

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: P332753-840

Luminaire Tested: **S124DIW-S575D770U840-4F0-1E-UDD-D**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P332753-840  
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-6,  
Test Lab: INNOVATION CENTER  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: NEO-RAY  
Catalog Number: S124DIW-S575D770U840-4F0-1E-UDD-D  
Description: DEFINE 4 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE  
DOWNLIGHT 575 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER  
UPLIGHT 770 LUMENS PER FOOT, NO LENS  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 5495.3 lumens  
Efficiency: N/A  
Efficacy: 146.2 lumens/watt  
Spacing Criteria (0/90/45): 1.23 / 1.28 / 1.39  
Luminous Opening: Rectangular w/ Sides (W: 0.33' x L: 4' x H: 0.08')  
CIE Type: General Diffuse

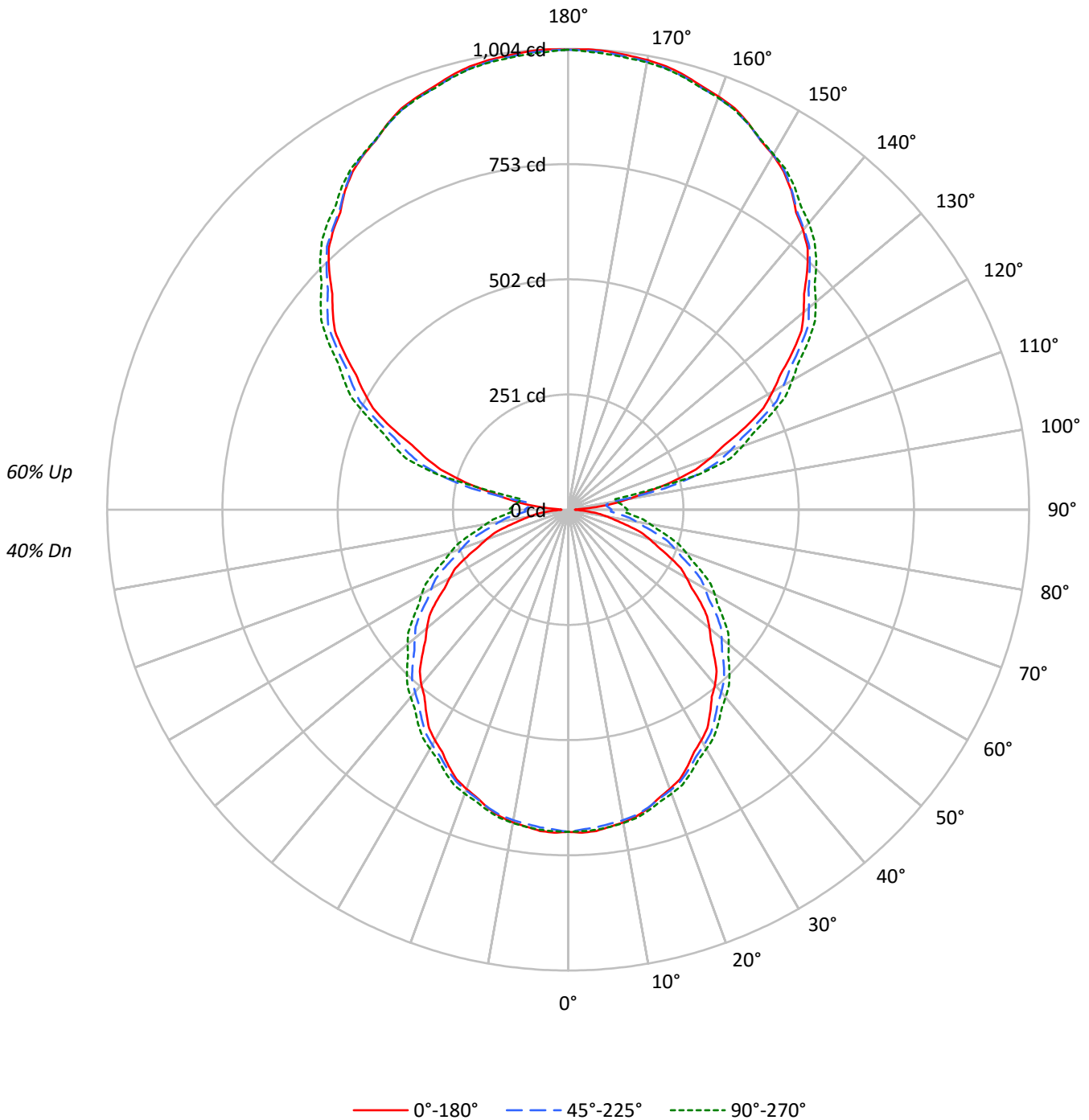
Input Watts (W): 37.6  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	105	105	105	105	95	95	95	95	78	78	78	62	62	62	47	47	47	40
1	95	90	86	82	86	82	79	75	67	65	62	53	51	50	40	39	38	32
2	86	78	72	66	78	71	66	61	58	54	51	46	43	41	35	33	32	26
3	78	68	61	55	71	62	56	51	51	46	42	41	37	34	31	28	26	22
4	71	60	52	46	65	55	48	43	45	40	36	36	32	29	27	25	23	19
5	65	54	45	39	59	49	42	36	40	35	31	32	28	25	24	22	19	16
6	60	48	40	34	54	44	37	31	36	31	26	29	25	22	22	19	17	14
7	55	43	35	29	50	39	32	27	33	27	23	26	22	19	20	17	15	12
8	51	39	31	26	47	36	29	24	30	24	20	24	20	17	18	16	13	11
9	48	35	28	23	43	33	26	21	27	22	18	22	18	15	17	14	12	10
10	45	32	25	20	40	30	23	19	25	20	16	20	16	14	16	13	11	9

