930

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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°	10.2	14.7	19.2	23.6	28.1	32.7	37.3	42.0	46.6	51.3	54.2
90°	5.5	11.0	16.5	21.9	27.4	33.2	39.2	45.2	51.3	57.3	60.7
92.5°	15.8	19.2	22.5	25.8	29.2	33.7	39.2	44.8	50.3	55.8	59.5
95°	40.8	38.6	36.4	34.2	32.0	33.8	39.4	45.0	50.6	56.2	59.8
97.5°	77.3	77.8	78.4	78.8	79.3	76.8	71.2	65.5	59.8	54.2	57.8
100°	104.8	110.1	115.5	120.9	126.3	120.5	103.6	86.7	69.8	52.8	56.3
102.5°	136.2	140.6	144.9	149.2	153.6	146.3	127.4	108.5	89.6	70.7	69.8
105°	181.8	185.3	188.8	192.3	195.8	193.4	185.0	176.6	168.3	159.9	138.7
107.5°	229.6	232.5	235.4	238.3	241.2	245.3	250.6	256.0	261.3	266.7	251.6
110°	261.5	264.1	266.6	269.2	271.8	275.5	280.4	285.2	290.1	294.9	292.7



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	292.2	294.4	296.6	298.8	301.0	304.4	309.2	313.9	318.6	323.3	325.5
115°	337.3	339.1	340.9	342.7	344.5	347.6	351.8	356.0	360.3	364.5	367.9
117.5°	381.2	382.9	384.4	386.0	387.7	390.2	393.7	397.1	400.6	404.1	407.2
120°	408.3	409.9	411.6	413.1	414.7	417.2	420.4	423.5	426.7	429.9	432.9
122.5°	436.1	437.3	438.5	439.8	440.9	443.1	446.3	449.5	452.6	455.8	458.4
125°	473.9	475.0	476.1	477.1	478.2	480.2	483.1	486.2	489.1	492.1	494.2
127.5°	510.9	511.8	512.8	513.8	514.8	516.6	519.3	522.0	524.6	527.3	529.4
130°	533.9	534.8	535.9	536.9	537.9	539.4	541.6	543.9	546.1	548.3	550.4
132.5°	555.6	556.7	557.7	558.8	559.9	561.3	563.0	564.8	566.6	568.4	570.5
135°	589.3	590.0	590.8	591.4	592.2	593.3	594.7	596.1	597.6	599.1	601.0
137.5°	618.0	619.0	620.0	620.9	621.8	622.7	623.5	624.4	625.2	626.0	627.9
140°	636.9	637.7	638.5	639.4	640.1	640.8	641.5	642.1	642.8	643.4	645.2
142.5°	654.7	655.4	656.2	656.9	657.6	658.2	658.7	659.1	659.6	660.0	661.5
145°	679.6	680.4	681.2	682.1	682.9	683.5	683.7	684.0	684.3	684.5	685.5
147.5°	702.5	703.1	703.8	704.3	705.0	705.4	705.7	706.0	706.2	706.5	706.9
150°	717.0	717.3	717.7	718.1	718.5	718.8	719.2	719.4	719.7	719.9	720.2
152.5°	729.9	730.1	730.3	730.4	730.7	730.8	731.0	731.2	731.3	731.5	731.9
155°	748.1	747.9	747.6	747.3	747.1	747.0	747.1	747.3	747.4	747.5	748.2
157.5°	762.3	762.3	762.2	762.2	762.2	762.1	762.0	761.8	761.7	761.6	762.4
160°	770.9	770.8	770.7	770.5	770.4	770.3	770.1	770.0	769.9	769.7	770.5
162.5°	779.1	778.8	778.4	778.0	777.7	777.5	777.3	777.2	777.1	776.9	777.9
165°	789.0	788.6	788.1	787.7	787.3	787.1	786.9	786.8	786.7	786.5	787.6
167.5°	796.6	796.1	795.6	795.0	794.5	794.2	794.2	794.2	794.2	794.2	795.2
170°	801.0	800.4	799.9	799.3	798.8	798.5	798.5	798.5	798.5	798.5	799.6
172.5°	803.8	803.2	802.5	801.9	801.3	801.0	801.1	801.2	801.3	801.4	802.5
175°	807.6	806.8	806.2	805.5	804.9	804.6	804.7	804.9	805.0	805.1	806.1
177.5°	808.5	808.0	807.4	806.9	806.3	806.2	806.2	806.3	806.5	806.6	807.4
180°	807.6	807.6	807.6	807.6	807.6	807.6	807.6	807.6	807.6	807.6	807.6



