

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: P331337-840

Luminaire Tested: **S122DIP-S675D330U840-4F0-1E-UDD-F1**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P331337-840  
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: S122DIP-S675D330U840-4F0-1E-UDD-F1  
Description: DEFINE 2 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 675 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER  
UPLIGHT 330 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 3911.6 lumens  
Efficiency: N/A  
Efficacy: 111.8 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: Semi-Direct

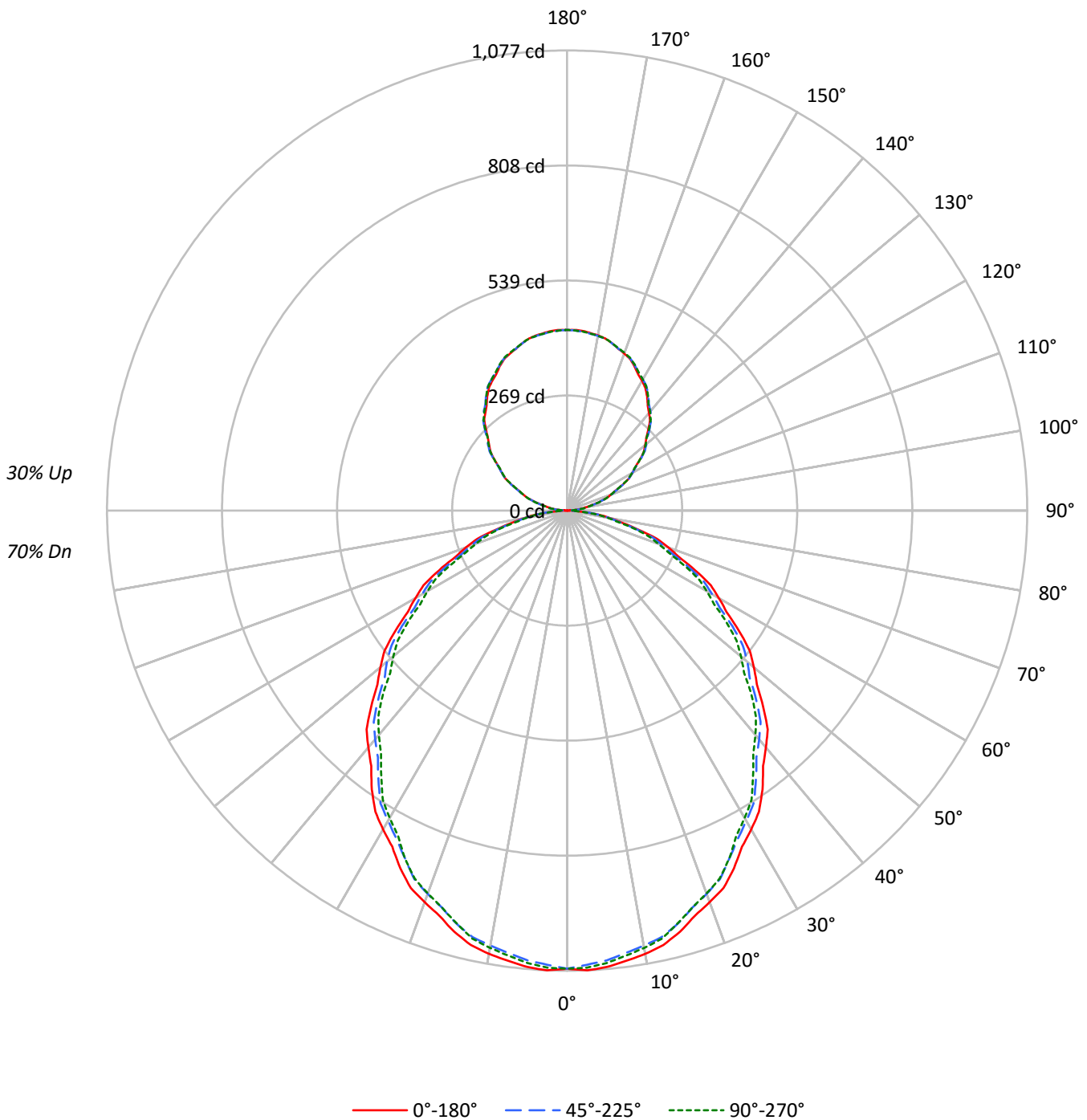
Input Watts (W): 35  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	112	112	112	112	106	106	106	106	94	94	94	84	84	84	74	74	74	70
1	102	98	94	90	96	93	89	86	83	80	78	74	72	70	66	64	63	59
2	93	85	79	74	88	81	75	70	73	68	64	65	61	58	58	55	53	49
3	85	75	68	61	80	71	64	59	64	59	54	57	53	50	51	48	45	42
4	78	67	58	52	73	63	56	50	57	51	46	51	46	43	46	42	39	36
5	72	59	51	45	67	57	49	43	51	45	40	46	41	37	41	37	34	31
6	66	53	45	39	62	51	43	38	46	40	35	42	36	32	38	33	30	27
7	61	48	40	34	58	46	39	33	42	36	31	38	33	29	34	30	27	24
8	57	44	36	31	54	42	35	30	38	32	28	35	30	26	32	27	24	22
9	53	40	33	27	50	39	31	27	35	29	25	32	27	23	29	25	22	20
10	50	37	30	25	47	36	29	24	33	27	23	30	25	21	27	23	20	18

