

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: P332749-930

Luminaire Tested: **S124DIW-S575D470U930-4F0-1E-UDD-F**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P332749-930  
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-S575D470U930-4F0-1E-UDD-F  
Description: DEFINE 4 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE  
DOWNLIGHT 575 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER  
UPLIGHT 470 LUMENS PER FOOT, NO LENS  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 3561.4 lumens  
Efficiency: N/A  
Efficacy: 117.9 lumens/watt  
Spacing Criteria (0/90/45): 1.2 / 1.17 / 1.3  
Luminous Opening: Rectangular (W 0.33' x L: 4' x H: 0')  
CIE Type: General Diffuse

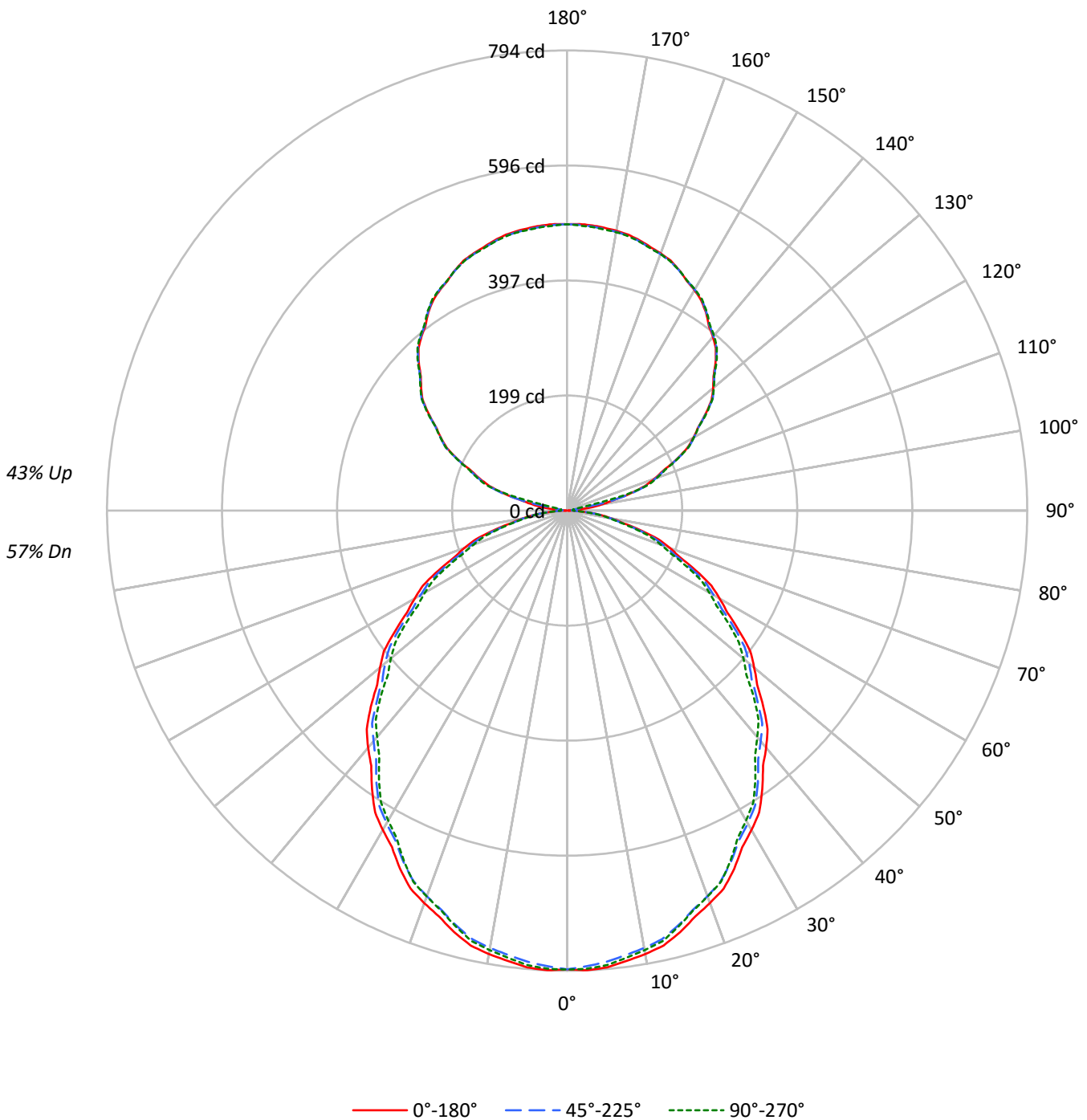
Input Watts (W): 30.2  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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### Luminous Intensity Polar Plot





