

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: P331527-830

Luminaire Tested: **S122DIW-S675D435U830-4F0-1E-UDD-D**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P331527-830
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-S675D435U830-4F0-1E-UDD-D
Description: DEFINE 2 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 675 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER
UPLIGHT 435 LUMENS PER FOOT, NO LENS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4165.8 lumens
Efficiency: N/A
Efficacy: 110.5 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: General Diffuse

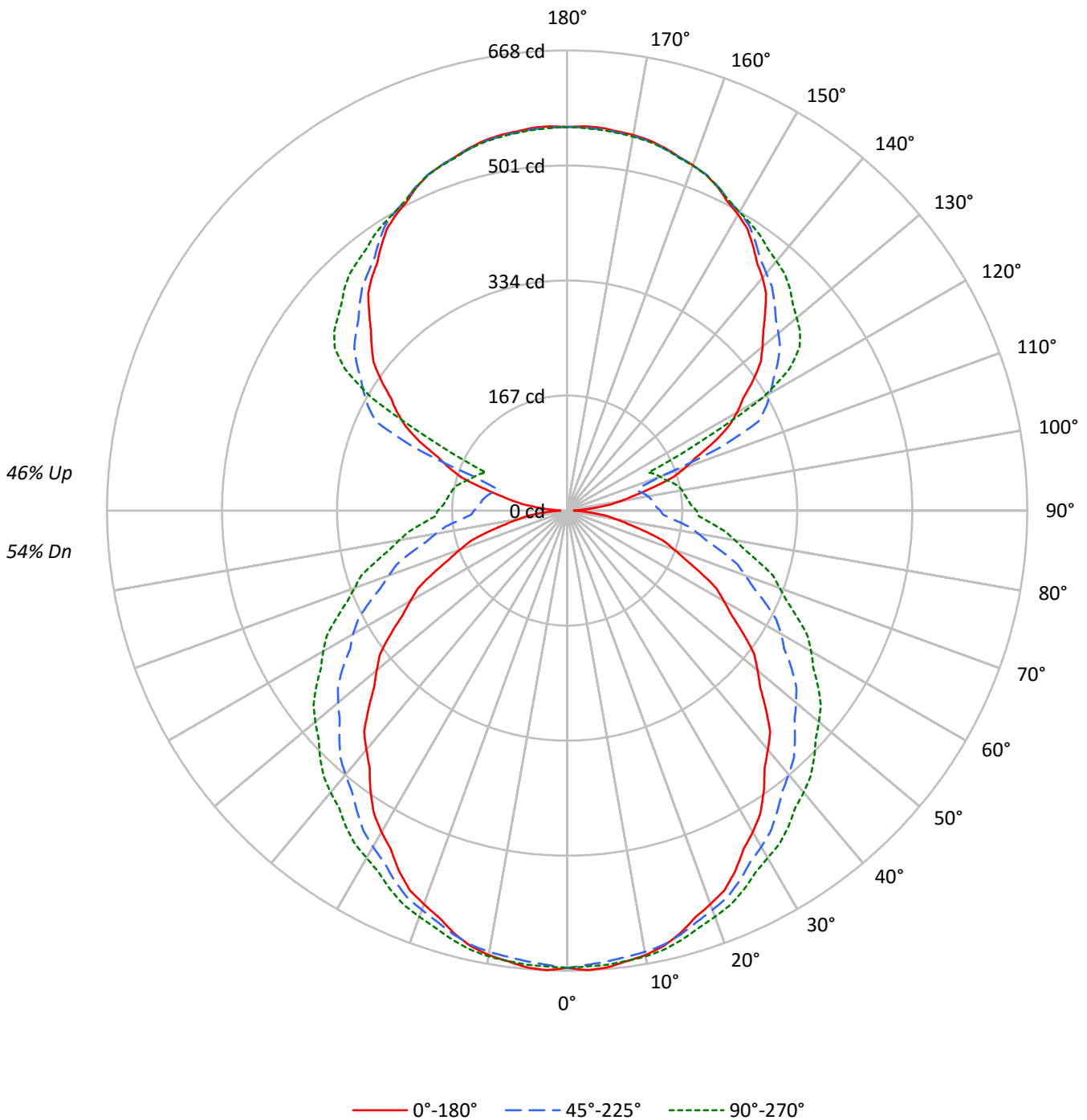
Input Watts (W): 37.7
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P331527-830

