

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: P331528-940

Luminaire Tested: **S122DIW-S675D435U940-4F0-1E-UDD-D1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P331528-940
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-S675D435U940-4F0-1E-UDD-D1
Description: DEFINE 2 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 675 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER
UPLIGHT 435 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3736.8 lumens
Efficiency: N/A
Efficacy: 99.1 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

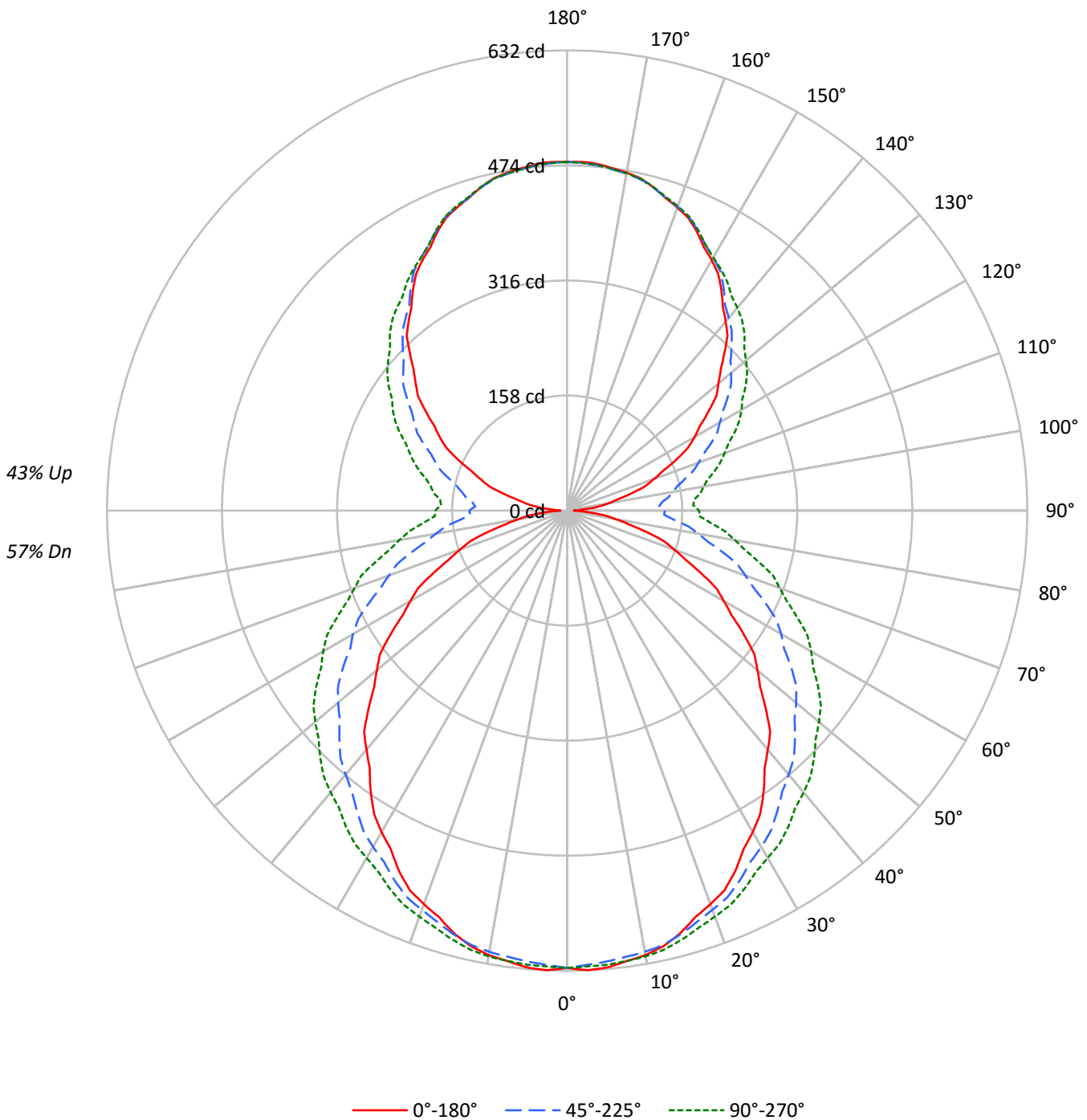
Input Watts (W): 37.7
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P331528-940