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

	0°	45°	90°
0°	17312	17312	17312
5°	17378	17126	17227
10°	17274	16952	17038
15°	17060	16732	16715
20°	16756	16402	16385
25°	16456	15998	15998
30°	16067	15627	15491
35°	15707	15179	14954
40°	15253	14731	14450
45°	14805	14289	13935
50°	14320	13828	13335
55°	13813	13292	12797
60°	13249	12649	12184
65°	12642	12015	11461
70°	11877	11240	10707
75°	10805	10356	10100
80°	9586	9298	8815
85°	7836	7447	6688



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	100.8	2.6
10°-20°	283.7	7.3
20°-30°	417.0	10.7
30°-40°	484.3	12.4
40°-50°	483.8	12.4
50°-60°	421.9	10.8
60°-70°	312.0	8.0
70°-80°	176.7	4.5
80°-90°	49.2	1.3
90°-100°	26.8	0.7
100°-110°	83.2	2.1
110°-120°	142.2	3.6
120°-130°	187.0	4.8
130°-140°	209.9	5.4
140°-150°	205.8	5.3
150°-160°	172.7	4.4
160°-170°	114.5	2.9
170°-180°	40.0	1.0
0°-30°	801.5	20.5
0°-40°	1285.8	32.9
0°-60°	2191.5	56.0
0°-90°	2729.4	69.8
90°-120°	252.2	6.4
90°-150°	855.0	21.9
90°-180°	1182.0	30.2
0°-180°	3911.6	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1072	1072	1072	1072	1072	
5°	1072	1068	1057	1064	1063	102
15°	1021	1014	1001	1005	1000	287
25°	924	915	898	900	898	425
35°	797	786	770	764	759	497
45°	648	641	626	615	610	500
55°	491	484	472	460	455	439
65°	331	324	314	305	300	327
75°	173	171	166	160	162	185
85°	42	41	40	37	36	48
90°	0	5	12	12	12	3
95°	19	22	23	23	22	21
105°	77	78	78	79	79	81
115°	143	145	144	144	143	141
125°	208	211	210	209	208	185
135°	269	272	273	273	272	207
145°	326	329	331	331	330	204
155°	373	374	375	377	376	172
165°	406	405	405	408	406	114
175°	422	421	420	422	421	40
180°	423	423	423	423	423	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1072.2	1072.2	1072.2	1072.2	1072.2	1072.2	1072.2	1072.2	1072.2	1072.2	1072.2
2.5°	1077.1	1076.2	1075.3	1074.4	1073.5	1072.0	1070.0	1067.9	1065.9	1063.9	1065.7
5°	1072.2	1071.3	1070.4	1069.4	1068.5	1066.8	1064.3	1061.8	1059.2	1056.7	1058.5
7.5°	1062.7	1061.3	1059.9	1058.4	1057.0	1055.0	1052.5	1049.9	1047.3	1044.7	1046.5
10°	1053.6	1052.0	1050.4	1048.7	1047.2	1045.0	1042.3	1039.6	1036.7	1034.0	1035.8
12.5°	1041.3	1039.9	1038.3	1036.9	1035.5	1033.5	1030.7	1027.9	1025.2	1022.5	1023.8
15°	1020.6	1019.3	1017.8	1016.5	1015.1	1012.9	1010.0	1006.9	1004.0	1001.0	1002.0
17.5°	994.2	992.8	991.5	990.1	988.8	986.5	983.5	980.5	977.4	974.4	975.5
20°	975.2	973.9	972.5	971.1	969.8	967.5	964.2	961.1	957.9	954.6	955.3