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**COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:**

RF	20									20									20									20									
RC	80									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	50	30	10	0													
RCR																																					
0	109	109	109	109	101	101	101	101	87	87	87	74	74	74	63	63	63	57																			
1	99	95	91	87	92	89	85	82	76	74	72	65	64	62	55	54	53	48																			
2	90	83	77	71	84	77	72	67	67	63	59	57	54	52	49	46	44	40																			
3	83	73	65	59	76	68	62	56	59	54	50	51	47	44	43	40	38	34																			
4	76	65	56	50	70	60	53	48	53	47	43	45	41	38	39	35	33	29																			
5	69	58	49	43	64	54	47	41	47	41	37	41	36	33	35	31	28	25																			
6	64	52	43	38	59	48	41	36	42	37	32	37	32	29	32	28	25	22																			
7	59	47	39	33	55	44	37	31	39	33	28	33	29	25	29	25	22	20																			
8	55	42	35	29	51	40	33	28	35	29	25	31	26	23	26	23	20	18																			
9	51	39	31	26	48	37	30	25	32	27	23	28	24	20	24	21	18	16																			
10	48	36	28	23	45	34	27	22	30	24	20	26	22	18	23	19	16	14																			

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

	0°	45°	90°
0°	6391	6391	6391
5°	6412	6334	6380
10°	6370	6283	6314
15°	6294	6193	6209
20°	6192	6082	6088
25°	6075	5956	5940
30°	5931	5808	5754
35°	5784	5653	5577
40°	5630	5476	5376
45°	5469	5302	5200
50°	5291	5148	4987
55°	5098	4947	4787
60°	4907	4721	4579
65°	4690	4508	4327
70°	4447	4223	4057
75°	4077	3877	3780
80°	3626	3477	3394
85°	3168	3057	3001



