

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: P331541-930

Luminaire Tested: **S122DIW-S675D970U930-4F0-1E-UDD-F**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P331541-930  
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-2,  
Test Lab: INNOVATION CENTER  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: NEO-RAY  
Catalog Number: S122DIW-S675D970U930-4F0-1E-UDD-F  
Description: DEFINE 2 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE  
DOWNLIGHT 675 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER  
UPLIGHT 970 LUMENS PER FOOT, NO LENS  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

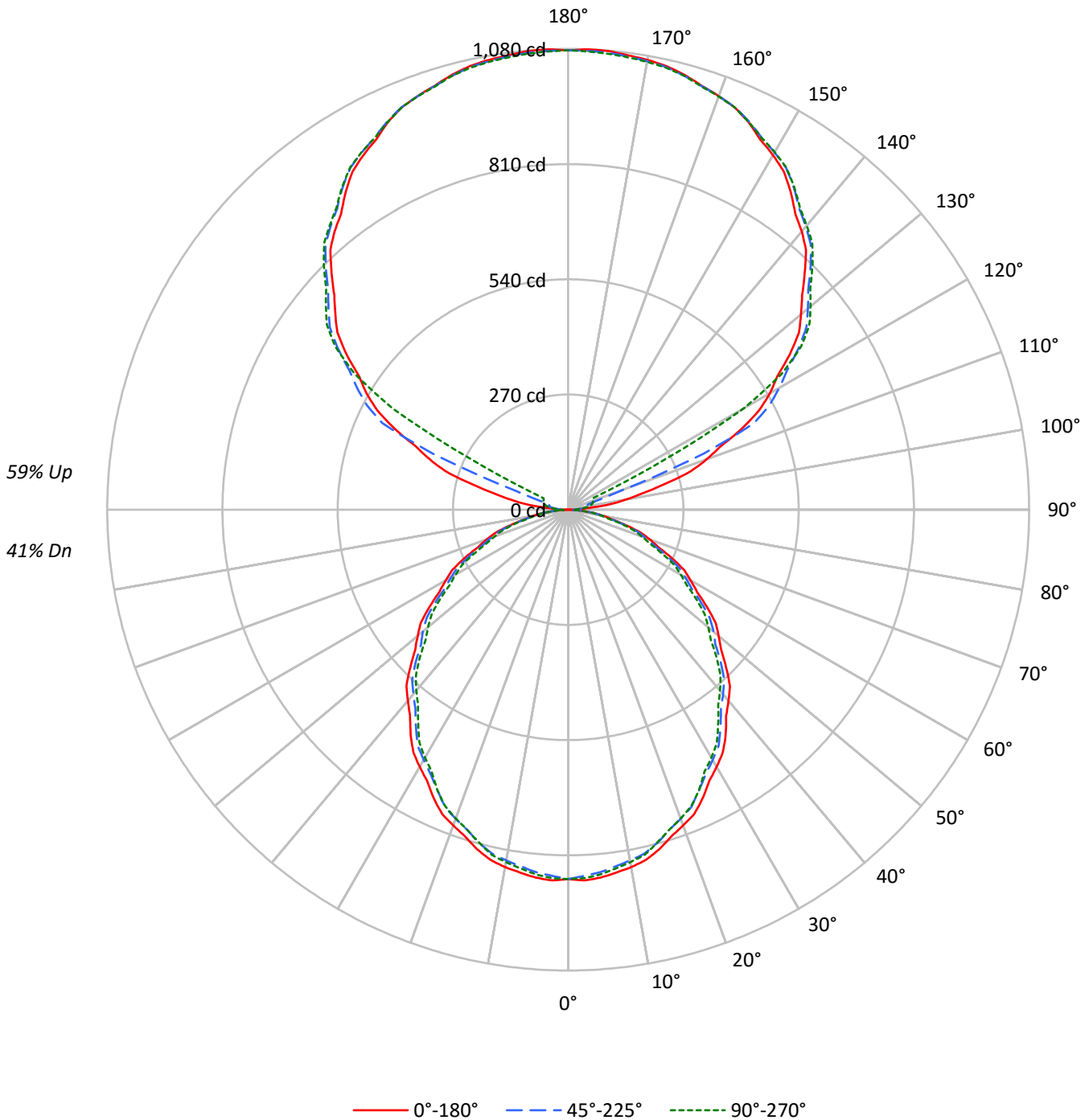
Lumens per Lamp: N/A  
Luminaire Lumens: 5360.0 lumens  
Efficiency: N/A  
Efficacy: 101.9 lumens/watt  
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.3  
Luminous Opening: Rectangular (W 0.17' x L: 4' x H: 0')  
CIE Type: General Diffuse  
  