22.5°	956.2	954.3	952.4	950.5	948.6	946.1	943.1	940.1	937.1	934.0	934.1
25°	923.7	921.9	920.1	918.2	916.4	913.5	909.6	905.7	901.8	898.0	898.4
27.5°	886.6	884.9	883.3	881.6	880.0	877.7	874.5	871.5	868.4	865.4	864.6
30°	861.8	860.0	858.2	856.4	854.5	851.9	848.5	845.1	841.6	838.2	837.5
32.5°	835.5	833.9	832.5	831.0	829.6	827.1	823.4	819.8	816.2	812.5	811.3
35°	796.9	794.7	792.3	790.0	787.7	784.8	781.1	777.4	773.8	770.1	768.7
37.5°	753.4	751.3	749.3	747.3	745.4	742.5	738.8	735.2	731.5	727.8	726.1
40°	723.7	721.9	720.0	718.2	716.4	713.7	709.9	706.3	702.7	698.9	696.9
42.5°	694.9	693.0	691.2	689.3	687.5	684.8	681.1	677.4	673.8	670.1	667.8
45°	648.4	646.8	645.2	643.7	642.1	639.5	636.1	632.7	629.2	625.8	623.3
47.5°	602.3	600.8	599.3	597.7	596.2	593.7	590.1	586.5	583.0	579.4	576.7
50°	570.1	569.0	567.8	566.6	565.5	563.3	560.2	556.9	553.7	550.5	547.3
52.5°	538.8	537.2	535.7	534.2	532.7	530.5	527.5	524.4	521.4	518.4	515.7
55°	490.7	489.4	488.0	486.6	485.2	483.1	480.4	477.7	474.9	472.2	469.4
57.5°	442.4	441.4	440.3	439.2	438.1	436.1	433.0	430.0	427.0	423.9	421.2
60°	410.3	409.4	408.5	407.6	406.7	404.6	401.4	398.2	395.0	391.7	389.2
62.5°	379.0	377.5	376.1	374.6	373.1	371.1	368.7	366.2	363.8	361.2	358.9
65°	330.9	329.5	328.2	326.8	325.4	323.6	321.3	319.0	316.7	314.5	312.4
67.5°	282.1	280.9	279.8	278.7	277.6	276.1	274.0	272.0	269.9	267.8	266.2
70°	251.6	250.6	249.7	248.8	247.9	246.4	244.3	242.3	240.2	238.1	236.5
72.5°	220.3	219.2	218.3	217.4	216.5	215.4	214.1	212.8	211.5	210.1	208.5
75°	173.2	172.7	172.3	171.8	171.4	170.6	169.5	168.2	167.1	166.0	164.6
77.5°	131.2	130.4	129.6	128.8	128.1	127.4	126.9	126.4	126.0	125.5	124.9
80°	103.1	102.9	102.6	102.4	102.2	101.8	101.4	100.9	100.5	100.0	99.3
82.5°	76.7	76.6	76.6	76.5	76.5	76.3	76.0	75.8	75.5	75.2	74.4
85°	42.3	42.0	41.8	41.6	41.3	41.1	40.9	40.7	40.4	40.2	39.5
87.5°	14.9	14.7	14.5	14.3	14.2	14.1	14.1	14.0	14.0	14.0	13.4
90°	0.4	1.3	2.2	3.2	4.1	5.6	7.3	9.0	10.7	12.5	12.3
92.5°	6.4	7.1	7.8	8.5	9.2	9.7	10.1	10.5	10.9	11.3	11.4
95°	18.6	19.4	20.1	20.9	21.7	22.2	22.3	22.5	22.7	22.8	22.8
97.5°	33.9	34.6	35.2	36.0	36.7	37.2	37.5	37.8	38.1	38.4	38.4
100°	45.3	45.9	46.6	47.3	47.9	48.3	48.5	48.8	49.0	49.3	49.3
102.5°	57.3	57.8	58.3	58.8	59.3	59.8	60.0	60.3	60.6	60.9	61.0
105°	76.7	77.0	77.2	77.5	77.7	77.9	78.1	78.2	78.4	78.5	78.7
107.5°	96.2	96.6	96.9	97.4	97.7	97.9	97.9	97.9	97.9	97.9	97.9
110°	108.9	109.3	109.8	110.3	110.7	111.0	111.0	111.0	111.0	111.0	111.0



