

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: P332182-930

Luminaire Tested: **S123DIW-S1000D460U930-4F0-1E-UDD-D**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332182-930
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-S1000D460U930-4F0-1E-UDD-D
Description: DEFINE 3 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 1000 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER
UPLIGHT 460 LUMENS PER FOOT, NO LENS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4928.0 lumens
Efficiency: N/A
Efficacy: 106.7 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-Direct

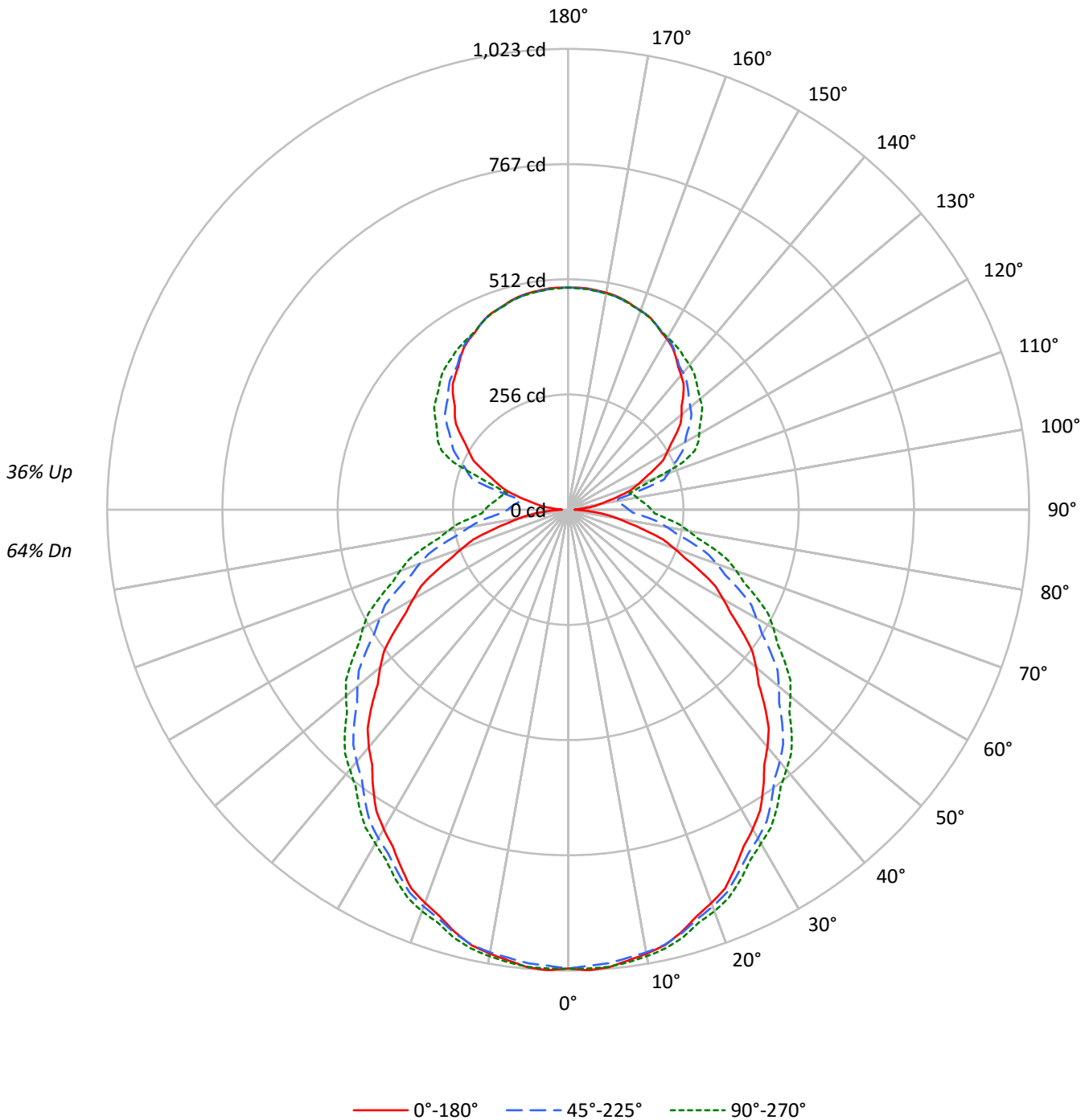
Input Watts (W): 46.2
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	110	110	110	110	104	104	104	104	91	91	91	79	79	79	69	69	69	64
1	99	94	90	86	93	89	85	81	78	75	72	68	66	63	59	57	55	51
2	90	82	75	69	84	77	71	66	67	63	59	59	55	52	51	48	46	42
3	82	71	63	57	76	67	60	54	59	53	49	52	47	43	45	41	38	35
4	75	63	55	48	70	59	52	46	52	46	41	46	41	37	40	36	33	29
5	69	56	47	41	64	53	45	39	47	40	35	41	36	32	36	32	28	25
6	63	50	42	35	59	47	40	34	42	36	31	37	32	28	32	28	25	22
7	58	45	37	31	55	43	35	30	38	32	27	34	28	24	29	25	22	19
8	54	41	33	27	51	39	32	26	35	28	24	31	26	22	27	23	20	17
9	51	38	30	24	47	36	28	23	32	26	22	28	23	20	25	21	18	16
10	47	35	27	22	44	33	26	21	29	23	19	26	21	18	23	19	16	14

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	10964	10964	10964
5°	10999	10689	10694
10°	10900	10443	10390
15°	10759	10162	10058
20°	10559	9844	9692
25°	10311	9476	9308
30°	10057	9145	8918
35°	9773	8796	8606
40°	9500	8479	8272
45°	9199	8172	8007
50°	8904	7871	7713
55°	8574	7562	7449
60°	8255	7248	7178
65°	7926	6915	6856
70°	7430	6538	6527
75°	6807	6107	6190
80°	6087	5683	5807
85°	5426	5394	5585



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	96.6	2.0
10°-20°	275.3	5.6
20°-30°	411.7	8.4
30°-40°	491.7	10.0
40°-50°	514.4	10.4
50°-60°	482.8	9.8
60°-70°	403.2	8.2
70°-80°	288.5	5.9
80°-90°	173.4	3.5
90°-100°	125.9	2.6
100°-110°	164.8	3.3
110°-120°	258.2	5.2
120°-130°	291.6	5.9
130°-140°	292.8	5.9
140°-150°	264.0	5.4