CATALOG NUMBER: S122DIW-S675D435U830-4F0-1E-UDD-D

Luminous Intensity Polar Plot





TEST NUMBER: P331527-830

CATALOG NUMBER: S122DIW-S675D435U830-4F0-1E-UDD-D

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	108	108	108	108	100	100	100	100	86	86	86	72	72	72	60	60	60	54
1	97	92	87	83	90	85	81	78	73	70	67	61	59	57	50	49	47	42
2	88	79	73	67	81	74	68	62	63	58	54	53	49	46	43	41	39	34
3	80	69	61	55	73	64	57	51	55	49	45	46	42	38	38	35	32	28
4	73	61	52	46	67	57	49	43	48	42	38	41	36	32	34	30	27	24
5	67	54	45	39	61	50	43	37	43	37	32	36	32	28	30	26	23	20
6	61	48	40	34	56	45	37	32	39	33	28	33	28	24	27	23	20	18
7	57	44	35	29	52	41	33	28	35	29	24	30	25	21	25	21	18	15
8	52	40	31	26	48	37	30	24	32	26	22	27	22	19	23	19	16	14
9	49	36	28	23	45	34	27	22	29	23	19	25	20	17	21	17	14	12
10	46	33	26	21	42	31	24	19	27	21	17	23	18	15	19	16	13	11

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	10719	10719	10719
5°	10771	10318	10278
10°	10704	10013	9900
15°	10557	9691	9503
20°	10370	9345	9120
25°	10186	9011	8772
30°	9928	8668	8421
35°	9665	8338	8176
40°	9388	8055	7929
45°	9124	7803	7719
50°	8843	7574	7511
55°	8548	7331	7300
60°	8188	7076	7078
65°	7811	6777	6812
70°	7390	6457	6525
75°	6853	6143	6262
80°	6004	5822	5995
85°	5192	5544	5785



TEST NUMBER: P331527-830

CATALOG NUMBER: S122DIW-S675D435U830-4F0-1E-UDD-D

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	62.9	1.5
10°-20°	180.4	4.3
20°-30°	273.4	6.6
30°-40°	333.0	8.0
40°-50°	358.2	8.6
50°-60°	347.9	8.4
60°-70°	303.7	7.3
70°-80°	233.8	5.6
80°-90°	158.3	3.8
90°-100°	126.7	3.0
100°-110°	147.1	3.5
110°-120°	234.2	5.6
120°-130°	329.6	7.9
130°-140°	331.8	8.0
140°-150°	299.2	7.2
150°-160°	238.8	5.7
160°-170°	153.9	3.7
170°-180°	53.0	1.3
0°-30°	516.7	12.4
0°-40°	849.6	20.4
0°-60°	1555.7	37.3
0°-90°	2251.6	54.0
90°-120°	507.9	12.2
90°-150°	1468.5	35.3
90°-180°	1914.0	45.9
0°-180°	4165.8	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	664	664	664	664	664	
5°	666	663	657	663	662	63
15°	635	637	637	645	645	179
25°	577	584	593	604	607	265
35°	498	514	532	552	560	311
45°	408	434	468	496	507	315
55°	313	348	397	431	444	279
65°	214	261	318	356	370	212
75°	118	173	234	274	288	125
85°	35	94	156	195	210	37
90°	10	70	135	174	188	8
95°	34	67	126	163	176	38
105°	127	162	107	144	158	136
115°	235	255	306	156	130	231
125°	329	336	373	401	412	294
135°	406	413	426	449	457	314
145°	470	470	476	485	488	294
155°	518	514	519	521	518	238
165°	545	543	544	547	544	154
175°	558	555	556	558	555	53
180°	557	557	557	557	557	