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	122.5	123.0	123.5	123.9	124.4	124.6	124.5	124.5	124.4	124.4	124.2
115°	142.7	143.2	143.7	144.1	144.6	144.8	144.6	144.4	144.3	144.1	144.1
117.5°	162.8	163.5	164.1	164.7	165.4	165.5	165.0	164.6	164.1	163.7	163.5
120°	176.2	176.9	177.5	178.1	178.7	178.7	178.1	177.5	176.9	176.2	176.2
122.5°	188.5	189.2	190.1	190.8	191.6	191.8	191.3	190.9	190.4	190.0	189.8
125°	207.6	208.3	209.0	209.7	210.5	210.8	210.5	210.3	210.1	209.7	209.5
127.5°	226.3	227.2	228.1	228.9	229.8	230.1	229.9	229.6	229.3	229.0	228.7
130°	238.0	239.0	240.0	241.1	242.1	242.6	242.4	242.3	242.1	241.9	241.8
132.5°	251.2	252.0	252.8	253.6	254.5	254.9	254.9	255.0	255.0	255.0	254.7
135°	268.6	269.5	270.4	271.2	272.2	272.7	272.9	273.0	273.2	273.3	273.2
137.5°	287.1	287.8	288.5	289.3	290.0	290.4	290.6	290.8	291.0	291.2	291.2
140°	298.3	299.0	299.7	300.4	301.1	301.6	302.1	302.5	302.9	303.3	303.3
142.5°	309.7	310.4	311.1	311.8	312.6	313.1	313.3	313.6	313.9	314.1	314.2
145°	326.1	326.7	327.2	327.8	328.3	328.8	329.3	329.8	330.2	330.7	330.8
147.5°	340.7	341.4	342.0	342.7	343.4	343.9	344.2	344.6	344.9	345.2	345.4
150°	350.7	351.2	351.6	352.1	352.6	353.0	353.4	353.7	354.0	354.3	354.6
152.5°	359.6	360.0	360.5	361.0	361.4	361.9	362.2	362.6	363.0	363.5	363.8
155°	372.8	373.0	373.3	373.5	373.8	374.1	374.3	374.5	374.8	375.0	375.4
157.5°	384.2	384.4	384.5	384.7	384.9	385.0	385.2	385.3	385.4	385.6	386.1
160°	391.0	391.2	391.3	391.5	391.6	391.8	391.8	391.9	392.0	392.1	392.5
162.5°	397.3	397.4	397.4	397.4	397.5	397.5	397.6	397.7	397.8	397.8	398.4
165°	405.7	405.6	405.5	405.5	405.4	405.3	405.3	405.3	405.3	405.3	405.9
167.5°	412.6	412.4	412.2	411.9	411.7	411.6	411.5	411.5	411.5	411.5	412.0
170°	416.4	416.2	415.9	415.7	415.5	415.3	415.2	415.1	415.1	415.0	415.5
172.5°	418.9	418.7	418.5	418.2	418.0	417.8	417.8	417.7	417.6	417.5	418.1
175°	422.1	421.8	421.6	421.3	421.1	420.9	420.8	420.6	420.4	420.3	420.8
177.5°	423.3	423.1	422.9	422.8	422.6	422.4	422.3	422.2	422.0	421.9	422.3
180°	422.8	422.8	422.8	422.8	422.8	422.8	422.8	422.8	422.8	422.8	422.8