Input Watts (W): 52.6  
Input Voltage (V): 120  
Input Current (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	96	96	96	96	78	78	78	63	63	63	48	48	48	41
1	96	92	88	84	87	84	80	77	69	66	64	55	53	52	42	41	40	35
2	87	80	74	69	79	73	68	63	60	56	53	48	46	43	37	36	34	29
3	80	70	63	57	72	64	58	53	53	48	45	43	39	37	33	31	29	25
4	73	62	54	48	66	57	50	45	47	42	38	38	34	31	30	27	25	21
5	67	55	47	41	61	51	44	38	42	37	33	34	30	27	27	24	22	18
6	61	50	42	36	56	45	38	33	38	33	29	31	27	24	24	21	19	16
7	57	45	37	31	52	41	34	29	34	29	25	28	24	21	22	19	17	14
8	53	40	33	28	48	37	31	26	31	26	22	26	22	19	20	17	15	13
9	49	37	30	25	45	34	27	23	29	23	20	23	20	17	19	16	14	12
10	46	34	27	22	42	31	25	21	26	21	18	22	18	15	17	15	12	10

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

	0°	45°	90°
0°	13976	13976	13976
5°	14029	13827	13908
10°	13946	13686	13754
15°	13772	13508	13494
20°	13527	13242	13228
25°	13286	12916	12916
30°	12972	12616	12506
35°	12682	12254	12073
40°	12313	11894	11666
45°	11953	11536	11250
50°	11560	11163	10766
55°	11153	10731	10331
60°	10698	10214	9836
65°	10208	9700	9253
70°	9588	9073	8644
75°	8721	8359	8153
80°	7736	7504	7122
85°	6336	6002	5391