TEST NUMBER: P331527-830

CATALOG NUMBER: S122DIW-S675D435U830-4F0-1E-UDD-D

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	663.9	663.9	663.9	663.9	663.9	663.9	663.9	663.9	663.9	663.9	663.9
2.5°	667.8	667.2	666.8	666.2	665.7	664.9	663.6	662.4	661.3	660.1	660.9
5°	665.8	665.2	664.6	663.9	663.3	662.3	661.0	659.8	658.5	657.1	658.5
7.5°	659.9	659.4	659.0	658.6	658.2	657.4	656.5	655.4	654.5	653.6	655.1
10°	655.3	654.8	654.4	653.9	653.6	653.0	652.3	651.8	651.1	650.4	652.1
12.5°	647.5	647.6	647.7	647.8	647.9	647.7	647.2	646.8	646.3	645.8	647.5
15°	635.1	635.5	635.9	636.3	636.8	637.0	637.0	637.0	637.0	637.0	638.9
17.5°	618.9	619.8	620.7	621.6	622.5	623.3	624.0	624.6	625.3	626.0	628.0
20°	608.1	609.2	610.2	611.3	612.4	613.3	614.2	615.1	616.0	616.8	619.2
22.5°	596.5	597.8	599.1	600.3	601.5	602.8	604.0	605.1	606.3	607.6	609.9
25°	577.3	578.8	580.3	581.8	583.3	585.0	586.9	588.9	590.8	592.7	595.3
27.5°	554.2	556.7	559.1	561.6	564.0	566.4	568.6	570.9	573.2	575.4	578.6
30°	538.9	541.6	544.4	547.1	550.0	552.7	555.5	558.3	561.1	563.8	567.2
32.5°	521.9	525.0	528.1	531.2	534.4	537.6	540.9	544.1	547.4	550.7	554.7
35°	497.5	501.1	504.7	508.3	512.0	515.9	519.9	524.0	528.0	532.1	536.8
37.5°	470.9	475.1	479.3	483.4	487.7	492.4	497.7	502.9	508.1	513.4	518.7
40°	453.2	457.9	462.6	467.3	472.0	477.2	483.1	488.8	494.6	500.3	505.9
42.5°	436.3	440.9	445.6	450.3	455.1	460.7	467.4	474.0	480.6	487.3	493.3
45°	407.9	413.8	419.5	425.3	431.0	437.7	445.2	452.7	460.1	467.6	474.3
47.5°	380.0	386.3	392.7	398.9	405.2	412.7	421.5	430.3	439.0	447.8	454.8
50°	360.8	367.5	374.1	380.7	387.3	395.5	405.1	414.7	424.3	433.9	441.2
52.5°	342.3	349.3	356.3	363.3	370.2	378.8	388.9	399.1	409.2	419.3	426.8
55°	312.7	320.4	328.1	335.8	343.5	352.9	364.0	375.1	386.3	397.4	405.1
57.5°	283.4	292.2	300.9	309.5	318.2	328.2	339.5	350.8	362.2	373.5	381.8
60°	262.7	271.8	281.1	290.3	299.4	310.2	322.3	334.5	346.7	358.9	367.0
62.5°	244.2	253.7	263.3	272.8	282.4	293.2	305.4	317.5	329.8	342.0	350.6
65°	213.6	224.0	234.6	245.1	255.5	267.0	279.7	292.3	304.9	317.5	326.3
67.5°	185.5	196.4	207.5	218.4	229.3	241.2	254.1	267.0	279.9	292.8	301.7
70°	165.5	176.6	187.8	198.9	210.0	222.2	235.4	248.6	261.9	275.2	284.4
72.5°	147.0	158.4	169.9	181.4	192.8	205.3	218.8	232.1	245.6	259.0	268.1
75°	118.4	130.4	142.3	154.3	166.3	179.1	192.7	206.4	220.1	233.8	243.0
77.5°	90.7	103.2	115.7	128.2	140.7	154.0	167.9	181.8	195.7	209.5	218.8
80°	72.2	85.2	98.2	111.3	124.3	137.8	151.7	165.6	179.5	193.4	202.4
82.5°	56.7	69.7	82.5	95.4	108.3	121.7	135.8	149.9	163.9	178.0	187.0
85°	34.7	47.9	61.2	74.4	87.7	101.1	114.8	128.5	142.2	155.9	164.9
87.5°	18.9	31.9	44.9	57.8	70.7	84.1	97.9	111.8	125.5	139.4	148.2
90°	10.0	23.4	36.8	50.1	63.5	77.5	91.9	106.2	120.6	135.1	144.0
92.5°	17.0	28.5	39.9	51.4	62.8	75.3	88.9	102.4	115.9	129.4	138.1
95°	33.8	41.0	48.1	55.1	62.3	72.6	86.0	99.4	112.9	126.4	135.0
97.5°	58.7	59.3	59.9	60.5	61.2	68.3	82.1	95.9	109.6	123.4	131.7
100°	78.0	73.7	69.4	64.9	60.6	65.2	78.7	92.2	105.7	119.1	127.8
102.5°	98.5	103.2	107.8	112.4	117.1	118.9	117.7	116.6	115.6	114.4	123.1
105°	127.2	136.2	145.1	153.9	162.9	160.6	147.3	133.9	120.6	107.4	115.8
107.5°	161.2	168.3	175.4	182.6	189.6	183.9	165.2	146.6	127.9	109.2	115.5
110°	182.3	188.5	194.6	200.8	207.0	202.4	186.9	171.5	156.2	140.7	138.6