150°-160°	210.6	4.3
160°-170°	135.9	2.8
170°-180°	46.8	1.0
0°-30°	783.6	15.9
0°-40°	1275.2	25.9
0°-60°	2272.4	46.1
0°-90°	3137.5	63.7
90°-120°	548.8	11.1
90°-150°	1397.1	28.4
90°-180°	1791.0	36.3
0°-180°	4928.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1019	1019	1019	1019	1019	
5°	1020	1017	1011	1019	1019	97
15°	971	974	973	984	983	273
25°	877	887	891	905	906	404
35°	755	772	787	803	808	472
45°	617	644	671	692	701	476
55°	470	507	547	576	586	421
65°	325	369	417	449	462	321
75°	176	229	284	319	334	188
85°	54	110	169	205	218	57
90°	15	73	134	172	185	11
95°	35	64	121	157	169	37
105°	118	148	164	132	140	125
115°	210	227	269	298	310	208
125°	292	297	329	352	361	261
135°	362	363	376	396	402	278
145°	416	417	418	427	432	260
155°	457	456	456	458	456	210
165°	482	481	480	483	481	136
175°	493	491	492	494	491	47
180°	493	493	493	493	493	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1018.6	1018.6	1018.6	1018.6	1018.6	1018.6	1018.6	1018.6	1018.6	1018.6	1018.6
2.5°	1023.1	1022.5	1021.9	1021.3	1020.8	1019.6	1018.1	1016.5	1014.9	1013.3	1014.9
5°	1019.8	1019.3	1018.8	1018.3	1017.8	1016.8	1015.4	1013.8	1012.4	1010.9	1012.8
7.5°	1009.7	1009.9	1010.0	1010.1	1010.2	1009.5	1008.1	1006.7	1005.2	1003.8	1006.2
10°	1000.9	1001.4	1001.9	1002.4	1002.9	1002.5	1001.3	1000.0	998.8	997.6	1000.0
12.5°	990.3	990.9	991.6	992.3	993.0	993.0	992.1	991.2	990.4	989.6	991.9
15°	970.9	971.7	972.4	973.1	973.9	974.1	973.9	973.6	973.4	973.1	975.7
17.5°	946.6	948.0	949.5	951.0	952.4	953.2	953.1	952.9	952.8	952.8	955.0
20°	928.8	930.3	931.7	933.2	934.7	935.7	936.2	936.7	937.2	937.7	939.9
22.5°	910.1	911.6	913.1	914.6	916.1	917.1	917.9	918.5	919.2	919.9	922.7
25°	876.6	879.1	881.6	884.0	886.5	888.1	888.8	889.6	890.3	891.0	894.2
27.5°	842.9	845.7	848.5	851.3	854.1	856.3	857.9	859.5	861.0	862.7	865.4
30°	818.9	822.1	825.3	828.5	831.8	834.3	836.3	838.3	840.2	842.2	845.2
32.5°	792.3	795.9	799.5	803.1	806.7	809.8	812.4	814.9	817.5	820.0	823.2
35°	754.6	758.5	762.5	766.4	770.4	773.9	777.1	780.3	783.5	786.8	790.4
37.5°	714.6	719.1	723.5	727.9	732.4	736.5	740.5	744.4	748.4	752.4	756.5