CATALOG NUMBER: S122DIW-S675D435U940-4F0-1E-UDD-D1

Luminous Intensity Polar Plot





TEST NUMBER: P331528-940

CATALOG NUMBER: S122DIW-S675D435U940-4F0-1E-UDD-D1

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	109	109	109	109	101	101	101	101	87	87	87	74	74	74	63	63	63	57
1	98	93	88	84	91	86	82	78	74	71	68	63	61	58	53	51	49	44
2	88	80	73	67	82	74	68	63	64	59	55	54	51	48	45	43	40	36
3	80	70	62	55	74	65	58	52	56	50	46	47	43	39	40	36	34	30
4	73	61	53	46	67	57	49	44	49	43	38	42	37	33	35	31	28	25
5	67	54	46	39	62	51	43	37	44	38	33	37	32	29	31	28	25	21
6	62	49	40	34	57	45	38	32	39	33	28	34	29	25	28	24	21	19
7	57	44	35	30	53	41	33	28	36	29	25	31	26	22	26	22	19	16
8	53	40	32	26	49	37	30	25	32	26	22	28	23	19	24	20	17	14
9	49	36	28	23	45	34	27	22	30	24	20	26	21	17	22	18	15	13
10	46	33	26	21	43	31	24	20	27	22	18	24	19	16	20	16	14	12

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	10141	10141	10141
5°	10191	9762	9724
10°	10126	9474	9367
15°	9987	9168	8990
20°	9810	8841	8627
25°	9637	8525	8298
30°	9392	8201	7967
35°	9142	7888	7735
40°	8880	7621	7501
45°	8632	7383	7302
50°	8365	7166	7106
55°	8089	6934	6906
60°	7745	6695	6695
65°	7391	6412	6445
70°	6992	6110	6173
75°	6483	5811	5925
80°	5680	5509	5672
85°	4908	5245	5473



TEST NUMBER: P331528-940

CATALOG NUMBER: S122DIW-S675D435U940-4F0-1E-UDD-D1

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	59.5	1.6
10°-20°	170.7	4.6
20°-30°	258.6	6.9
30°-40°	315.0	8.4
40°-50°	338.9	9.1
50°-60°	329.1	8.8
60°-70°	287.4	7.7
70°-80°	221.2	5.9
80°-90°	150.4	4.0
90°-100°	132.6	3.5
100°-110°	168.9	4.5
110°-120°	210.4	5.6
120°-130°	239.3	6.4
130°-140°	249.3	6.7
140°-150°	235.1	6.3
150°-160°	195.5	5.2
160°-170°	129.7	3.5
170°-180°	45.3	1.2
0°-30°	488.8	13.1
0°-40°	803.8	21.5
0°-60°	1471.8	39.4
0°-90°	2130.8	57.0
90°-120°	511.9	13.7
90°-150°	1235.6	33.1
90°-180°	1606.0	43.0
0°-180°	3736.8	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	628	628	628	628	628	
5°	630	627	622	627	626	60
15°	601	602	603	610	610	169
25°	546	553	561	571	574	251
35°	471	486	503	523	530	294
45°	386	411	442	470	480	298
55°	296	329	376	408	420	264
65°	202	247	300	336	350	201
75°	112	163	221	259	272	118
85°	33	89	148	184	198	35
90°	10	68	134	168	181	7
95°	28	76	130	164	175	30
105°	91	120	167	199	210	97
115°	165	179	218	244	254	163
125°	237	242	268	291	300	212
135°	305	310	320	338	344	236
145°	369	372	374	380	383	231
155°	422	423	425	426	425	194
165°	459	459	459	462	460	129
175°	478	477	476	478	476	45
180°	479	479	479	479	479	



