

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: P331529-840

Luminaire Tested: **S122DIW-S675D435U840-4F0-1E-UDD-F**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P331529-840
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-S675D435U840-4F0-1E-UDD-F
Description: DEFINE 2 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 675 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
UPLIGHT 435 LUMENS PER FOOT, NO LENS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4477.3 lumens
Efficiency: N/A
Efficacy: 118.8 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

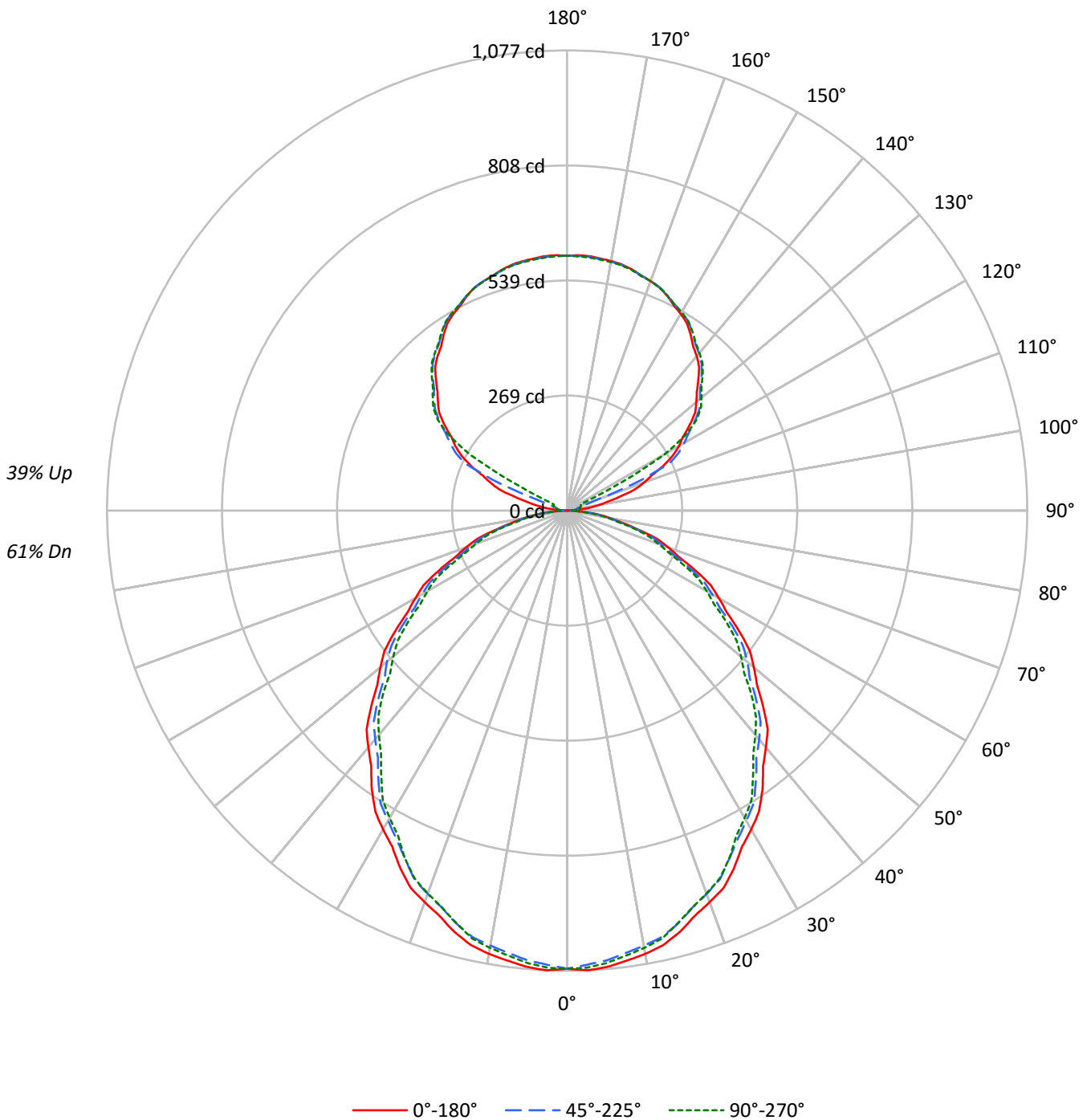
Input Watts (W): 37.7
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P331529-840