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	81.4	1.5
10°-20°	229.0	4.3
20°-30°	336.6	6.3
30°-40°	391.0	7.3
40°-50°	390.6	7.3
50°-60°	340.6	6.4
60°-70°	251.9	4.7
70°-80°	142.7	2.7
80°-90°	41.0	0.8
90°-100°	35.9	0.7
100°-110°	131.7	2.5
110°-120°	352.0	6.6
120°-130°	581.1	10.8
130°-140°	618.0	11.5
140°-150°	574.4	10.7
150°-160°	461.8	8.6
160°-170°	297.6	5.6
170°-180°	102.4	1.9
0°-30°	647.0	12.1
0°-40°	1038.1	19.4
0°-60°	1769.3	33.0
0°-90°	2204.9	41.1
90°-120°	519.7	9.7
90°-150°	2293.2	42.8
90°-180°	3155.0	58.9
0°-180°	5360.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	866	866	866	866	866	
5°	866	862	853	859	858	82
15°	824	819	808	811	807	232
25°	746	739	725	726	725	343
35°	643	635	622	617	612	402
45°	524	517	505	496	493	404
55°	396	391	381	372	367	354
65°	267	262	254	247	242	264
75°	140	138	134	129	131	149
85°	34	33	32	30	29	39
90°	1	9	16	19	21	4
95°	51	27	30	34	34	62
105°	237	247	48	56	59	253
115°	448	462	481	137	64	441
125°	633	644	658	664	666	565
135°	784	796	803	810	809	605
145°	909	909	922	927	923	568
155°	1001	995	1003	1007	1002	461
165°	1055	1051	1052	1057	1052	298
175°	1079	1074	1075	1080	1073	103
180°	1077	1077	1077	1077	1077	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	865.6	865.6	865.6	865.6	865.6	865.6	865.6	865.6	865.6	865.6	865.6
2.5°	869.6	868.9	868.1	867.4	866.7	865.4	863.8	862.2	860.5	858.9	860.4
5°	865.6	864.9	864.1	863.4	862.7	861.3	859.2	857.2	855.2	853.1	854.6
7.5°	857.9	856.8	855.7	854.5	853.4	851.7	849.7	847.6	845.5	843.4	844.9
10°	850.6	849.3	848.0	846.7	845.5	843.7	841.5	839.3	837.0	834.8	836.3
12.5°	840.7	839.5	838.3	837.1	836.0	834.4	832.1	829.9	827.7	825.5	826.6
15°	823.9	822.9	821.7	820.7	819.5	817.7	815.4	812.9	810.6	808.1	808.9
17.5°	802.7	801.5	800.5	799.3	798.3	796.5	794.0	791.6	789.1	786.7	787.6
20°	787.3	786.3	785.1	784.0	782.9	781.1	778.4	775.9	773.3	770.7	771.3
22.5°	772.0	770.5	768.9	767.4	765.8	763.9	761.4	759.0	756.5	754.1	754.2
25°	745.8	744.3	742.8	741.3	739.8	737.5	734.3	731.2	728.1	725.0	725.3
27.5°	715.8	714.4	713.1	711.8	710.5	708.6	706.0	703.6	701.1	698.6	698.1
30°	695.8	694.3	692.8	691.4	689.9	687.8	685.0	682.2	679.5	676.7	676.1
32.5°	674.5	673.3	672.1	670.9	669.8	667.7	664.8	661.9	658.9	656.0	655.0
35°	643.4	641.6	639.7	637.8	635.9	633.6	630.6	627.6	624.7	621.7	620.6
37.5°	608.2	606.6	605.0	603.3	601.8	599.4	596.5	593.5	590.6	587.6	586.2
40°	584.2	582.8	581.3	579.8	578.4	576.2	573.2	570.2	567.3	564.3	562.6
42.5°	561.0	559.5	558.0	556.5	555.1	552.9	549.8	546.9	544.0	541.0	539.2
45°	523.5	522.2	520.9	519.7	518.4	516.3	513.6	510.8	508.0	505.2	503.2
47.5°	486.2	485.0	483.8	482.6	481.4	479.3	476.4	473.5	470.7	467.7	465.6
50°	460.2	459.3	458.4	457.5	456.6	454.8	452.2	449.6	447.0	444.4	441.9
52.5°	435.0	433.7	432.5	431.3	430.1	428.3	425.8	423.4	420.9	418.5	416.4
55°	396.2	395.1	394.0	392.8	391.8	390.0	387.8	385.6	383.4	381.2	379.0
57.5°	357.2	356.4	355.5	354.6	353.7	352.0	349.6	347.2	344.7	342.3	340.1
60°	331.3	330.5	329.8	329.1	328.3	326.6	324.1	321.5	318.9	316.3	314.2
62.5°	306.0	304.8	303.6	302.4	301.3	299.6	297.7	295.6	293.7	291.6	289.8
65°	267.2	266.0	265.0	263.8	262.7	261.2	259.4	257.6	255.7	253.9	252.2
67.5°	227.7	226.8	225.9	225.0	224.1	222.9	221.2	219.6	217.9	216.2	214.9
70°	203.1	202.4	201.6	200.9	200.2	198.9	197.2	195.6	194.0	192.2	190.9
72.5°	177.8	177.0	176.3	175.5	174.8	173.9	172.8	171.8	170.7	169.6	168.4
75°	139.8	139.4	139.1	138.7	138.4	137.7	136.8	135.8	134.9	134.0	132.9
77.5°	105.9	105.3	104.6	104.0	103.4	102.9	102.5	102.1	101.7	101.3	100.9
80°	83.2	83.1	82.8	82.7	82.5	82.2	81.9	81.4	81.1	80.7	80.1
82.5°	62.0	61.9	61.9	61.8	61.8	61.6	61.4	61.2	61.0	60.7	60.1
85°	34.2	33.9	33.8	33.6	33.3	33.2	33.0	32.9	32.6	32.4	31.9
87.5°	12.1	12.2	12.3	12.4	12.5	12.5	12.5	12.5	12.5	12.5	12.1
90°	0.8	2.7	4.6	6.5	8.4	10.0	11.4	12.8	14.2	15.6	16.5
92.5°	15.7	15.6	15.4	15.2	15.1	15.3	16.0	16.7	17.4	18.1	18.5
95°	50.6	44.9	39.2	33.5	27.8	25.5	26.7	28.0	29.2	30.4	31.2
97.5°	100.5	84.4	68.3	52.2	36.1	29.4	32.3	35.1	37.8	40.7	41.3
100°	137.9	114.1	90.4	66.8	43.0	32.6	35.5	38.5	41.5	44.4	45.8
102.5°	179.0	174.0	169.0	164.0	158.9	144.1	119.5	94.9	70.3	45.7	47.5
105°	236.8	242.1	247.2	252.4	257.6	236.6	189.3	142.0	94.8	47.5	49.4
107.5°	302.7	307.0	311.1	315.3	319.5	293.3	236.6	179.9	123.2	66.5	64.6
110°	345.1	348.8	352.4	356.0	359.6	336.5	286.4	236.4	186.4	136.3	119.0