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	74.6	2.1
10°-20°	210.1	5.9
20°-30°	309.2	8.7
30°-40°	359.5	10.1
40°-50°	359.5	10.1
50°-60°	314.5	8.8
60°-70°	233.5	6.6
70°-80°	132.7	3.7
80°-90°	39.7	1.1
90°-100°	16.9	0.5
100°-110°	107.7	3.0
110°-120°	206.1	5.8
120°-130°	261.6	7.3
130°-140°	279.9	7.9
140°-150°	261.7	7.3
150°-160°	211.1	5.9
160°-170°	136.1	3.8
170°-180°	46.9	1.3
0°-30°	593.9	16.7
0°-40°	953.4	26.8
0°-60°	1627.3	45.7
0°-90°	2033.2	57.1
90°-120°	330.7	9.3
90°-150°	1134.0	31.8
90°-180°	1528.0	42.9
0°-180°	3561.4	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	792	792	792	792	792	
5°	791	788	782	788	787	75
15°	753	750	741	744	743	212
25°	682	677	669	669	667	314
35°	587	582	574	569	566	367
45°	479	474	464	458	456	369
55°	362	360	352	344	340	324
65°	246	242	236	230	226	243
75°	131	128	124	122	121	139
85°	34	34	33	33	32	38
90°	1	5	8	10	11	3
95°	20	8	8	10	11	26
105°	111	113	115	118	105	116
115°	208	209	208	209	209	204
125°	292	293	293	294	294	261
135°	362	362	363	364	365	279
145°	418	419	419	419	420	261
155°	458	458	457	458	458	211
165°	483	481	481	484	481	136
175°	494	492	492	495	491	47
180°	494	494	494	494	494	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	791.7	791.7	791.7	791.7	791.7	791.7	791.7	791.7	791.7	791.7	791.7
2.5°	793.8	793.4	793.1	792.8	792.5	791.7	790.4	789.2	787.9	786.7	787.8
5°	791.2	790.6	790.0	789.5	788.9	787.8	786.3	784.7	783.2	781.6	783.2
7.5°	783.7	783.2	782.7	782.1	781.5	780.4	778.7	777.0	775.2	773.5	774.8
10°	777.1	776.7	776.1	775.5	774.9	773.7	771.9	770.1	768.3	766.4	767.5
12.5°	768.6	768.0	767.4	766.9	766.3	765.1	763.1	761.2	759.2	757.2	758.5
15°	753.1	752.5	752.0	751.4	750.8	749.5	747.4	745.3	743.1	741.0	741.8
17.5°	734.4	733.7	733.0	732.3	731.6	730.3	728.2	726.3	724.2	722.3	722.8
20°	720.7	720.0	719.3	718.6	717.9	716.5	714.4	712.2	710.1	708.0	708.4
22.5°	706.0	705.1	704.2	703.2	702.3	700.7	698.6	696.5	694.4	692.3	693.1
25°	682.0	681.0	680.0	679.1	678.1	676.6	674.6	672.6	670.7	668.7	668.9
27.5°	654.6	653.6	652.6	651.6	650.5	649.1	647.3	645.5	643.6	641.8	641.5
30°	636.3	635.2	634.1	632.9	631.9	630.3	628.5	626.6	624.8	623.1	622.5
32.5°	617.0	616.0	615.0	614.0	613.0	611.5	609.6	607.6	605.7	603.7	603.1
35°	586.9	585.9	584.9	583.9	582.9	581.4	579.4	577.5	575.5	573.6	572.5
37.5°	555.0	554.1	553.2	552.3	551.4	549.9	547.8	545.7	543.6	541.4	540.4
40°	534.2	533.0	531.9	530.8	529.7	528.1	525.9	523.8	521.7	519.6	518.2
42.5°	511.8	511.2	510.5	509.8	509.2	507.6	505.3	503.0	500.6	498.3	496.7
45°	479.0	478.0	477.0	476.1	475.1	473.4	471.2	468.9	466.7	464.4	462.8
47.5°	444.6	443.9	443.3	442.5	441.9	440.5	438.5	436.3	434.2	432.2	430.4
50°	421.3	420.7	420.1	419.6	419.0	417.8	415.8	413.8	411.8	409.9	407.9
52.5°	398.4	397.8	397.1	396.4	395.7	394.4	392.2	390.2	388.1	386.0	384.3
55°	362.2	361.8	361.4	361.0	360.6	359.4	357.4	355.4	353.4	351.5	349.8
57.5°	327.8	327.3	326.8	326.3	325.8	324.7	322.7	320.7	318.8	316.8	315.2
60°	303.9	303.2	302.5	301.7	301.1	299.8	298.0	296.1	294.3	292.4	291.2
62.5°	280.5	280.0	279.3	278.8	278.2	276.9	275.0	273.0	271.1	269.1	268.0
65°	245.5	244.8	244.1	243.4	242.7	241.7	240.3	238.8	237.4	236.0	234.6
67.5°	210.3	209.6	209.0	208.3	207.7	206.7	205.3	204.0	202.6	201.2	199.9
70°	188.4	187.4	186.5	185.5	184.5	183.4	182.3	181.2	180.0	178.9	177.8
72.5°	165.1	164.1	163.1	162.1	161.1	160.2	159.3	158.4	157.5	156.5	155.6
75°	130.7	130.0	129.3	128.6	127.8	127.2	126.5	125.7	125.1	124.3	123.8
77.5°	97.8	97.5	97.2	96.9	96.6	96.1	95.5	94.9	94.2	93.7	93.4
80°	78.0	77.6	77.2	76.8	76.3	76.0	75.7	75.4	75.2	74.8	74.6
82.5°	58.8	58.5	58.4	58.1	58.0	57.8	57.8	57.7	57.6	57.6	57.4
85°	34.2	34.2	34.2	34.2	34.2	34.1	33.8	33.6	33.3	33.0	33.0
87.5°	13.5	13.5	13.5	13.6	13.7	13.7	13.8	13.8	13.8	13.8	13.9
90°	1.1	2.0	2.9	3.8	4.7	5.5	6.2	6.8	7.5	8.2	8.6
92.5°	4.6	4.7	4.7	4.8	4.9	5.2	5.9	6.5	7.2	7.8	8.3
95°	20.3	17.5	14.8	12.0	9.1	7.8	7.9	8.0	8.1	8.2	8.6
97.5°	43.1	44.9	46.6	48.3	50.1	46.4	37.3	28.0	18.9	9.8	9.8
100°	60.6	62.0	63.6	65.1	66.5	61.6	50.2	38.9	27.6	16.2	14.8
102.5°	80.1	81.2	82.3	83.3	84.5	84.2	82.8	81.3	79.8	78.4	63.3
105°	111.2	111.7	112.2	112.7	113.2	113.7	114.1	114.5	114.9	115.3	116.0
107.5°	140.1	140.4	140.6	140.9	141.1	141.5	142.0	142.6	143.2	143.7	144.1
110°	159.6	159.9	160.1	160.4	160.6	160.9	161.4	162.0	162.5	163.0	163.1