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1072.2	1072.2	1072.2	1072.2	1072.2	1072.2	1072.2	1072.2
2.5°	1067.5	1069.4	1071.3	1072.0	1071.6	1071.3	1070.9	1070.6
5°	1060.4	1062.2	1064.0	1064.7	1064.3	1063.8	1063.4	1062.9
7.5°	1048.4	1050.3	1052.1	1052.7	1052.2	1051.8	1051.3	1050.8
10°	1037.6	1039.6	1041.4	1041.9	1041.3	1040.6	1039.9	1039.2
12.5°	1025.0	1026.3	1027.6	1027.9	1027.4	1027.0	1026.5	1026.0
15°	1002.9	1003.8	1004.7	1004.6	1003.4	1002.3	1001.2	1000.0
17.5°	976.5	977.5	978.7	978.7	977.5	976.4	975.3	974.2
20°	956.0	956.7	957.4	957.3	956.3	955.4	954.5	953.6
22.5°	934.3	934.4	934.5	934.3	933.8	933.2	932.7	932.2
25°	898.9	899.3	899.8	899.8	899.3	898.9	898.4	898.0
27.5°	863.9	863.3	862.6	861.7	860.6	859.5	858.4	857.3
30°	836.8	836.1	835.4	834.6	833.6	832.7	831.8	830.9
32.5°	810.1	808.9	807.6	806.6	805.7	804.8	803.8	802.8
35°	767.4	766.0	764.6	763.4	762.2	761.0	759.9	758.7
37.5°	724.5	722.8	721.0	719.6	718.5	717.4	716.4	715.3
40°	694.9	692.8	690.7	689.2	688.3	687.4	686.5	685.6
42.5°	665.6	663.4	661.2	659.3	658.0	656.8	655.5	654.2
45°	620.8	618.2	615.7	614.0	613.1	612.2	611.3	610.3
47.5°	574.1	571.4	568.8	566.7	565.4	564.1	562.8	561.5
50°	544.1	540.9	537.7	535.5	534.3	533.2	532.1	530.9
52.5°	513.0	510.4	507.8	505.6	504.1	502.6	501.1	499.6
55°	466.7	463.9	461.2	459.2	458.1	457.0	455.8	454.6
57.5°	418.5	415.8	413.1	411.3	410.4	409.6	408.7	407.8
60°	386.7	384.2	381.6	380.1	379.4	378.7	378.0	377.3
62.5°	356.6	354.3	351.9	350.3	349.4	348.5	347.7	346.8
65°	310.3	308.2	306.2	304.6	303.5	302.3	301.1	300.0
67.5°	264.6	263.1	261.5	260.1	259.2	258.3	257.4	256.5
70°	234.9	233.4	231.8	230.5	229.5	228.6	227.7	226.8
72.5°	206.9	205.3	203.7	202.5	201.8	201.1	200.4	199.5
75°	163.2	161.9	160.5	160.1	160.5	161.0	161.4	161.9
77.5°	124.2	123.5	122.8	122.2	121.5	120.9	120.3	119.6
80°	98.7	98.0	97.3	96.6	96.2	95.7	95.3	94.8
82.5°	73.5	72.6	71.8	71.3	71.2	71.1	71.0	70.9
85°	38.9	38.2	37.5	37.0	36.8	36.6	36.4	36.1
87.5°	12.9	12.3	11.7	11.3	11.2	11.0	10.8	10.7
90°	12.2	12.0	11.8	11.8	11.9	12.0	12.0	12.1
92.5°	11.4	11.4	11.5	11.5	11.5	11.5	11.5	11.5
95°	22.8	22.8	22.8	22.7	22.6	22.4	22.3	22.1
97.5°	38.4	38.4	38.4	38.4	38.4	38.4	38.4	38.3
100°	49.3	49.3	49.3	49.2	49.1	49.1	49.0	48.9
102.5°	61.1	61.1	61.2	61.2	61.1	61.0	61.0	60.9
105°	78.8	79.0	79.2	79.2	79.2	79.2	79.2	79.2
107.5°	98.0	98.1	98.1	98.0	97.6	97.3	96.8	96.4
110°	111.0	111.0	111.0	110.9	110.6	110.4	110.2	109.9





