

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: P331540-935

Luminaire Tested: **S122DIW-S675D970U935-4F0-1E-UDD-D1**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P331540-935  
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-8,  
Test Lab: INNOVATION CENTER  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: NEO-RAY  
Catalog Number: S122DIW-S675D970U935-4F0-1E-UDD-D1  
Description: DEFINE 2 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE  
DOWNLIGHT 675 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER  
UPLIGHT 970 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 5207.5 lumens  
Efficiency: N/A  
Efficacy: 99.0 lumens/watt  
Spacing Criteria (0/90/45): 1.21 / 1.32 / 1.42  
Luminous Opening: Rectangular w/ Sides (W: 0.17' x L: 4' x H: 0.08')  
CIE Type: Semi-Indirect

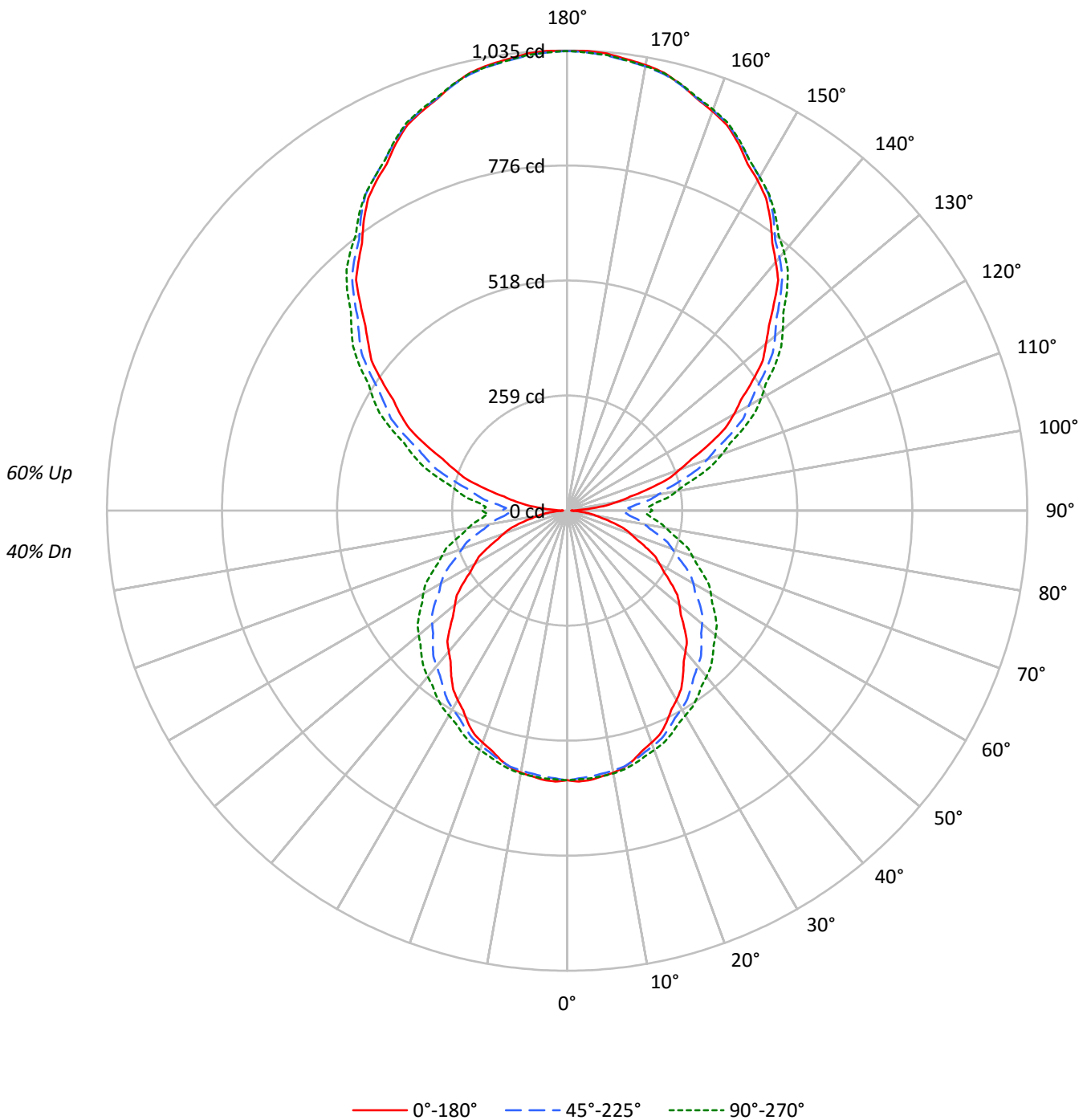
Input Watts (W): 52.6  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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### Luminous Intensity Polar Plot