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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°	57.2	60.2	63.2	65.1	66.0	66.9	67.8	68.7
90°	64.2	67.5	70.9	73.2	74.3	75.4	76.6	77.6
92.5°	63.2	66.9	70.4	72.8	73.7	74.7	75.6	76.6
95°	63.3	66.9	70.4	72.6	73.5	74.3	75.2	76.0
97.5°	61.4	65.0	68.5	70.8	71.7	72.7	73.7	74.7
100°	59.8	63.4	66.9	69.1	70.1	71.1	72.1	73.1
102.5°	68.8	67.9	67.0	67.1	68.2	69.2	70.4	71.4
105°	117.4	96.2	74.9	64.8	65.9	66.9	67.9	69.0
107.5°	236.6	221.5	206.5	190.5	173.4	156.4	139.3	122.3
110°	290.5	288.3	286.1	275.7	257.4	239.0	220.6	202.2





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CATALOG NUMBER: S123DIW-S340D755U930-4F0-1E-UDD-D

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	327.8	330.0	332.2	331.6	328.3	325.1	321.7	318.5
115°	371.2	374.5	378.0	380.3	381.4	382.6	383.8	385.1
117.5°	410.3	413.3	416.4	418.3	419.1	419.8	420.6	421.3
120°	435.9	439.0	442.0	443.8	444.3	444.9	445.6	446.1
122.5°	461.0	463.6	466.3	467.9	468.6	469.3	470.0	470.7
125°	496.2	498.2	500.3	501.7	502.6	503.4	504.3	505.2
127.5°	531.5	533.5	535.7	536.9	537.2	537.4	537.8	538.1
130°	552.6	554.7	556.8	558.1	558.3	558.6	558.8	559.0
132.5°	572.5	574.6	576.7	577.8	578.0	578.2	578.4	578.6
135°	602.9	604.9	606.7	607.7	607.8	607.8	607.8	607.8
137.5°	629.9	631.9	633.8	635.0	635.0	635.2	635.4	635.5
140°	647.0	648.9	650.7	651.7	651.8	651.9	652.1	652.2
142.5°	663.1	664.7	666.3	667.1	667.1	667.2	667.2	667.2
145°	686.4	687.4	688.3	688.9	689.3	689.7	690.0	690.3
147.5°	707.4	707.9	708.4	708.4	708.2	707.8	707.5	707.2
150°	720.5	720.7	721.0	721.1	720.8	720.6	720.3	720.1
152.5°	732.4	732.9	733.4	733.4	732.7	732.1	731.6	731.0
155°	748.9	749.5	750.2	750.2	749.3	748.5	747.7	746.9
157.5°	763.2	763.9	764.8	764.7	763.6	762.5	761.6	760.5
160°	771.4	772.2	772.9	772.9	771.9	771.0	770.1	769.2
162.5°	778.8	779.7	780.6	780.6	779.8	778.9	778.1	777.3
165°	788.6	789.7	790.8	790.8	789.9	789.0	788.1	787.1
167.5°	796.3	797.4	798.5	798.5	797.4	796.3	795.2	794.2
170°	800.6	801.8	802.8	802.8	801.8	800.6	799.6	798.5
172.5°	803.6	804.6	805.7	805.6	804.5	803.3	802.1	801.0
175°	807.0	808.0	808.9	808.8	807.7	806.7	805.6	804.5
177.5°	808.3	809.1	810.0	809.8	808.8	807.7	806.7	805.6
180°	807.6	807.6	807.6	807.6	807.6	807.6	807.6	807.6

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