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°
0°	5666	5666	5666
5°	5683	5537	5552
10°	5649	5446	5442
15°	5598	5341	5312
20°	5521	5226	5185
25°	5435	5096	5047
30°	5342	4967	4904
35°	5237	4834	4779
40°	5153	4710	4648
45°	5027	4594	4537
50°	4920	4460	4418
55°	4811	4333	4278
60°	4641	4173	4153
65°	4454	4001	3997
70°	4226	3805	3816
75°	3910	3587	3652
80°	3559	3381	3492
85°	3112	3195	3398



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	66.5	1.2
10°-20°	190.4	3.5
20°-30°	287.9	5.2
30°-40°	348.3	6.3
40°-50°	368.3	6.7
50°-60°	346.6	6.3
60°-70°	287.5	5.2
70°-80°	202.0	3.7
80°-90°	117.1	2.1
90°-100°	102.1	1.9
100°-110°	268.7	4.9
110°-120°	451.8	8.2
120°-130°	549.8	10.0
130°-140°	576.1	10.5
140°-150°	532.7	9.7
150°-160°	428.2	7.8
160°-170°	276.2	5.0
170°-180°	95.2	1.7
0°-30°	544.7	9.9
0°-40°	893.1	16.3
0°-60°	1607.9	29.3
0°-90°	2214.5	40.3
90°-120°	822.6	15.0
90°-150°	2481.1	45.2
90°-180°	3281.0	59.7
0°-180°	5495.3	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	702	702	702	702	702	
5°	703	700	695	700	700	67
15°	674	674	672	678	678	190
25°	616	621	623	631	633	284
35°	539	548	556	567	570	337
45°	450	464	479	492	497	347
55°	352	369	392	407	412	314
65°	244	269	296	314	321	241
75°	135	164	197	218	226	144
85°	42	75	110	133	142	44
90°	15	54	94	120	129	10
95°	51	54	85	110	118	61
105°	233	254	286	310	291	244
115°	426	436	460	478	484	419
125°	595	598	616	632	638	531
135°	736	736	744	758	764	567
145°	848	849	849	855	859	530
155°	929	929	927	930	928	428
165°	980	976	976	981	975	277
175°	1002	998	998	1004	996	95
180°	1002	1002	1002	1002	1002	