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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	61	61	61	47	47	47	40
1	94	89	85	81	85	81	78	74	66	63	61	52	50	49	39	38	37	31
2	85	77	71	65	77	70	65	60	57	53	50	45	42	40	34	32	30	25
3	78	68	60	54	70	62	55	50	50	45	41	39	36	33	30	27	25	21
4	71	60	51	45	64	54	47	42	44	39	35	35	31	28	26	24	21	17
5	65	53	44	38	58	48	41	35	39	34	30	31	27	24	23	21	18	15
6	59	47	39	33	54	43	36	30	35	30	26	28	24	21	21	18	16	13
7	55	42	34	29	50	39	32	27	32	26	22	25	21	18	19	16	14	11
8	51	38	31	25	46	35	28	23	29	24	20	23	19	16	18	15	13	10
9	47	35	27	22	43	32	25	21	26	21	17	21	17	14	16	13	11	9
10	44	32	25	20	40	29	23	18	24	19	16	20	16	13	15	12	10	8

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

	0°	45°	90°
0°	9792	9792	9792
5°	9839	9426	9390
10°	9778	9148	9044
15°	9643	8853	8681
20°	9473	8536	8331
25°	9305	8231	8014
30°	9067	7919	7694
35°	8828	7615	7468
40°	8576	7358	7243
45°	8334	7127	7051
50°	8078	6920	6861
55°	7810	6696	6668
60°	7480	6465	6465
65°	7135	6192	6222
70°	6751	5899	5960
75°	6257	5612	5720
80°	5488	5319	5476
85°	4743	5064	5286