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	385.0	388.2	391.4	394.7	397.9	393.3	381.0	368.6	356.2	343.9	280.7
115°	447.9	450.9	453.9	456.8	459.7	463.3	467.7	472.0	476.4	480.7	400.5
117.5°	504.2	507.5	510.8	514.0	517.4	520.5	523.5	526.4	529.5	532.4	513.0
120°	545.4	548.0	550.5	553.1	555.7	558.6	561.7	564.8	567.9	571.0	573.2
122.5°	580.2	582.9	585.7	588.4	591.2	594.3	597.6	601.0	604.4	607.8	609.0
125°	633.3	635.6	637.9	640.1	642.4	645.1	648.4	651.8	655.0	658.3	659.5
127.5°	681.5	684.0	686.5	689.0	691.5	694.0	696.4	698.9	701.3	703.8	705.6
130°	712.1	714.9	717.6	720.3	723.1	725.5	727.3	729.3	731.2	733.1	735.0
132.5°	743.2	745.6	748.0	750.2	752.6	754.7	756.7	758.6	760.4	762.4	764.0
135°	783.7	786.5	789.3	792.1	794.8	797.0	798.5	800.1	801.6	803.2	804.9
137.5°	824.7	826.6	828.6	830.5	832.4	834.3	836.1	837.8	839.6	841.4	843.1
140°	851.5	852.9	854.3	855.7	857.0	858.7	860.5	862.5	864.4	866.3	867.9
142.5°	873.9	875.1	876.4	877.7	878.9	880.6	882.8	885.0	887.2	889.3	890.8
145°	909.1	909.0	908.8	908.7	908.5	909.9	912.8	915.7	918.7	921.6	922.8
147.5°	939.9	939.1	938.5	937.8	937.2	938.3	941.3	944.1	947.1	950.0	950.9
150°	959.8	958.5	957.3	956.2	955.0	955.7	958.5	961.2	964.0	966.8	967.8
152.5°	976.6	975.3	973.9	972.6	971.2	971.8	974.4	977.1	979.7	982.4	983.4
155°	1001.1	999.5	997.9	996.4	994.8	995.1	997.2	999.2	1001.4	1003.4	1004.4
157.5°	1020.3	1019.0	1017.6	1016.3	1015.0	1015.0	1016.5	1018.0	1019.4	1020.8	1022.1
160°	1031.4	1030.5	1029.4	1028.3	1027.3	1027.3	1028.3	1029.4	1030.5	1031.4	1032.5
162.5°	1041.5	1040.4	1039.3	1038.3	1037.3	1037.2	1038.1	1039.0	1039.9	1040.8	1042.0
165°	1054.8	1053.8	1052.7	1051.7	1050.7	1050.4	1050.9	1051.4	1052.0	1052.5	1053.7
167.5°	1064.8	1063.7	1062.7	1061.7	1060.6	1060.4	1060.9	1061.4	1061.8	1062.3	1063.5
170°	1070.4	1069.3	1068.4	1067.3	1066.2	1065.9	1066.2	1066.6	1067.0	1067.3	1068.5
172.5°	1074.2	1073.1	1072.0	1071.1	1070.0	1069.7	1070.0	1070.3	1070.7	1071.1	1072.3
175°	1079.0	1077.7	1076.5	1075.4	1074.2	1073.7	1074.1	1074.4	1074.7	1075.1	1076.3
177.5°	1079.8	1078.8	1077.8	1076.8	1075.9	1075.5	1075.6	1075.7	1075.9	1076.0	1077.0
180°	1076.6	1076.6	1076.6	1076.6	1076.6	1076.6	1076.6	1076.6	1076.6	1076.6	1076.6