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CATALOG NUMBER: S122DIP-S675D330U840-4F0-1E-UDD-F1

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	124.0	123.8	123.6	123.4	123.3	123.1	122.9	122.7
115°	144.0	143.9	143.8	143.7	143.4	143.2	143.0	142.7
117.5°	163.3	163.1	162.9	162.7	162.5	162.3	162.0	161.8
120°	176.2	176.2	176.2	176.1	175.9	175.6	175.4	175.2
122.5°	189.6	189.3	189.1	189.0	188.8	188.6	188.4	188.3
125°	209.3	209.0	208.8	208.6	208.6	208.5	208.4	208.3
127.5°	228.5	228.2	227.9	227.6	227.4	227.1	226.9	226.6
130°	241.6	241.5	241.3	241.1	240.8	240.3	240.0	239.7
132.5°	254.3	254.0	253.7	253.4	253.1	252.9	252.6	252.4
135°	273.2	273.1	273.0	272.9	272.6	272.4	272.2	271.9
137.5°	291.1	291.0	291.0	290.8	290.5	290.2	289.9	289.5
140°	303.3	303.3	303.3	303.1	302.8	302.5	302.2	301.8
142.5°	314.3	314.3	314.4	314.3	314.0	313.6	313.3	313.0
145°	330.9	330.9	331.0	330.9	330.6	330.3	330.0	329.6
147.5°	345.5	345.7	345.9	345.8	345.5	345.2	344.9	344.6
150°	354.8	355.0	355.3	355.3	355.0	354.8	354.6	354.3
152.5°	364.1	364.4	364.7	364.7	364.4	364.1	363.8	363.5
155°	375.8	376.2	376.6	376.7	376.4	376.2	376.0	375.7
157.5°	386.6	387.2	387.7	387.8	387.4	387.0	386.7	386.3
160°	393.0	393.5	394.0	394.0	393.7	393.4	393.1	392.8
162.5°	398.9	399.4	400.0	400.0	399.7	399.3	398.9	398.5
165°	406.4	407.0	407.5	407.6	407.2	406.8	406.4	406.1
167.5°	412.6	413.1	413.7	413.8	413.4	412.9	412.5	412.1
170°	416.1	416.6	417.2	417.2	416.8	416.3	415.8	415.3
172.5°	418.6	419.2	419.7	419.8	419.3	418.8	418.4	417.9
175°	421.4	421.9	422.5	422.5	422.1	421.6	421.1	420.6
177.5°	422.7	423.0	423.4	423.4	423.0	422.7	422.3	421.9
180°	422.8	422.8	422.8	422.8	422.8	422.8	422.8	422.8

(END OF REPORT)