40°	687.9	692.4	696.8	701.3	705.7	710.5	715.3	720.3	725.2	730.2	734.3
42.5°	658.7	664.1	669.5	675.0	680.4	685.7	690.8	695.9	701.1	706.2	710.8
45°	616.9	622.9	628.8	634.7	640.7	646.7	652.8	659.0	665.2	671.3	676.0
47.5°	573.2	579.9	586.7	593.4	600.1	607.0	614.0	621.1	628.1	635.2	640.4
50°	544.9	551.7	558.6	565.6	572.4	579.8	587.3	595.0	602.7	610.3	616.0
52.5°	514.6	522.0	529.3	536.5	543.9	551.7	560.2	568.6	577.0	585.5	591.3
55°	470.5	478.7	486.7	494.9	503.0	511.5	520.4	529.3	538.2	547.1	553.8
57.5°	427.5	435.9	444.4	452.9	461.4	470.5	480.2	489.9	499.6	509.3	516.0
60°	397.3	406.1	415.0	423.9	432.8	442.2	452.3	462.5	472.6	482.7	489.6
62.5°	368.8	377.9	387.0	396.1	405.1	415.1	425.7	436.4	447.1	457.9	464.7
65°	325.1	334.8	344.4	354.0	363.6	373.8	384.7	395.5	406.3	417.3	424.6
67.5°	280.7	291.0	301.2	311.4	321.6	332.2	343.2	354.3	365.3	376.4	384.5
70°	249.6	260.2	270.8	281.5	292.1	303.3	315.1	327.0	338.8	350.7	358.6
72.5°	221.3	231.9	242.5	253.1	263.7	275.1	287.3	299.5	311.8	324.0	332.1
75°	176.4	188.0	199.6	211.2	222.8	234.7	247.1	259.4	271.7	284.1	292.2
77.5°	137.4	149.0	160.8	172.4	184.1	196.2	208.6	221.0	233.5	245.9	254.5
80°	109.8	122.0	134.0	146.1	158.2	170.6	183.4	196.3	209.1	221.9	230.3
82.5°	85.9	98.2	110.5	122.7	135.0	147.7	160.7	173.7	186.7	199.7	208.1
85°	54.4	66.7	79.0	91.4	103.7	116.4	129.5	142.5	155.6	168.7	177.1
87.5°	29.6	42.1	54.5	66.9	79.3	92.0	104.8	117.6	130.4	143.2	151.6
90°	14.8	27.7	40.6	53.5	66.4	79.7	93.3	106.9	120.6	134.2	142.9
92.5°	20.4	31.1	41.7	52.3	63.0	74.9	88.1	101.3	114.5	127.7	136.4
95°	34.6	40.8	47.1	53.4	59.7	69.3	82.3	95.2	108.3	121.2	129.4
97.5°	55.8	62.9	70.1	77.3	84.5	90.9	96.6	102.3	107.9	113.7	121.6
100°	71.9	81.4	90.9	100.4	110.0	114.1	112.7	111.4	110.0	108.6	116.4
102.5°	90.3	98.7	106.9	115.2	123.4	126.2	123.5	120.7	118.1	115.3	120.3
105°	118.1	124.8	131.7	138.4	145.3	150.3	153.6	156.9	160.1	163.5	156.0
107.5°	146.2	151.9	157.7	163.4	169.2	177.7	188.8	200.1	211.2	222.5	218.5
110°	164.9	170.0	175.0	180.2	185.2	193.1	203.9	214.7	225.4	236.2	239.9