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CATALOG NUMBER: S124DIW-S575D770U840-4F0-1E-UDD-D

**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	701.8	701.8	701.8	701.8	701.8	701.8	701.8	701.8	701.8	701.8	701.8
2.5°	704.3	703.9	703.5	703.0	702.6	701.9	700.7	699.6	698.4	697.3	698.3
5°	702.6	702.1	701.5	700.9	700.4	699.5	698.3	697.1	695.9	694.7	696.1
7.5°	696.6	696.2	695.9	695.6	695.3	694.7	693.7	692.7	691.6	690.5	692.2
10°	691.6	691.4	691.2	691.1	690.8	690.3	689.4	688.5	687.7	686.8	688.4
12.5°	684.6	684.6	684.6	684.5	684.5	684.2	683.6	683.0	682.4	681.8	683.2
15°	673.5	673.7	673.8	674.0	674.2	674.0	673.5	673.0	672.4	671.9	673.5
17.5°	658.2	658.7	659.2	659.7	660.4	660.6	660.5	660.4	660.2	660.1	661.7
20°	647.5	648.0	648.5	649.1	649.6	649.9	650.2	650.4	650.5	650.7	652.4
22.5°	635.6	636.2	636.9	637.5	638.2	638.7	639.0	639.3	639.6	640.0	641.8
25°	616.1	617.1	618.2	619.2	620.3	621.1	621.6	622.1	622.7	623.2	625.1
27.5°	594.4	595.9	597.4	599.1	600.6	601.7	602.5	603.3	604.1	604.9	606.7
30°	580.0	581.4	582.7	584.1	585.5	586.8	588.0	589.3	590.5	591.8	593.7
32.5°	564.2	565.9	567.5	569.3	571.0	572.5	573.8	575.2	576.5	577.9	580.1
35°	539.1	541.2	543.3	545.3	547.4	549.4	551.1	552.9	554.6	556.3	558.9
37.5°	513.8	516.1	518.6	521.0	523.4	525.7	527.9	530.1	532.2	534.3	536.8
40°	497.5	499.7	502.0	504.2	506.5	508.9	511.3	513.7	516.2	518.7	521.3
42.5°	478.6	481.1	483.6	486.3	488.8	491.5	494.3	497.2	500.1	502.9	505.8
45°	449.5	452.8	456.2	459.5	462.7	466.1	469.4	472.7	476.1	479.4	482.3
47.5°	421.7	425.1	428.5	431.9	435.4	439.0	442.8	446.7	450.5	454.3	457.5
50°	401.5	405.4	409.2	413.1	417.0	420.8	424.6	428.5	432.3	436.2	439.6
52.5°	381.4	385.3	389.1	392.9	396.8	400.9	405.4	409.7	414.1	418.5	422.0
55°	352.0	355.7	359.4	363.0	366.7	371.1	376.4	381.6	386.9	392.1	395.7
57.5°	319.2	323.8	328.3	332.9	337.4	342.2	347.4	352.6	357.9	363.0	367.2
60°	297.8	302.4	306.9	311.4	316.0	321.1	326.9	332.6	338.4	344.2	348.2
62.5°	277.1	282.1	287.0	292.0	296.9	302.3	308.0	313.8	319.6	325.4	329.3
65°	243.6	249.2	254.8	260.3	266.0	271.8	277.6	283.6	289.5	295.5	299.8
67.5°	211.4	217.3	223.3	229.2	235.1	241.3	247.6	254.0	260.3	266.7	271.1
70°	189.3	195.3	201.3	207.2	213.2	219.4	226.0	232.7	239.3	246.0	250.6
72.5°	168.0	174.1	180.2	186.2	192.3	198.8	205.9	213.0	220.0	227.1	231.7
75°	135.1	141.6	148.0	154.5	161.0	167.9	175.2	182.6	190.0	197.2	202.2
77.5°	104.5	111.4	118.3	125.0	131.9	139.2	146.8	154.5	162.2	169.9	174.8
80°	85.6	92.6	99.7	106.6	113.6	120.9	128.7	136.3	144.0	151.7	156.9
82.5°	66.8	74.0	81.3	88.6	95.8	103.3	111.0	118.7	126.3	134.1	139.5
85°	41.6	49.0	56.4	63.6	71.0	78.6	86.4	94.3	102.2	110.0	115.2
87.5°	23.7	31.2	38.7	46.2	53.7	61.4	69.3	77.3	85.1	93.0	98.3
90°	14.8	23.6	32.4	41.3	50.1	58.9	67.8	76.6	85.4	94.3	100.4
92.5°	21.4	27.8	34.1	40.6	47.0	54.5	63.4	72.2	81.1	89.9	95.8
95°	51.4	51.5	51.6	51.7	51.8	55.5	62.9	70.2	77.6	84.8	90.6
97.5°	96.8	105.3	113.8	122.3	130.8	129.3	117.8	106.2	94.8	83.3	88.0
100°	131.6	139.2	146.6	154.2	161.8	157.4	141.3	125.0	108.9	92.7	94.6
102.5°	171.2	177.3	183.5	189.7	195.9	200.8	204.5	208.1	211.9	215.5	189.6
105°	232.7	237.2	241.7	246.2	250.6	256.6	263.9	271.1	278.4	285.8	291.6
107.5°	291.1	294.6	297.9	301.2	304.6	309.9	317.2	324.4	331.6	338.9	344.0
110°	330.1	333.1	336.0	338.9	341.9	346.9	354.1	361.1	368.3	375.4	379.7