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	57.5	1.1
10°-20°	164.8	3.2
20°-30°	249.7	4.8
30°-40°	304.2	5.8
40°-50°	327.2	6.3
50°-60°	317.8	6.1
60°-70°	277.5	5.3
70°-80°	213.6	4.1
80°-90°	147.5	2.8
90°-100°	164.2	3.2
100°-110°	275.5	5.3
110°-120°	395.3	7.6
120°-130°	483.7	9.3
130°-140°	524.3	10.1
140°-150°	505.1	9.7
150°-160°	422.0	8.1
160°-170°	279.9	5.4
170°-180°	97.8	1.9
0°-30°	472.0	9.1
0°-40°	776.1	14.9
0°-60°	1421.1	27.3
0°-90°	2059.7	39.6
90°-120°	835.0	16.0
90°-150°	2348.1	45.1
90°-180°	3148.0	60.5
0°-180°	5207.5	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	606	606	606	606	606	
5°	608	605	600	605	605	58
15°	580	582	582	589	589	163
25°	527	534	541	552	555	242
35°	454	469	486	505	512	284
45°	373	397	427	453	463	288
55°	286	318	363	394	406	255
65°	195	239	290	325	338	194
75°	108	158	214	250	263	114
85°	32	86	142	178	192	34
90°	10	72	146	179	191	8
95°	52	103	157	189	199	58
105°	192	221	267	299	310	203
115°	352	368	405	430	438	348
125°	509	518	543	563	571	455
135°	658	667	678	695	700	508
145°	797	803	808	814	816	498
155°	911	914	916	920	918	419
165°	992	991	991	996	992	280
175°	1032	1029	1027	1033	1028	98
180°	1033	1033	1033	1033	1033	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	606.5	606.5	606.5	606.5	606.5	606.5	606.5	606.5	606.5	606.5	606.5
2.5°	610.0	609.5	609.1	608.6	608.1	607.3	606.2	605.1	604.1	603.0	603.7
5°	608.2	607.6	607.1	606.5	605.9	605.0	603.8	602.7	601.5	600.3	601.5
7.5°	602.8	602.4	602.0	601.6	601.2	600.5	599.7	598.7	597.9	597.0	598.4
10°	598.6	598.1	597.8	597.4	597.0	596.5	595.9	595.4	594.8	594.2	595.7
12.5°	591.5	591.6	591.7	591.8	591.9	591.7	591.2	590.8	590.4	590.0	591.5
15°	580.1	580.5	580.9	581.3	581.7	581.9	581.9	581.9	581.9	581.9	583.6
17.5°	565.3	566.2	567.0	567.8	568.6	569.4	570.0	570.6	571.2	571.9	573.7
20°	555.5	556.5	557.4	558.4	559.4	560.3	561.0	561.9	562.7	563.4	565.6
22.5°	544.9	546.0	547.3	548.4	549.5	550.6	551.7	552.8	553.9	555.0	557.2
25°	527.4	528.7	530.1	531.5	532.9	534.4	536.1	538.0	539.7	541.4	543.8
27.5°	506.3	508.5	510.7	513.0	515.2	517.4	519.4	521.5	523.6	525.6	528.6
30°	492.2	494.7	497.3	499.8	502.4	504.9	507.5	510.0	512.6	515.1	518.1
32.5°	476.7	479.6	482.4	485.3	488.2	491.1	494.1	497.1	500.1	503.1	506.7
35°	454.4	457.7	461.1	464.3	467.7	471.2	474.9	478.6	482.3	486.0	490.3
37.5°	430.2	434.0	437.8	441.6	445.5	449.8	454.6	459.4	464.2	469.0	473.8
40°	414.0	418.3	422.6	426.9	431.2	435.9	441.3	446.5	451.8	457.0	462.1
42.5°	398.6	402.8	407.1	411.4	415.7	420.9	427.0	433.0	439.0	445.1	450.6
45°	372.6	378.0	383.2	388.5	393.7	399.8	406.7	413.5	420.3	427.1	433.3
47.5°	347.2	352.9	358.7	364.4	370.1	377.0	385.0	393.0	401.1	409.1	415.4
50°	329.6	335.7	341.7	347.8	353.8	361.3	370.1	378.8	387.6	396.4	403.0
52.5°	312.7	319.1	325.5	331.8	338.2	346.0	355.2	364.5	373.8	383.1	389.9
55°	285.7	292.7	299.7	306.8	313.7	322.4	332.5	342.7	352.8	363.0	370.1
57.5°	258.9	266.9	274.8	282.8	290.7	299.8	310.1	320.5	330.9	341.2	348.8
60°	240.0	248.3	256.8	265.2	273.5	283.4	294.5	305.6	316.7	327.9	335.3
62.5°	223.1	231.8	240.5	249.2	258.0	267.9	279.0	290.1	301.3	312.4	320.3
65°	195.1	204.7	214.3	223.9	233.4	243.9	255.5	267.0	278.5	290.1	298.1
67.5°	169.4	179.4	189.5	199.5	209.5	220.3	232.1	243.9	255.7	267.5	275.6
70°	151.2	161.4	171.5	181.7	191.8	202.9	215.1	227.1	239.3	251.4	259.8
72.5°	134.3	144.7	155.2	165.7	176.2	187.5	199.8	212.1	224.4	236.6	244.9
75°	108.1	119.1	130.0	140.9	151.9	163.6	176.1	188.6	201.0	213.6	222.0
77.5°	82.8	94.3	105.7	117.1	128.5	140.7	153.3	166.1	178.7	191.4	199.8
80°	66.0	77.8	89.7	101.7	113.6	125.9	138.6	151.3	163.9	176.7	184.9
82.5°	51.8	63.6	75.3	87.1	98.9	111.2	124.1	136.9	149.7	162.6	170.8
85°	31.7	43.7	55.9	67.9	80.1	92.4	104.9	117.4	129.9	142.4	150.6
87.5°	17.4	29.5	41.6	53.7	65.9	78.5	91.9	105.3	118.6	132.0	139.8
90°	9.6	23.3	36.9	50.6	64.3	79.5	96.3	113.0	129.8	146.5	153.9
92.5°	23.6	35.9	48.1	60.4	72.6	85.2	98.3	111.3	124.4	137.4	145.2
95°	52.3	63.5	74.6	85.8	96.9	108.5	120.5	132.7	144.8	156.9	164.3
97.5°	89.0	98.8	108.7	118.6	128.5	139.4	151.4	163.4	175.4	187.4	194.6
100°	116.9	125.7	134.5	143.3	152.1	162.1	173.7	185.2	196.7	208.3	215.5
102.5°	145.5	153.3	161.2	169.0	176.8	186.5	197.9	209.2	220.6	232.0	239.2
105°	191.9	198.1	204.4	210.6	216.9	225.2	235.8	246.3	256.9	267.4	274.7
107.5°	239.5	244.9	250.3	255.6	261.1	268.6	278.4	288.1	297.7	307.5	314.2
110°	269.5	274.6	279.7	284.7	289.8	297.1	306.7	316.2	325.8	335.4	341.6