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	178.6	179.0	179.4	179.9	180.3	180.7	180.9	181.1	181.3	181.6	181.6
115°	207.7	207.9	208.1	208.4	208.6	208.7	208.6	208.6	208.5	208.4	208.6
117.5°	233.9	234.2	234.6	234.9	235.2	235.5	235.6	235.8	236.0	236.2	236.1
120°	251.6	251.9	252.3	252.6	252.9	253.1	253.0	252.9	252.8	252.7	252.9
122.5°	268.2	268.4	268.6	268.8	269.0	269.1	269.2	269.4	269.5	269.6	269.7
125°	291.9	292.2	292.5	292.9	293.2	293.3	293.1	292.9	292.8	292.6	292.9
127.5°	314.4	314.5	314.5	314.6	314.7	315.0	315.3	315.7	316.1	316.4	316.4
130°	328.8	328.9	329.1	329.1	329.2	329.4	329.6	329.9	330.1	330.4	330.4
132.5°	342.2	342.3	342.4	342.6	342.8	343.0	343.3	343.6	343.9	344.2	344.3
135°	362.1	362.0	361.9	361.8	361.7	361.9	362.2	362.6	362.9	363.2	363.4
137.5°	379.8	379.8	379.8	379.8	379.9	380.1	380.4	380.8	381.2	381.6	381.7
140°	391.3	391.4	391.6	391.8	391.9	392.1	392.2	392.5	392.6	392.8	393.1
142.5°	401.6	401.9	402.3	402.5	402.8	403.0	403.1	403.2	403.3	403.4	403.6
145°	417.5	417.8	418.0	418.2	418.5	418.7	418.7	418.7	418.7	418.7	418.7
147.5°	430.2	430.6	431.0	431.5	432.0	432.2	432.1	432.0	431.9	431.9	431.9
150°	439.4	439.7	440.0	440.3	440.7	440.8	440.7	440.6	440.5	440.4	440.4
152.5°	447.0	447.3	447.5	447.8	448.1	448.1	448.0	447.8	447.7	447.5	447.7
155°	457.8	457.9	458.0	458.0	458.1	458.0	457.8	457.5	457.3	457.1	457.4
157.5°	466.9	466.8	466.8	466.8	466.7	466.5	466.3	465.9	465.7	465.5	465.9
160°	472.2	472.0	471.7	471.5	471.2	471.1	471.0	470.9	470.8	470.8	471.2
162.5°	477.0	476.6	476.3	476.0	475.7	475.5	475.4	475.3	475.2	475.2	475.6
165°	482.9	482.5	482.1	481.7	481.3	481.1	481.1	481.1	481.1	481.1	481.8
167.5°	487.6	487.2	486.8	486.4	485.9	485.7	485.7	485.6	485.6	485.5	486.2
170°	490.3	489.8	489.3	488.9	488.4	488.1	488.2	488.3	488.4	488.4	489.1
172.5°	492.1	491.6	491.1	490.6	490.2	489.9	490.0	490.1	490.2	490.2	490.9
175°	494.0	493.5	493.0	492.5	492.0	491.9	492.0	492.0	492.1	492.2	492.9
177.5°	494.9	494.5	494.0	493.5	493.1	492.9	493.0	493.2	493.3	493.4	493.9
180°	494.0	494.0	494.0	494.0	494.0	494.0	494.0	494.0	494.0	494.0	494.0