CATALOG NUMBER: S122DIW-S675D435U840-4F0-1E-UDD-F

Luminous Intensity Polar Plot





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CATALOG NUMBER: S122DIW-S675D435U840-4F0-1E-UDD-F

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	110	110	110	110	103	103	103	103	89	89	89	77	77	77	66	66	66	61
1	100	96	92	88	94	90	86	83	78	76	74	68	66	64	59	57	56	51
2	91	84	77	72	85	79	73	68	69	65	61	60	57	54	52	49	47	43
3	83	74	66	60	78	69	62	57	61	56	51	53	49	46	46	43	40	36
4	76	65	57	51	71	61	54	49	54	48	44	47	43	39	41	37	35	31
5	70	58	50	44	65	55	47	42	48	42	38	42	38	34	37	33	30	27
6	65	52	44	38	60	49	42	36	44	38	33	38	33	30	33	30	27	24
7	60	47	39	33	56	45	37	32	40	34	29	35	30	26	31	27	24	21
8	56	43	35	30	52	41	33	28	36	30	26	32	27	24	28	24	21	19
9	52	39	32	27	48	37	30	25	33	27	23	29	25	21	26	22	19	17
10	48	36	29	24	45	34	27	23	31	25	21	27	23	19	24	20	17	16

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



TEST NUMBER: P331529-840

CATALOG NUMBER: S122DIW-S675D435U840-4F0-1E-UDD-F

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	100.8	2.3
10°-20°	283.7	6.3
20°-30°	417.0	9.3
30°-40°	484.3	10.8
40°-50°	483.8	10.8
50°-60°	421.9	9.4
60°-70°	312.0	7.0
70°-80°	176.7	3.9
80°-90°	49.0	1.1
90°-100°	19.9	0.4
100°-110°	73.0	1.6
110°-120°	195.0	4.4
120°-130°	322.0	7.2
130°-140°	342.4	7.6
140°-150°	318.3	7.1
150°-160°	255.9	5.7
160°-170°	164.9	3.7
170°-180°	56.8	1.3
0°-30°	801.5	17.9
0°-40°	1285.8	28.7
0°-60°	2191.5	48.9
0°-90°	2729.2	61.0
90°-120°	287.9	6.4
90°-150°	1270.6	28.4
90°-180°	1748.0	39.0
0°-180°	4477.3	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	9	11	12	3
95°	28	15	17	19	19	34
105°	131	137	26	31	33	140
115°	248	256	266	76	35	244
125°	351	357	365	368	369	313
135°	434	441	445	449	448	335
145°	504	504	511	513	512	315
155°	555	551	556	558	555	255
165°	584	582	583	586	583	165
175°	598	595	596	598	594	57
180°	596	596	596	596	596	