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	183.7	187.9	192.1	196.3	200.6	207.9	218.3	228.6	239.0	249.3	255.6
115°	210.3	213.8	217.2	220.6	224.1	230.6	240.3	249.8	259.4	269.0	275.8
117.5°	237.0	239.4	241.8	244.3	246.7	252.3	261.0	269.7	278.3	287.1	293.6
120°	252.8	254.8	256.7	258.7	260.7	265.8	274.2	282.6	291.0	299.4	305.7
122.5°	269.8	271.0	272.3	273.5	274.8	279.4	287.5	295.5	303.5	311.6	317.6
125°	292.0	292.6	293.3	293.9	294.6	298.6	306.1	313.6	321.1	328.6	333.9
127.5°	314.5	315.0	315.4	315.8	316.2	319.5	325.8	332.2	338.4	344.7	349.9
130°	328.6	329.0	329.4	329.8	330.2	333.0	338.3	343.6	348.8	354.1	359.1
132.5°	341.2	341.8	342.4	343.0	343.6	346.0	350.2	354.4	358.7	362.8	367.6
135°	361.6	361.8	362.1	362.3	362.5	364.2	367.2	370.2	373.2	376.3	381.0
137.5°	379.0	379.4	379.8	380.2	380.6	381.6	383.4	385.1	386.8	388.5	392.8
140°	389.7	390.2	390.7	391.2	391.7	392.4	393.5	394.4	395.4	396.4	400.4
142.5°	400.6	400.9	401.2	401.5	401.8	402.1	402.5	402.9	403.2	403.7	407.2
145°	415.7	416.0	416.4	416.7	417.0	417.3	417.4	417.6	417.8	417.9	420.0
147.5°	428.9	429.3	429.7	430.1	430.4	430.7	430.9	431.0	431.2	431.4	432.1
150°	437.7	438.0	438.2	438.5	438.7	438.9	439.0	439.2	439.4	439.5	439.7
152.5°	445.6	445.7	445.9	446.0	446.1	446.2	446.3	446.4	446.5	446.6	446.9
155°	456.7	456.6	456.4	456.3	456.2	456.1	456.2	456.2	456.3	456.4	456.8
157.5°	465.5	465.4	465.4	465.4	465.4	465.3	465.2	465.1	465.0	465.0	465.5
160°	470.7	470.6	470.5	470.4	470.3	470.3	470.2	470.1	470.0	469.9	470.4
162.5°	475.6	475.5	475.2	475.1	474.8	474.7	474.6	474.5	474.4	474.3	474.9
165°	481.7	481.4	481.2	480.9	480.7	480.5	480.5	480.4	480.3	480.2	480.9
167.5°	486.4	486.1	485.8	485.4	485.1	484.9	484.9	484.9	484.9	484.9	485.6
170°	489.0	488.7	488.4	488.0	487.7	487.5	487.5	487.5	487.5	487.5	488.2
172.5°	490.7	490.4	490.0	489.6	489.2	489.0	489.1	489.2	489.3	489.3	489.9
175°	493.0	492.6	492.2	491.8	491.4	491.2	491.3	491.4	491.5	491.5	492.1
177.5°	493.6	493.3	492.9	492.6	492.3	492.2	492.3	492.3	492.4	492.4	492.9
180°	493.0	493.0	493.0	493.0	493.0	493.0	493.0	493.0	493.0	493.0	493.0