TEST NUMBER: P331527-830

CATALOG NUMBER: S122DIW-S675D435U830-4F0-1E-UDD-D

CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	202.9	208.2	213.5	218.7	223.9	228.4	232.0	235.5	239.1	242.7	216.9
115°	235.4	239.4	243.3	247.1	251.0	258.8	270.7	282.6	294.5	306.3	271.3
117.5°	263.6	266.8	270.1	273.3	276.5	283.4	293.9	304.3	314.7	325.2	321.5
120°	284.9	287.1	289.3	291.5	293.7	299.8	310.0	320.2	330.4	340.5	347.6
122.5°	302.9	304.7	306.4	308.2	310.0	315.8	325.6	335.4	345.2	354.9	361.4
125°	329.4	330.6	331.8	332.9	334.1	338.9	347.5	356.0	364.6	373.2	379.6
127.5°	354.3	355.4	356.5	357.6	358.6	362.6	369.4	376.2	383.0	389.7	396.0
130°	370.1	371.4	372.6	373.8	375.0	378.3	383.8	389.3	394.7	400.3	406.3
132.5°	386.3	387.3	388.2	389.3	390.3	392.9	397.5	401.9	406.3	410.8	416.6
135°	406.2	407.6	409.1	410.6	412.0	414.2	417.1	420.0	423.0	425.9	431.3
137.5°	427.4	428.4	429.3	430.3	431.3	432.6	434.5	436.4	438.3	440.1	444.9
140°	441.3	441.8	442.3	442.8	443.3	444.2	445.6	447.0	448.5	449.9	454.1
142.5°	452.9	453.4	453.7	454.2	454.6	455.4	456.7	457.9	459.1	460.2	463.7
145°	470.1	470.0	470.0	469.9	469.8	470.5	472.0	473.5	475.0	476.5	478.5
147.5°	486.0	485.7	485.3	485.0	484.7	485.2	486.7	488.2	489.7	491.3	491.9
150°	496.3	495.7	495.0	494.5	493.8	494.2	495.7	497.1	498.5	499.9	500.5
152.5°	505.0	504.4	503.6	502.9	502.2	502.6	503.9	505.3	506.6	508.0	508.5
155°	517.6	516.9	516.0	515.3	514.4	514.6	515.7	516.7	517.8	518.9	519.4
157.5°	527.5	526.9	526.2	525.6	524.9	524.9	525.7	526.4	527.2	527.9	528.5
160°	533.4	532.8	532.3	531.8	531.2	531.2	531.8	532.3	532.8	533.4	534.0
162.5°	538.6	538.0	537.4	537.0	536.4	536.4	536.8	537.2	537.7	538.2	538.9
165°	545.4	545.0	544.4	543.8	543.3	543.2	543.5	543.8	544.0	544.2	544.9
167.5°	550.6	550.1	549.6	549.0	548.5	548.4	548.6	548.8	549.1	549.3	550.0
170°	553.6	553.0	552.4	552.0	551.4	551.2	551.4	551.6	551.8	552.0	552.5
172.5°	555.4	555.0	554.4	553.8	553.3	553.2	553.3	553.5	553.6	553.8	554.5
175°	558.0	557.3	556.7	556.1	555.4	555.3	555.4	555.6	555.7	555.9	556.6
177.5°	558.4	557.9	557.3	556.9	556.4	556.1	556.2	556.3	556.4	556.4	556.9
180°	556.8	556.8	556.8	556.8	556.8	556.8	556.8	556.8	556.8	556.8	556.8