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	791.7	791.7	791.7	791.7	791.7	791.7	791.7	791.7
2.5°	789.0	790.1	791.2	791.7	791.6	791.5	791.4	791.2
5°	784.7	786.3	787.8	788.5	788.1	787.9	787.6	787.3
7.5°	776.0	777.2	778.4	779.0	778.9	778.7	778.5	778.3
10°	768.7	769.8	770.9	771.4	771.0	770.8	770.5	770.2
12.5°	759.8	761.0	762.2	762.6	762.2	761.8	761.5	761.1
15°	742.7	743.6	744.4	744.6	744.2	743.8	743.3	742.9
17.5°	723.3	723.8	724.4	724.5	724.2	723.9	723.7	723.4
20°	708.9	709.3	709.7	709.8	709.5	709.2	709.0	708.7
22.5°	693.8	694.6	695.4	695.5	695.0	694.5	694.0	693.4
25°	669.0	669.1	669.3	669.0	668.5	667.9	667.3	666.8
27.5°	641.2	640.7	640.4	639.9	639.2	638.5	637.8	637.1
30°	621.9	621.3	620.8	620.1	619.4	618.7	618.0	617.3
32.5°	602.3	601.7	601.0	600.3	599.7	598.9	598.2	597.5
35°	571.5	570.5	569.6	568.8	568.0	567.3	566.6	565.9
37.5°	539.3	538.2	537.1	536.1	535.2	534.3	533.4	532.4
40°	516.8	515.4	514.0	512.9	512.2	511.5	510.8	510.1
42.5°	495.0	493.3	491.7	490.6	490.2	489.8	489.3	488.8
45°	461.3	459.7	458.2	457.2	456.8	456.4	455.9	455.5
47.5°	428.7	426.9	425.2	423.8	422.7	421.6	420.5	419.5
50°	405.9	403.9	401.9	400.6	399.7	398.8	398.0	397.1
52.5°	382.5	380.7	379.0	377.6	376.5	375.4	374.4	373.3
55°	348.1	346.4	344.7	343.4	342.6	341.8	340.9	340.1
57.5°	313.6	312.0	310.4	309.2	308.3	307.5	306.7	305.9
60°	289.9	288.7	287.4	286.4	285.7	285.0	284.3	283.6
62.5°	266.8	265.6	264.5	263.6	262.9	262.2	261.5	260.7
65°	233.2	231.8	230.4	229.3	228.6	227.9	227.2	226.5
67.5°	198.5	197.2	195.8	195.0	194.9	194.7	194.4	194.3
70°	176.7	175.5	174.4	173.7	173.2	172.8	172.4	171.9
72.5°	154.7	153.8	153.0	152.3	151.9	151.5	151.1	150.6
75°	123.2	122.6	122.1	121.7	121.6	121.5	121.3	121.2
77.5°	93.3	93.1	92.9	92.7	92.3	92.0	91.6	91.2
80°	74.3	74.0	73.7	73.5	73.4	73.2	73.1	73.0
82.5°	57.2	57.1	56.9	56.7	56.7	56.5	56.3	56.2
85°	33.0	33.0	33.0	32.9	32.8	32.6	32.5	32.4
87.5°	14.0	14.1	14.2	14.3	14.3	14.3	14.3	14.4
90°	9.1	9.6	10.1	10.4	10.6	10.8	10.9	11.1
92.5°	8.8	9.3	9.8	10.0	10.1	10.1	10.2	10.2
95°	9.1	9.6	10.1	10.4	10.4	10.5	10.6	10.7
97.5°	9.9	9.9	9.9	10.0	10.1	10.2	10.3	10.4
100°	13.5	12.1	10.7	10.0	10.1	10.2	10.3	10.4
102.5°	48.2	33.2	18.1	10.6	10.6	10.6	10.6	10.7
105°	116.8	117.5	118.2	117.2	114.1	111.2	108.3	105.3
107.5°	144.5	144.8	145.2	145.5	145.9	146.1	146.4	146.8
110°	163.3	163.5	163.6	163.8	164.0	164.3	164.5	164.8