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1018.6	1018.6	1018.6	1018.6	1018.6	1018.6	1018.6	1018.6
2.5°	1016.5	1018.1	1019.6	1020.3	1020.1	1019.9	1019.8	1019.5
5°	1014.8	1016.8	1018.8	1019.6	1019.4	1019.1	1018.9	1018.6
7.5°	1008.7	1011.2	1013.7	1014.7	1014.5	1014.2	1013.8	1013.6
10°	1002.5	1004.9	1007.5	1008.4	1008.0	1007.5	1007.0	1006.5
12.5°	994.1	996.4	998.7	999.6	999.1	998.6	998.1	997.6
15°	978.1	980.6	983.0	984.1	983.9	983.7	983.4	983.2
17.5°	957.2	959.4	961.6	962.5	962.2	961.9	961.6	961.2
20°	942.1	944.3	946.6	947.8	948.0	948.3	948.5	948.8
22.5°	925.5	928.3	931.2	932.5	932.3	932.2	932.1	931.9
25°	897.5	900.7	903.8	905.5	905.5	905.5	905.5	905.5
27.5°	868.1	870.9	873.7	875.1	875.4	875.5	875.8	876.0
30°	848.2	851.1	854.0	855.6	855.6	855.6	855.6	855.6
32.5°	826.4	829.5	832.7	834.5	835.1	835.7	836.3	836.9
35°	794.1	797.9	801.5	803.9	804.9	805.8	806.8	807.8
37.5°	760.8	764.9	769.2	771.6	772.4	773.1	774.0	774.8
40°	738.5	742.7	746.9	749.5	750.5	751.5	752.4	753.4
42.5°	715.3	719.9	724.6	727.5	728.9	730.3	731.6	733.0
45°	680.7	685.4	690.1	693.4	695.4	697.3	699.4	701.3
47.5°	645.7	651.0	656.2	659.7	661.2	662.8	664.2	665.8
50°	621.7	627.3	633.0	636.7	638.5	640.2	641.9	643.6
52.5°	597.2	603.1	608.9	612.9	615.1	617.2	619.3	621.4
55°	560.4	567.0	573.7	578.0	580.0	582.0	583.9	585.9
57.5°	522.8	529.5	536.1	540.7	543.0	545.3	547.6	549.9
60°	496.5	503.4	510.3	515.1	517.9	520.6	523.3	525.9
62.5°	471.7	478.6	485.4	490.2	492.7	495.2	497.7	500.3
65°	432.0	439.4	446.8	451.8	454.2	456.6	459.2	461.6
67.5°	392.6	400.6	408.7	413.8	415.9	418.0	420.0	422.1
70°	366.4	374.3	382.2	387.4	389.9	392.3	394.8	397.3
72.5°	340.2	348.3	356.4	361.7	364.1	366.6	369.1	371.5
75°	300.4	308.5	316.6	322.2	325.1	328.1	331.0	334.0
77.5°	263.1	271.7	280.2	285.7	287.9	290.2	292.4	294.7
80°	238.7	247.1	255.4	260.9	263.3	265.8	268.3	270.8
82.5°	216.5	224.9	233.3	238.7	241.2	243.6	246.1	248.6
85°	185.4	193.8	202.2	207.7	210.1	212.5	215.0	217.5
87.5°	160.0	168.4	176.9	182.4	184.9	187.4	189.9	192.4
90°	151.6	160.3	169.0	174.7	177.3	179.9	182.5	185.2
92.5°	145.0	153.8	162.5	168.0	170.4	172.8	175.1	177.5