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	367.9	370.9	374.0	377.1	380.1	384.9	391.1	397.4	403.7	410.0	413.8
115°	426.0	428.1	430.1	432.2	434.2	438.0	443.4	448.9	454.3	459.7	463.9
117.5°	479.1	480.7	482.3	483.9	485.5	489.1	494.6	500.2	505.8	511.4	514.9
120°	514.4	515.6	516.7	518.0	519.2	522.2	527.1	532.0	536.9	541.8	545.6
122.5°	548.0	548.5	549.0	549.5	550.0	552.8	557.7	562.8	567.8	572.9	576.5
125°	595.3	595.8	596.3	596.8	597.3	599.6	603.6	607.6	611.7	615.7	619.6
127.5°	640.8	640.8	640.8	640.8	640.8	642.8	646.9	651.1	655.1	659.2	662.3
130°	669.5	669.5	669.5	669.4	669.4	671.2	674.4	677.7	681.0	684.3	687.6
132.5°	696.5	696.6	696.7	696.9	697.0	698.5	701.4	704.3	707.1	709.9	713.2
135°	736.2	736.0	735.9	735.7	735.5	736.4	738.3	740.1	742.0	744.0	747.1
137.5°	772.0	771.9	771.8	771.7	771.6	772.2	773.6	774.9	776.2	777.5	780.4
140°	795.4	795.6	795.8	795.9	796.1	796.4	796.9	797.4	797.9	798.4	801.1
142.5°	815.8	816.4	816.9	817.5	818.0	818.4	818.5	818.6	818.6	818.7	821.1
145°	847.9	848.2	848.5	848.8	849.1	849.3	849.3	849.3	849.3	849.3	850.5
147.5°	873.4	874.2	874.9	875.8	876.6	876.8	876.7	876.5	876.3	876.2	876.5
150°	892.1	892.5	893.0	893.5	894.0	894.2	894.0	893.8	893.7	893.5	893.5
152.5°	907.1	907.6	908.1	908.6	909.0	909.1	908.8	908.6	908.3	908.0	908.2
155°	928.8	929.0	929.1	929.3	929.5	929.3	928.8	928.3	927.8	927.3	928.0
157.5°	947.3	947.2	947.1	947.0	946.8	946.4	945.9	945.3	944.7	944.2	945.0
160°	958.0	957.5	957.0	956.5	956.0	955.6	955.5	955.3	955.1	955.0	956.0
162.5°	967.6	966.9	966.3	965.7	965.0	964.6	964.5	964.3	964.1	964.0	965.0
165°	979.8	978.9	978.1	977.2	976.4	976.0	976.0	976.0	976.0	976.0	977.3
167.5°	989.4	988.5	987.6	986.7	985.8	985.4	985.3	985.2	985.1	985.0	986.4
170°	994.7	993.7	992.7	991.7	990.8	990.3	990.5	990.7	990.8	991.0	992.3
172.5°	998.4	997.3	996.3	995.3	994.3	993.9	994.1	994.2	994.4	994.6	995.9
175°	1002.2	1001.2	1000.3	999.3	998.3	997.8	997.9	998.2	998.4	998.5	1000.0
177.5°	1004.0	1003.1	1002.2	1001.2	1000.3	1000.0	1000.3	1000.5	1000.8	1001.0	1002.1
180°	1002.2	1002.2	1002.2	1002.2	1002.2	1002.2	1002.2	1002.2	1002.2	1002.2	1002.2