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CATALOG NUMBER: S124DIW-S575D470U930-4F0-1E-UDD-F

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	181.5	181.5	181.4	181.6	181.9	182.2	182.5	182.8
115°	208.7	208.9	209.0	209.1	209.1	209.1	209.1	209.1
117.5°	236.1	236.1	236.0	236.0	235.9	235.9	235.9	235.9
120°	253.1	253.2	253.4	253.4	253.2	253.1	252.9	252.7
122.5°	269.8	269.9	269.9	269.9	269.8	269.6	269.5	269.3
125°	293.1	293.3	293.6	293.8	293.8	293.9	294.0	294.1
127.5°	316.3	316.3	316.3	316.2	316.1	316.0	316.0	315.9
130°	330.5	330.6	330.7	330.7	330.7	330.7	330.7	330.7
132.5°	344.4	344.5	344.5	344.5	344.5	344.5	344.4	344.3
135°	363.5	363.7	363.9	364.0	364.2	364.4	364.5	364.7
137.5°	381.9	382.0	382.3	382.3	382.3	382.2	382.2	382.1
140°	393.3	393.5	393.8	394.0	394.0	394.1	394.2	394.3
142.5°	403.7	404.0	404.1	404.2	404.2	404.3	404.3	404.3
145°	418.8	418.9	419.0	419.1	419.2	419.4	419.6	419.7
147.5°	432.0	432.0	432.1	432.2	432.3	432.4	432.4	432.5
150°	440.4	440.4	440.4	440.5	440.6	440.7	440.8	440.8
152.5°	447.8	447.9	448.1	448.1	448.1	448.0	447.9	447.9
155°	457.7	458.0	458.4	458.4	458.2	458.0	457.7	457.5
157.5°	466.3	466.7	467.1	467.1	466.7	466.3	465.9	465.5
160°	471.7	472.2	472.7	472.7	472.2	471.7	471.2	470.8
162.5°	476.1	476.6	477.1	477.1	476.5	476.0	475.4	474.9
165°	482.4	483.1	483.7	483.6	482.9	482.2	481.4	480.7
167.5°	487.0	487.7	488.4	488.4	487.5	486.7	485.9	485.1
170°	489.8	490.4	491.1	491.1	490.2	489.3	488.5	487.7
172.5°	491.5	492.2	492.8	492.8	491.9	491.0	490.1	489.2
175°	493.7	494.4	495.1	495.0	494.0	493.0	492.0	491.1
177.5°	494.5	495.0	495.5	495.4	494.6	493.8	493.0	492.3
180°	494.0	494.0	494.0	494.0	494.0	494.0	494.0	494.0

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