TEST NUMBER: P331529-840

CATALOG NUMBER: S122DIW-S675D435U840-4F0-1E-UDD-F

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	14.6	14.4	14.3	14.1	13.9	13.7	13.5	13.2	12.8
90°	0.4	1.5	2.5	3.6	4.6	5.6	6.4	7.1	7.9	8.6	9.1
92.5°	8.7	8.6	8.5	8.4	8.4	8.5	8.9	9.3	9.6	10.0	10.3
95°	28.1	24.8	21.7	18.6	15.3	14.1	14.8	15.5	16.2	16.9	17.3
97.5°	55.6	46.8	37.9	28.9	20.0	16.4	17.9	19.4	21.0	22.5	22.9
100°	76.4	63.2	50.1	37.0	23.8	18.1	19.7	21.3	22.9	24.6	25.3
102.5°	99.2	96.4	93.6	90.9	88.1	79.9	66.2	52.6	39.0	25.2	26.3
105°	131.2	134.1	136.9	139.9	142.7	131.1	104.9	78.7	52.5	26.4	27.4
107.5°	167.7	170.1	172.4	174.7	177.0	162.5	131.1	99.7	68.3	36.9	35.7
110°	191.2	193.2	195.2	197.2	199.2	186.4	158.6	131.0	103.2	75.5	65.9



TEST NUMBER: P331529-840

CATALOG NUMBER: S122DIW-S675D435U840-4F0-1E-UDD-F

CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	213.3	215.1	216.9	218.6	220.5	217.9	211.1	204.2	197.3	190.6	155.5
115°	248.2	249.8	251.5	253.1	254.7	256.7	259.1	261.6	263.9	266.3	221.9
117.5°	279.3	281.1	283.0	284.8	286.6	288.4	290.0	291.6	293.4	295.0	284.3
120°	302.2	303.6	305.0	306.5	307.9	309.5	311.2	313.0	314.7	316.4	317.5
122.5°	321.4	323.0	324.5	326.0	327.5	329.2	331.1	333.0	334.9	336.8	337.5
125°	350.9	352.1	353.5	354.7	355.9	357.4	359.3	361.1	362.9	364.8	365.4
127.5°	377.6	379.0	380.3	381.7	383.1	384.5	385.9	387.2	388.6	389.9	390.9
130°	394.6	396.1	397.6	399.1	400.6	401.9	403.0	404.0	405.2	406.2	407.2
132.5°	411.8	413.0	414.3	415.7	417.0	418.2	419.2	420.3	421.3	422.4	423.3
135°	434.2	435.8	437.3	438.8	440.4	441.5	442.4	443.3	444.1	445.0	446.0
137.5°	457.0	458.0	459.1	460.2	461.2	462.2	463.2	464.2	465.1	466.2	467.1
140°	471.8	472.5	473.3	474.0	474.8	475.7	476.9	477.9	478.9	480.0	480.8
142.5°	484.2	484.9	485.5	486.3	487.0	488.0	489.1	490.3	491.5	492.7	493.5
145°	503.7	503.6	503.5	503.4	503.3	504.1	505.7	507.4	509.0	510.6	511.3
147.5°	520.7	520.4	520.0	519.7	519.3	519.9	521.5	523.1	524.7	526.3	526.8
150°	531.8	531.1	530.4	529.8	529.1	529.5	531.1	532.6	534.1	535.6	536.2
152.5°	541.1	540.4	539.6	538.9	538.1	538.5	539.9	541.4	542.8	544.3	544.8
155°	554.6	553.8	552.9	552.1	551.2	551.4	552.5	553.6	554.8	555.9	556.5
157.5°	565.2	564.5	563.8	563.1	562.4	562.4	563.2	564.0	564.8	565.6	566.2
160°	571.5	570.9	570.4	569.8	569.2	569.2	569.8	570.4	570.9	571.5	572.1
162.5°	577.0	576.4	575.8	575.3	574.7	574.7	575.1	575.6	576.1	576.6	577.3
165°	584.4	583.9	583.3	582.7	582.1	582.0	582.3	582.6	582.9	583.1	583.8
167.5°	590.0	589.4	588.9	588.2	587.6	587.5	587.7	588.0	588.3	588.5	589.3
170°	593.1	592.5	591.9	591.4	590.8	590.6	590.8	591.0	591.2	591.4	592.0
172.5°	595.1	594.6	594.0	593.4	592.8	592.7	592.8	593.0	593.2	593.4	594.1
175°	597.8	597.1	596.4	595.8	595.1	594.9	595.1	595.3	595.4	595.6	596.3
177.5°	598.2	597.7	597.1	596.6	596.1	595.8	595.9	596.0	596.1	596.1	596.7
180°	596.5	596.5	596.5	596.5	596.5	596.5	596.5	596.5	596.5	596.5	596.5