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	701.8	701.8	701.8	701.8	701.8	701.8	701.8	701.8
2.5°	699.3	700.2	701.3	701.7	701.6	701.4	701.3	701.1
5°	697.5	698.8	700.2	700.8	700.7	700.5	700.3	700.1
7.5°	693.8	695.3	696.9	697.6	697.4	697.2	697.0	696.9
10°	689.9	691.6	693.1	693.8	693.7	693.5	693.3	693.1
12.5°	684.7	686.1	687.5	688.2	688.2	688.1	688.1	688.1
15°	675.0	676.6	678.1	678.8	678.7	678.5	678.3	678.1
17.5°	663.3	664.9	666.5	667.2	667.1	667.0	666.8	666.7
20°	654.2	655.9	657.6	658.5	658.5	658.5	658.5	658.5
22.5°	643.5	645.2	646.9	648.0	648.2	648.5	648.8	649.1
25°	627.0	628.9	630.9	631.9	632.1	632.3	632.4	632.6
27.5°	608.5	610.3	612.1	613.1	613.3	613.5	613.7	613.9
30°	595.6	597.5	599.5	600.6	600.9	601.3	601.6	602.0
32.5°	582.3	584.5	586.7	587.9	588.3	588.7	589.1	589.4
35°	561.3	563.7	566.1	567.6	568.2	568.7	569.2	569.8
37.5°	539.4	541.8	544.3	545.8	546.3	546.9	547.4	548.1
40°	523.9	526.5	529.2	530.8	531.5	532.2	532.9	533.6
42.5°	508.8	511.6	514.5	516.2	516.8	517.4	518.0	518.5
45°	485.3	488.3	491.2	493.1	494.0	494.9	495.7	496.7
47.5°	460.5	463.6	466.7	468.7	469.8	470.8	471.9	472.9
50°	443.1	446.7	450.1	452.4	453.4	454.4	455.6	456.6
52.5°	425.6	429.0	432.5	434.7	435.9	436.9	437.9	439.0
55°	399.1	402.6	406.1	408.4	409.4	410.5	411.5	412.5
57.5°	371.3	375.6	379.7	382.2	383.2	384.2	385.2	386.2
60°	352.2	356.3	360.2	362.9	364.4	365.8	367.2	368.6
62.5°	333.4	337.4	341.4	344.1	345.5	346.9	348.3	349.7
65°	304.2	308.6	313.0	315.8	317.2	318.6	320.0	321.4
67.5°	275.6	280.0	284.5	287.3	288.7	290.0	291.4	292.8
70°	255.4	260.1	264.8	267.8	269.0	270.2	271.5	272.7
72.5°	236.2	240.9	245.4	248.3	249.7	251.1	252.5	253.8
75°	207.0	211.9	216.8	220.0	221.6	223.2	224.8	226.3
77.5°	179.9	184.8	189.8	193.1	194.7	196.4	198.0	199.8
80°	162.2	167.3	172.6	175.9	177.3	178.7	180.2	181.6
82.5°	144.8	150.2	155.6	159.1	160.6	162.1	163.6	165.2
85°	120.5	125.7	131.0	134.5	136.2	137.9	139.7	141.5
87.5°	103.6	108.9	114.1	117.5	119.2	120.8	122.3	123.9
90°	106.4	112.5	118.6	122.4	124.2	125.9	127.6	129.4
92.5°	101.8	107.7	113.6	117.3	118.8	120.3	121.7	123.2
95°	96.2	102.0	107.8	111.5	113.2	114.9	116.6	118.4
97.5°	92.6	97.4	102.0	105.1	106.8	108.5	110.2	111.8
100°	96.4	98.4	100.3	101.9	103.3	104.6	106.0	107.4
102.5°	163.5	137.5	111.6	99.3	100.7	102.1	103.5	104.9
105°	297.5	303.4	309.2	309.8	305.3	300.6	296.0	291.4
107.5°	349.0	354.0	359.0	362.4	364.4	366.3	368.2	370.0
110°	384.1	388.4	392.7	395.9	397.8	399.7	401.6	403.4