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	303.0	307.5	311.9	316.3	320.7	327.4	336.4	345.3	354.3	363.3	369.0
115°	352.3	355.7	359.0	362.3	365.6	371.4	379.9	388.2	396.7	405.0	410.7
117.5°	400.6	403.6	406.6	409.5	412.5	417.5	424.5	431.5	438.6	445.7	451.0
120°	433.4	435.8	438.1	440.4	442.7	447.0	453.3	459.6	465.9	472.1	477.6
122.5°	463.5	465.6	467.8	469.9	472.2	476.3	482.6	488.9	495.2	501.4	506.3
125°	509.3	511.0	512.8	514.5	516.3	520.0	525.6	531.3	537.0	542.7	547.3
127.5°	554.8	556.8	558.9	560.9	562.9	566.0	570.4	574.7	579.1	583.4	587.5
130°	583.4	585.7	588.1	590.4	592.7	595.7	599.4	603.1	606.9	610.6	614.9
132.5°	615.5	617.3	619.2	621.1	622.9	625.5	628.8	632.0	635.2	638.4	642.1
135°	657.5	659.7	661.9	663.9	666.1	668.3	670.6	673.0	675.4	677.7	681.6
137.5°	702.7	704.4	706.1	707.8	709.6	711.1	712.5	713.8	715.1	716.5	720.0
140°	730.0	731.5	733.1	734.6	736.2	737.6	738.9	740.3	741.7	743.0	746.1
142.5°	757.9	759.4	761.0	762.5	764.1	765.2	765.9	766.6	767.4	768.1	770.8
145°	797.0	798.4	799.8	801.2	802.5	803.7	804.9	806.1	807.3	808.4	809.8
147.5°	832.8	834.5	836.1	837.7	839.3	840.5	841.3	842.1	842.8	843.6	844.2
150°	857.2	858.4	859.5	860.7	861.9	862.9	863.7	864.4	865.2	866.0	866.5
152.5°	878.9	880.0	881.2	882.4	883.6	884.6	885.5	886.4	887.3	888.3	889.0
155°	911.3	911.9	912.5	913.1	913.6	914.2	914.8	915.4	915.9	916.5	917.5
157.5°	939.0	939.4	939.8	940.2	940.6	941.0	941.3	941.7	942.0	942.4	943.7
160°	955.8	956.1	956.6	956.9	957.3	957.6	957.9	958.0	958.2	958.4	959.6
162.5°	971.1	971.2	971.3	971.4	971.5	971.6	971.8	972.0	972.2	972.3	973.7
165°	991.5	991.4	991.2	990.9	990.8	990.7	990.7	990.7	990.7	990.7	992.0
167.5°	1008.7	1008.1	1007.5	1006.9	1006.3	1006.0	1006.0	1005.9	1005.9	1005.8	1007.2
170°	1017.7	1017.1	1016.6	1016.0	1015.4	1015.0	1014.8	1014.6	1014.4	1014.3	1015.5
172.5°	1024.0	1023.4	1022.8	1022.3	1021.7	1021.2	1021.1	1020.9	1020.7	1020.5	1021.8
175°	1031.7	1031.0	1030.5	1029.9	1029.3	1028.8	1028.5	1028.0	1027.7	1027.3	1028.6
177.5°	1034.8	1034.3	1033.9	1033.4	1032.9	1032.5	1032.3	1031.9	1031.7	1031.3	1032.3
180°	1033.4	1033.4	1033.4	1033.4	1033.4	1033.4	1033.4	1033.4	1033.4	1033.4	1033.4