95°	137.6	145.9	154.1	159.4	161.8	164.4	166.8	169.3
97.5°	129.6	137.6	145.7	150.9	153.4	156.0	158.6	161.1
100°	124.3	132.0	139.8	145.0	147.6	150.1	152.6	155.2
102.5°	125.1	130.1	135.1	138.8	141.5	144.1	146.7	149.3
105°	148.5	141.0	133.5	130.9	133.2	135.7	138.0	140.4
107.5°	214.6	210.6	206.7	200.3	191.7	183.0	174.3	165.6
110°	243.7	247.4	251.1	248.2	238.5	228.8	219.2	209.5



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CATALOG NUMBER: S123DIW-S1000D460U930-4F0-1E-UDD-D

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	261.9	268.2	274.4	277.4	277.1	276.8	276.5	276.2
115°	282.5	289.3	296.0	300.5	302.8	305.1	307.4	309.7
117.5°	300.1	306.6	313.2	317.4	319.4	321.4	323.3	325.4
120°	312.0	318.3	324.7	328.6	330.4	332.2	333.9	335.6
122.5°	323.5	329.4	335.3	339.2	341.0	342.8	344.5	346.3
125°	339.2	344.5	349.9	353.5	355.4	357.3	359.2	361.1
127.5°	355.1	360.2	365.3	368.7	370.1	371.7	373.2	374.7
130°	364.1	369.1	374.1	377.3	378.6	379.9	381.2	382.5
132.5°	372.4	377.2	382.0	385.2	386.7	388.1	389.6	391.0
135°	385.7	390.4	395.0	397.9	398.8	399.8	400.9	401.9
137.5°	397.1	401.4	405.6	408.3	409.4	410.5	411.6	412.6
140°	404.4	408.5	412.5	415.0	416.1	417.2	418.2	419.3
142.5°	410.8	414.3	417.9	420.2	421.2	422.2	423.2	424.2
145°	422.2	424.4	426.5	428.0	429.0	430.0	431.0	432.0
147.5°	432.8	433.6	434.4	435.0	435.5	436.0	436.5	437.1
150°	439.9	440.0	440.2	440.4	440.7	440.9	441.2	441.4
152.5°	447.2	447.4	447.8	447.8	447.5	447.2	446.9	446.7
155°	457.2	457.6	458.0	458.0	457.5	457.0	456.5	456.1
157.5°	465.9	466.4	466.9	466.8	466.2	465.6	465.0	464.3
160°	470.9	471.4	471.9	471.9	471.3	470.8	470.2	469.6
162.5°	475.5	476.1	476.5	476.6	476.1	475.6	475.1	474.6
165°	481.5	482.2	482.8	482.8	482.2	481.8	481.2	480.6
167.5°	486.2	486.8	487.5	487.5	486.8	486.2	485.6	484.9
170°	488.9	489.5	490.2	490.2	489.5	488.9	488.2	487.5
172.5°	490.6	491.2	491.9	491.9	491.1	490.4	489.8	489.0
175°	492.7	493.3	493.8	493.8	493.2	492.5	491.9	491.2
177.5°	493.5	494.0	494.6	494.5	493.8	493.2	492.5	491.9
180°	493.0	493.0	493.0	493.0	493.0	493.0	493.0	493.0

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