TEST NUMBER: P331529-840

CATALOG NUMBER: S122DIW-S675D435U840-4F0-1E-UDD-F

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°	12.3	11.9	11.4	11.1	11.0	10.9	10.7	10.6
90°	9.6	10.1	10.5	10.9	11.1	11.3	11.5	11.6
92.5°	10.5	10.8	11.0	11.2	11.3	11.4	11.5	11.6
95°	17.8	18.3	18.8	19.0	18.9	18.8	18.7	18.6
97.5°	23.3	23.7	24.0	24.3	24.4	24.5	24.6	24.7
100°	26.2	26.9	27.7	28.2	28.4	28.6	28.7	28.9
102.5°	27.3	28.3	29.3	29.9	30.2	30.5	30.7	31.0
105°	28.5	29.5	30.6	31.3	31.6	32.0	32.4	32.8
107.5°	34.7	33.6	32.5	32.2	32.6	33.0	33.3	33.7
110°	56.4	46.8	37.2	32.5	32.9	33.3	33.7	34.1



TEST NUMBER: P331529-840

CATALOG NUMBER: S122DIW-S675D435U840-4F0-1E-UDD-F

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	120.6	85.5	50.6	33.2	33.5	33.8	34.1	34.4
115°	177.5	133.1	88.7	63.0	56.1	49.2	42.3	35.3
117.5°	273.5	262.8	252.0	235.3	212.6	189.9	167.2	144.5
120°	318.7	319.8	321.0	315.1	302.2	289.2	276.2	263.3
122.5°	338.1	338.8	339.5	338.6	336.1	333.6	331.0	328.5
125°	366.1	366.8	367.4	367.9	368.2	368.5	368.8	369.0
127.5°	391.9	392.8	393.8	394.4	394.5	394.5	394.6	394.6
130°	408.3	409.3	410.4	410.9	410.8	410.7	410.6	410.5
132.5°	424.2	425.1	426.0	426.4	426.3	426.2	426.2	426.1
135°	447.0	447.9	448.9	449.2	449.1	448.9	448.7	448.5
137.5°	468.1	469.0	469.9	470.2	469.9	469.6	469.3	468.9
140°	481.7	482.6	483.4	483.6	483.1	482.6	482.2	481.7
142.5°	494.3	495.1	495.9	496.0	495.5	495.1	494.6	494.1
145°	512.0	512.6	513.3	513.4	512.9	512.4	512.0	511.5
147.5°	527.4	527.9	528.4	528.4	528.0	527.6	527.1	526.7
150°	536.8	537.3	538.0	538.1	537.6	537.0	536.5	536.1
152.5°	545.4	546.0	546.6	546.5	545.9	545.3	544.6	544.0
155°	557.1	557.6	558.3	558.2	557.3	556.6	555.8	555.1
157.5°	566.9	567.5	568.3	568.2	567.4	566.6	565.9	565.2
160°	572.6	573.2	573.8	573.7	573.1	572.4	571.7	571.1
162.5°	577.9	578.7	579.3	579.2	578.3	577.5	576.7	575.9
165°	584.5	585.1	585.8	585.8	585.1	584.5	583.8	583.1
167.5°	590.0	590.6	591.3	591.2	590.3	589.5	588.5	587.7
170°	592.7	593.4	594.0	593.9	593.1	592.2	591.4	590.5
172.5°	594.7	595.4	596.1	596.0	595.1	594.3	593.4	592.6
175°	597.0	597.6	598.3	598.2	597.2	596.3	595.3	594.4
177.5°	597.2	597.7	598.3	598.2	597.5	596.8	596.1	595.5
180°	596.5	596.5	596.5	596.5	596.5	596.5	596.5	596.5

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