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	606.5	606.5	606.5	606.5	606.5	606.5	606.5	606.5
2.5°	604.5	605.3	606.1	606.3	606.0	605.7	605.4	605.1
5°	602.7	603.8	605.0	605.5	605.3	605.1	604.9	604.7
7.5°	599.8	601.2	602.6	603.2	603.0	602.8	602.6	602.4
10°	597.3	598.8	600.5	601.1	600.9	600.7	600.5	600.3
12.5°	593.1	594.6	596.2	596.8	596.7	596.5	596.3	596.1
15°	585.4	587.1	588.9	589.7	589.5	589.3	589.1	588.9
17.5°	575.5	577.4	579.2	580.1	580.1	580.1	580.1	580.1
20°	567.7	569.9	572.0	573.1	573.1	573.1	573.1	573.1
22.5°	559.3	561.5	563.5	564.8	565.1	565.4	565.8	566.0
25°	546.1	548.5	550.8	552.2	552.8	553.5	554.1	554.7
27.5°	531.6	534.5	537.5	539.2	539.6	540.0	540.4	540.9
30°	521.3	524.4	527.5	529.4	530.0	530.6	531.2	531.8
32.5°	510.3	513.9	517.5	519.8	520.9	521.9	523.0	524.0
35°	494.6	498.9	503.3	506.1	507.5	508.9	510.1	511.5
37.5°	478.5	483.3	488.1	491.2	492.7	494.0	495.5	497.0
40°	467.2	472.3	477.3	480.8	482.5	484.3	486.0	487.8
42.5°	456.2	461.8	467.3	471.0	472.7	474.5	476.2	477.9
45°	439.3	445.3	451.4	455.4	457.4	459.3	461.2	463.2
47.5°	421.7	428.1	434.4	438.6	440.7	442.9	445.1	447.2
50°	409.7	416.3	423.0	427.4	429.6	431.7	433.8	435.9
52.5°	396.7	403.5	410.3	414.8	417.1	419.4	421.7	424.0
55°	377.0	384.1	391.2	395.9	398.5	401.0	403.6	406.0
57.5°	356.4	363.9	371.5	376.6	379.2	381.8	384.4	386.9
60°	342.7	350.1	357.6	362.7	365.3	368.1	370.8	373.6
62.5°	328.1	336.0	344.0	349.2	351.7	354.3	356.9	359.5
65°	306.1	314.1	322.1	327.4	329.9	332.4	335.0	337.5
67.5°	283.7	291.8	299.9	305.3	307.9	310.6	313.2	315.9
70°	268.2	276.6	285.0	290.3	292.7	295.1	297.4	299.7
72.5°	253.1	261.3	269.6	275.1	277.9	280.8	283.5	286.4
75°	230.4	238.8	247.2	252.6	255.2	257.7	260.3	262.8
77.5°	208.2	216.5	224.9	230.4	233.2	235.9	238.6	241.3
80°	193.0	201.3	209.5	215.0	217.7	220.4	223.2	225.9
82.5°	179.0	187.2	195.4	200.8	203.4	206.0	208.5	211.1
85°	158.8	167.0	175.2	180.6	183.4	186.1	188.9	191.6
87.5°	147.7	155.7	163.5	168.8	171.3	173.8	176.3	178.9
90°	161.4	168.8	176.2	181.2	183.7	186.3	188.8	191.4
92.5°	152.9	160.7	168.3	173.4	175.8	178.2	180.6	183.0
95°	171.8	179.2	186.6	191.2	193.2	195.2	197.2	199.1
97.5°	201.8	209.1	216.3	221.0	223.3	225.6	227.8	230.1
100°	222.7	229.9	237.1	241.8	243.7	245.6	247.6	249.5
102.5°	246.3	253.6	260.8	265.4	267.3	269.3	271.3	273.2
105°	281.9	289.1	296.4	301.0	303.2	305.3	307.5	309.6
107.5°	321.0	327.7	334.4	338.4	339.6	340.9	342.2	343.4
110°	347.8	354.1	360.4	364.3	365.8	367.4	369.0	370.6