TEST NUMBER: P331527-830

CATALOG NUMBER: S122DIW-S675D435U830-4F0-1E-UDD-D

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	663.9	663.9	663.9	663.9	663.9	663.9	663.9	663.9
2.5°	661.8	662.6	663.5	663.7	663.4	663.1	662.7	662.4
5°	659.8	661.0	662.3	662.9	662.6	662.4	662.2	661.9
7.5°	656.6	658.2	659.7	660.3	660.2	659.9	659.7	659.5
10°	653.8	655.5	657.3	658.0	657.8	657.6	657.4	657.1
12.5°	649.2	650.9	652.7	653.4	653.2	653.0	652.8	652.5
15°	640.8	642.7	644.7	645.5	645.4	645.1	644.9	644.7
17.5°	630.0	632.1	634.0	635.1	635.1	635.1	635.1	635.1
20°	621.5	623.9	626.1	627.4	627.4	627.4	627.4	627.4
22.5°	612.3	614.6	616.9	618.3	618.6	619.0	619.3	619.6
25°	597.9	600.4	602.9	604.5	605.2	605.9	606.5	607.2
27.5°	581.9	585.1	588.4	590.2	590.7	591.2	591.6	592.1
30°	570.7	574.1	577.5	579.6	580.2	580.9	581.5	582.1
32.5°	558.6	562.6	566.5	569.0	570.2	571.4	572.5	573.6
35°	541.5	546.2	550.9	554.0	555.5	557.0	558.5	560.0
37.5°	523.9	529.0	534.3	537.7	539.3	540.8	542.4	544.0
40°	511.4	517.0	522.5	526.3	528.2	530.2	532.1	534.0
42.5°	499.4	505.5	511.5	515.6	517.5	519.4	521.3	523.2
45°	480.9	487.5	494.2	498.5	500.7	502.8	504.9	507.1
47.5°	461.7	468.6	475.5	480.1	482.5	484.8	487.2	489.6
50°	448.5	455.7	463.1	467.9	470.2	472.6	474.9	477.2
52.5°	434.2	441.7	449.1	454.1	456.6	459.1	461.7	464.2
55°	412.7	420.5	428.2	433.4	436.2	438.9	441.8	444.5
57.5°	390.1	398.4	406.7	412.3	415.1	417.9	420.8	423.6
60°	375.1	383.2	391.4	397.0	399.9	402.9	406.0	409.0
62.5°	359.2	367.9	376.5	382.3	385.0	387.9	390.7	393.5
65°	335.1	343.8	352.6	358.4	361.2	363.9	366.7	369.5
67.5°	310.6	319.4	328.3	334.2	337.1	340.0	342.9	345.8
70°	293.6	302.7	312.0	317.8	320.4	323.0	325.6	328.1
72.5°	277.1	286.1	295.1	301.1	304.3	307.4	310.4	313.5
75°	252.2	261.4	270.6	276.5	279.4	282.1	284.9	287.7
77.5°	227.9	237.0	246.2	252.2	255.2	258.3	261.2	264.2
80°	211.3	220.4	229.3	235.4	238.3	241.3	244.3	247.3
82.5°	196.0	204.9	214.0	219.8	222.6	225.5	228.3	231.1
85°	173.8	182.9	191.8	197.7	200.8	203.8	206.8	209.7
87.5°	157.0	165.8	174.7	180.4	183.2	186.0	188.8	191.5
90°	153.1	162.0	171.1	176.9	179.6	182.5	185.2	187.9
92.5°	146.7	155.2	163.9	169.6	172.2	174.8	177.6	180.2
95°	143.5	152.1	160.6	166.2	168.6	171.2	173.6	176.1
97.5°	140.0	148.3	156.5	161.9	164.6	167.2	169.8	172.5
100°	136.5	145.1	153.7	159.3	161.8	164.4	166.8	169.4
102.5°	131.8	140.4	149.1	154.8	157.4	159.9	162.6	165.1
105°	124.2	132.7	141.2	146.8	149.5	152.2	155.0	157.6
107.5°	121.6	127.8	134.0	138.5	141.2	143.8	146.6	149.3
110°	136.5	134.4	132.3	132.6	135.3	138.0	140.7	143.5