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	865.6	865.6	865.6	865.6	865.6	865.6	865.6	865.6
2.5°	861.9	863.4	864.9	865.4	865.1	864.9	864.5	864.3
5°	856.1	857.5	859.0	859.6	859.2	858.8	858.5	858.1
7.5°	846.4	847.9	849.4	849.9	849.5	849.1	848.7	848.3
10°	837.7	839.3	840.7	841.1	840.7	840.1	839.5	838.9
12.5°	827.5	828.6	829.6	829.9	829.5	829.2	828.8	828.3
15°	809.7	810.4	811.1	811.1	810.1	809.2	808.3	807.3
17.5°	788.4	789.2	790.1	790.1	789.2	788.3	787.4	786.5
20°	771.8	772.4	772.9	772.8	772.1	771.4	770.6	769.9
22.5°	754.3	754.4	754.5	754.3	753.9	753.4	753.0	752.6
25°	725.7	726.0	726.4	726.4	726.0	725.7	725.3	725.0
27.5°	697.5	697.0	696.4	695.7	694.8	693.9	693.0	692.1
30°	675.6	675.0	674.4	673.8	673.0	672.3	671.6	670.8
32.5°	654.0	653.1	652.0	651.2	650.4	649.7	648.9	648.2
35°	619.5	618.4	617.3	616.3	615.4	614.4	613.5	612.5
37.5°	584.9	583.5	582.1	581.0	580.1	579.2	578.4	577.5
40°	561.0	559.3	557.7	556.4	555.7	555.0	554.2	553.5
42.5°	537.4	535.6	533.8	532.3	531.2	530.3	529.2	528.2
45°	501.2	499.1	497.1	495.7	495.0	494.2	493.5	492.7
47.5°	463.5	461.3	459.2	457.5	456.5	455.4	454.4	453.3
50°	439.3	436.7	434.1	432.4	431.4	430.5	429.6	428.6
52.5°	414.2	412.1	409.9	408.2	407.0	405.8	404.6	403.3
55°	376.7	374.5	372.3	370.7	369.8	368.9	367.9	367.0
57.5°	337.9	335.7	333.5	332.1	331.3	330.7	330.0	329.2
60°	312.2	310.1	308.1	306.9	306.3	305.7	305.2	304.6
62.5°	287.9	286.0	284.1	282.8	282.1	281.4	280.7	280.0
65°	250.5	248.8	247.2	245.9	245.0	244.0	243.1	242.2
67.5°	213.6	212.4	211.1	210.0	209.3	208.6	207.8	207.1
70°	189.6	188.4	187.1	186.1	185.3	184.6	183.8	183.1
72.5°	167.1	165.8	164.4	163.5	162.9	162.3	161.8	161.1
75°	131.8	130.7	129.6	129.2	129.6	130.0	130.3	130.7
77.5°	100.3	99.7	99.1	98.7	98.1	97.6	97.1	96.5
80°	79.7	79.1	78.5	78.0	77.7	77.3	77.0	76.6
82.5°	59.4	58.6	58.0	57.6	57.5	57.4	57.3	57.2
85°	31.4	30.8	30.2	29.8	29.7	29.5	29.4	29.1
87.5°	11.9	11.7	11.3	11.2	11.1	11.0	10.9	10.8
90°	17.3	18.2	19.1	19.6	20.0	20.3	20.7	21.0
92.5°	19.0	19.4	19.9	20.2	20.4	20.6	20.8	21.0
95°	32.1	33.0	33.8	34.2	34.0	33.8	33.7	33.5
97.5°	42.1	42.7	43.5	43.9	44.1	44.3	44.5	44.7
100°	47.2	48.6	50.0	50.8	51.1	51.5	51.9	52.2
102.5°	49.2	51.0	52.8	54.0	54.5	55.0	55.4	55.9
105°	51.4	53.2	55.1	56.4	57.2	57.8	58.5	59.2
107.5°	62.6	60.7	58.8	58.1	58.9	59.5	60.3	60.9
110°	101.7	84.4	67.1	58.8	59.4	60.2	60.8	61.6