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CATALOG NUMBER: S122DIW-S675D970U935-4F0-1E-UDD-D1

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	374.8	380.6	386.4	390.1	391.8	393.6	395.3	397.0
115°	416.4	422.1	427.7	431.4	432.9	434.5	436.0	437.6
117.5°	456.2	461.6	466.9	470.3	471.7	473.1	474.5	475.9
120°	483.0	488.5	494.0	497.5	499.0	500.7	502.2	503.8
122.5°	511.1	515.9	520.7	523.9	525.3	526.8	528.1	529.5
125°	552.1	556.7	561.5	564.6	566.1	567.7	569.3	570.8
127.5°	591.7	595.9	600.0	602.6	603.7	604.9	605.9	607.0
130°	619.2	623.5	627.8	630.3	631.1	631.9	632.7	633.5
132.5°	645.8	649.5	653.2	655.5	656.4	657.4	658.3	659.3
135°	685.5	689.4	693.3	695.8	696.7	697.8	698.7	699.6
137.5°	723.4	726.9	730.3	732.3	732.8	733.4	733.9	734.5
140°	749.2	752.4	755.5	757.2	757.7	758.1	758.5	758.9
142.5°	773.4	776.1	778.8	780.2	780.4	780.7	780.9	781.2
145°	811.1	812.5	813.9	814.7	814.9	815.0	815.3	815.5
147.5°	844.8	845.4	845.9	846.1	845.8	845.6	845.3	845.1
150°	867.1	867.7	868.3	868.3	867.7	867.1	866.5	866.0
152.5°	889.8	890.5	891.2	891.2	890.5	889.8	889.0	888.3
155°	918.5	919.5	920.4	920.6	920.1	919.5	918.9	918.3
157.5°	945.0	946.3	947.6	947.8	946.9	946.0	945.0	944.1
160°	960.7	961.9	963.0	963.3	962.5	961.7	961.0	960.2
162.5°	975.0	976.3	977.7	977.8	976.9	975.9	975.0	974.1
165°	993.4	994.7	996.1	996.3	995.3	994.4	993.4	992.4
167.5°	1008.6	1010.0	1011.2	1011.4	1010.5	1009.4	1008.4	1007.5
170°	1016.9	1018.3	1019.7	1019.8	1018.6	1017.4	1016.2	1015.1
172.5°	1023.2	1024.6	1025.9	1026.1	1024.8	1023.7	1022.5	1021.4
175°	1030.0	1031.4	1032.7	1032.9	1031.7	1030.5	1029.3	1028.2
177.5°	1033.2	1034.1	1035.0	1035.0	1034.1	1033.2	1032.3	1031.3
180°	1033.4	1033.4	1033.4	1033.4	1033.4	1033.4	1033.4	1033.4

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