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CATALOG NUMBER: S124DIW-S575D770U840-4F0-1E-UDD-D

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	417.6	421.4	425.3	428.2	430.2	432.2	434.2	436.3
115°	468.1	472.2	476.5	479.1	480.3	481.6	482.8	484.0
117.5°	518.5	522.1	525.6	528.1	529.4	530.8	532.1	533.4
120°	549.5	553.3	557.1	559.6	560.6	561.7	562.8	563.8
122.5°	580.3	583.9	587.6	590.0	590.9	591.8	592.7	593.6
125°	623.3	627.1	631.0	633.5	634.7	635.9	637.1	638.3
127.5°	665.3	668.4	671.5	673.5	674.5	675.6	676.6	677.7
130°	690.9	694.2	697.5	699.7	700.7	701.9	702.9	703.9
132.5°	716.3	719.4	722.7	724.7	725.6	726.5	727.4	728.3
135°	750.2	753.4	756.5	758.7	760.1	761.4	762.9	764.3
137.5°	783.4	786.3	789.2	791.0	791.8	792.5	793.3	794.1
140°	804.0	806.7	809.5	811.4	812.4	813.4	814.6	815.6
142.5°	823.4	825.8	828.2	829.7	830.5	831.2	832.0	832.8
145°	851.7	852.9	854.1	855.3	856.4	857.4	858.4	859.4
147.5°	876.7	877.0	877.3	877.8	878.5	879.2	879.9	880.6
150°	893.5	893.5	893.5	893.6	893.8	893.9	894.1	894.2
152.5°	908.5	908.7	909.0	909.1	909.0	908.9	908.8	908.7
155°	928.6	929.3	929.9	930.0	929.5	929.0	928.5	928.1
157.5°	945.9	946.8	947.7	947.7	946.8	945.9	945.0	944.2
160°	957.0	958.0	959.0	959.0	958.0	957.0	956.0	955.0
162.5°	966.0	966.9	968.0	968.0	966.8	965.6	964.5	963.4
165°	978.7	980.0	981.3	981.3	979.8	978.3	976.7	975.2
167.5°	988.0	989.4	990.9	990.8	989.1	987.4	985.7	984.1
170°	993.6	995.0	996.3	996.1	994.5	992.8	991.2	989.5
172.5°	997.2	998.6	999.9	999.7	997.8	996.1	994.3	992.5
175°	1001.5	1003.0	1004.5	1004.2	1002.2	1000.3	998.3	996.2
177.5°	1003.2	1004.2	1005.3	1005.0	1003.4	1001.8	1000.3	998.7
180°	1002.2	1002.2	1002.2	1002.2	1002.2	1002.2	1002.2	1002.2

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