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CATALOG NUMBER: S122DIW-S675D970U930-4F0-1E-UDD-F

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	217.5	154.4	91.2	59.9	60.5	61.1	61.6	62.2
115°	320.3	240.2	160.0	113.7	101.3	88.8	76.3	63.9
117.5°	493.6	474.3	454.9	424.7	383.7	342.8	301.8	260.8
120°	575.2	577.2	579.4	568.7	545.4	522.0	498.6	475.2
122.5°	610.3	611.6	612.8	611.1	606.6	602.1	597.5	593.0
125°	660.7	661.9	663.2	664.0	664.6	665.0	665.5	666.1
127.5°	707.4	709.1	710.9	711.8	711.9	712.0	712.1	712.2
130°	736.9	738.8	740.7	741.6	741.4	741.2	741.0	740.9
132.5°	765.6	767.3	768.9	769.6	769.4	769.2	769.1	768.9
135°	806.7	808.4	810.1	810.8	810.5	810.1	809.8	809.4
137.5°	844.7	846.4	848.2	848.7	848.2	847.5	846.9	846.4
140°	869.4	871.0	872.5	872.9	872.0	871.1	870.3	869.4
142.5°	892.2	893.6	895.0	895.3	894.5	893.6	892.8	891.9
145°	924.1	925.3	926.4	926.7	925.8	924.9	924.1	923.2
147.5°	951.8	952.7	953.6	953.7	952.9	952.2	951.5	950.7
150°	968.9	969.9	970.9	971.0	970.2	969.3	968.4	967.6
152.5°	984.5	985.5	986.5	986.5	985.4	984.2	983.1	981.9
155°	1005.5	1006.5	1007.5	1007.4	1006.0	1004.6	1003.2	1001.8
157.5°	1023.2	1024.4	1025.6	1025.5	1024.1	1022.8	1021.4	1020.1
160°	1033.6	1034.5	1035.6	1035.5	1034.3	1033.1	1031.9	1030.7
162.5°	1043.2	1044.3	1045.5	1045.4	1043.8	1042.4	1040.9	1039.4
165°	1054.9	1056.1	1057.4	1057.4	1056.1	1054.9	1053.7	1052.5
167.5°	1064.7	1065.9	1067.1	1067.0	1065.4	1063.9	1062.3	1060.8
170°	1069.8	1070.9	1072.1	1072.0	1070.4	1068.9	1067.3	1065.8
172.5°	1073.4	1074.6	1075.9	1075.7	1074.2	1072.6	1071.1	1069.5
175°	1077.5	1078.7	1079.9	1079.7	1077.9	1076.2	1074.5	1072.8
177.5°	1078.0	1078.9	1079.9	1079.8	1078.5	1077.3	1076.0	1074.8
180°	1076.6	1076.6	1076.6	1076.6	1076.6	1076.6	1076.6	1076.6

(END OF REPORT)