TEST NUMBER: P331527-830

CATALOG NUMBER: S122DIW-S675D435U830-4F0-1E-UDD-D

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	191.1	165.2	139.4	127.8	130.4	133.1	135.7	138.4
115°	236.2	201.2	166.2	146.6	142.5	138.4	134.3	130.3
117.5°	317.7	314.1	310.4	299.0	280.0	261.0	242.0	223.0
120°	354.7	361.7	368.7	367.4	357.7	348.0	338.2	328.5
122.5°	367.9	374.3	380.8	383.8	383.5	383.1	382.8	382.5
125°	386.0	392.3	398.7	403.0	405.2	407.4	409.6	411.8
127.5°	402.2	408.4	414.6	418.7	420.6	422.5	424.4	426.4
130°	412.5	418.6	424.7	428.6	430.2	431.9	433.5	435.1
132.5°	422.4	428.2	434.0	437.7	439.3	440.9	442.5	444.2
135°	436.7	442.1	447.5	450.9	452.4	454.0	455.5	457.0
137.5°	449.7	454.5	459.3	462.3	463.4	464.6	465.8	466.9
140°	458.4	462.6	466.8	469.4	470.1	471.0	471.8	472.7
142.5°	467.2	470.7	474.2	476.3	476.9	477.6	478.2	478.9
145°	480.4	482.3	484.2	485.5	486.1	486.7	487.4	488.0
147.5°	492.5	493.1	493.8	494.2	494.3	494.5	494.6	494.7
150°	501.1	501.5	502.1	502.2	501.7	501.2	500.8	500.4
152.5°	509.1	509.6	510.2	510.1	509.5	509.0	508.3	507.7
155°	520.0	520.5	521.0	520.9	520.2	519.5	518.8	518.1
157.5°	529.1	529.7	530.4	530.3	529.6	528.9	528.2	527.5
160°	534.4	535.0	535.6	535.5	534.9	534.2	533.6	533.0
162.5°	539.4	540.1	540.6	540.5	539.8	539.0	538.3	537.5
165°	545.5	546.1	546.8	546.8	546.1	545.5	544.9	544.2
167.5°	550.6	551.2	551.9	551.8	550.9	550.2	549.3	548.6
170°	553.2	553.8	554.4	554.3	553.6	552.7	552.0	551.1
172.5°	555.1	555.7	556.4	556.3	555.4	554.7	553.8	553.1
175°	557.2	557.8	558.5	558.4	557.4	556.6	555.6	554.8
177.5°	557.4	557.9	558.5	558.4	557.7	557.0	556.4	555.8
180°	556.8	556.8	556.8	556.8	556.8	556.8	556.8	556.8

(END OF REPORT)