TEST NUMBER: P331528-940

CATALOG NUMBER: S122DIW-S675D435U940-4F0-1E-UDD-D1

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	628.1	628.1	628.1	628.1	628.1	628.1	628.1	628.1	628.1	628.1	628.1
2.5°	631.8	631.2	630.8	630.3	629.8	629.0	627.9	626.7	625.6	624.5	625.3
5°	629.9	629.3	628.7	628.1	627.5	626.6	625.4	624.2	622.9	621.7	622.9
7.5°	624.3	623.8	623.5	623.0	622.7	622.0	621.1	620.1	619.2	618.3	619.7
10°	619.9	619.5	619.1	618.7	618.3	617.8	617.2	616.6	616.0	615.4	617.0
12.5°	612.6	612.7	612.8	612.9	613.0	612.8	612.3	611.9	611.4	611.0	612.6
15°	600.8	601.2	601.6	602.0	602.4	602.6	602.6	602.6	602.6	602.6	604.4
17.5°	585.5	586.4	587.2	588.1	588.9	589.7	590.3	590.9	591.6	592.3	594.1
20°	575.3	576.3	577.3	578.4	579.3	580.2	581.0	581.9	582.7	583.5	585.8
22.5°	564.4	565.5	566.8	567.9	569.1	570.2	571.4	572.5	573.6	574.8	577.0
25°	546.2	547.6	549.0	550.5	551.9	553.5	555.3	557.1	558.9	560.7	563.2
27.5°	524.3	526.6	529.0	531.3	533.6	535.8	538.0	540.1	542.2	544.4	547.4
30°	509.8	512.4	515.1	517.6	520.3	522.9	525.6	528.2	530.8	533.4	536.6
32.5°	493.7	496.7	499.6	502.6	505.6	508.6	511.8	514.8	517.9	521.0	524.8
35°	470.6	474.0	477.5	480.9	484.4	488.0	491.9	495.7	499.5	503.4	507.8
37.5°	445.5	449.5	453.4	457.4	461.4	465.8	470.8	475.8	480.7	485.7	490.7
40°	428.7	433.2	437.7	442.1	446.6	451.5	457.0	462.4	467.9	473.3	478.6
42.5°	412.8	417.1	421.6	426.1	430.5	435.9	442.2	448.4	454.7	461.0	466.7
45°	385.9	391.5	396.9	402.3	407.8	414.1	421.2	428.3	435.3	442.4	448.7
47.5°	359.5	365.5	371.5	377.4	383.3	390.5	398.8	407.1	415.4	423.7	430.3
50°	341.3	347.7	353.9	360.2	366.4	374.2	383.3	392.4	401.4	410.5	417.4
52.5°	323.9	330.5	337.1	343.7	350.3	358.4	367.9	377.6	387.1	396.7	403.8
55°	295.9	303.1	310.4	317.7	324.9	333.9	344.4	354.9	365.4	375.9	383.3
57.5°	268.1	276.4	284.6	292.8	301.0	310.5	321.2	331.9	342.7	353.4	361.2
60°	248.5	257.2	265.9	274.6	283.3	293.5	305.0	316.5	328.0	339.6	347.2
62.5°	231.0	240.0	249.1	258.1	267.2	277.4	288.9	300.4	312.0	323.5	331.7
65°	202.1	212.0	221.9	231.8	241.7	252.6	264.6	276.5	288.5	300.4	308.7
67.5°	175.5	185.8	196.3	206.6	217.0	228.2	240.4	252.6	264.8	277.1	285.4
70°	156.6	167.1	177.6	188.2	198.7	210.2	222.7	235.2	247.8	260.4	269.0
72.5°	139.1	149.9	160.8	171.7	182.4	194.2	207.0	219.6	232.4	245.0	253.6
75°	112.0	123.3	134.6	146.0	157.3	169.4	182.4	195.3	208.2	221.2	229.9
77.5°	85.8	97.6	109.5	121.3	133.1	145.7	158.8	172.0	185.1	198.2	207.0
80°	68.3	80.6	92.9	105.3	117.6	130.4	143.6	156.7	169.8	183.0	191.5
82.5°	53.7	65.9	78.0	90.2	102.5	115.1	128.5	141.8	155.1	168.4	176.9
85°	32.8	45.3	57.9	70.4	82.9	95.7	108.6	121.5	134.6	147.5	156.0
87.5°	17.9	30.2	42.4	54.8	67.0	79.8	93.2	106.5	119.8	133.2	141.4
90°	9.5	22.3	35.1	48.0	60.7	74.6	89.5	104.4	119.4	134.3	142.2
92.5°	15.6	27.3	39.0	50.7	62.4	74.7	87.7	100.6	113.5	126.4	134.4
95°	28.3	38.7	49.1	59.5	69.9	81.2	93.6	105.9	118.2	130.5	138.2
97.5°	44.8	54.0	63.2	72.5	81.8	92.4	104.3	116.4	128.3	140.4	147.8
100°	57.7	65.9	74.1	82.3	90.5	100.4	112.0	123.6	135.2	146.8	154.3
102.5°	70.5	77.9	85.3	92.7	100.1	109.6	120.9	132.2	143.6	155.0	162.3
105°	91.4	97.6	103.7	109.9	115.9	124.4	135.1	145.8	156.5	167.2	174.4
107.5°	113.3	118.4	123.5	128.7	133.8	141.3	151.4	161.5	171.6	181.6	188.5
110°	126.9	131.4	136.0	140.6	145.2	152.5	162.4	172.3	182.2	192.1	198.6



TEST NUMBER: P331528-940

CATALOG NUMBER: S122DIW-S675D435U940-4F0-1E-UDD-D1

CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	142.4	146.3	150.3	154.2	158.1	164.8	174.2	183.5	192.9	202.2	208.5
115°	165.2	168.0	170.8	173.5	176.3	182.2	191.1	200.0	208.9	217.8	223.8
117.5°	187.1	189.3	191.5	193.7	195.8	200.8	208.7	216.7	224.6	232.5	238.3
120°	202.3	203.8	205.4	206.9	208.4	212.9	220.3	227.7	235.0	242.4	248.0
122.5°	216.2	217.4	218.6	219.7	221.0	225.1	232.2	239.3	246.4	253.5	258.8
125°	236.9	237.7	238.5	239.3	240.1	243.7	249.9	256.1	262.3	268.5	273.7
127.5°	258.1	258.9	259.7	260.5	261.4	264.2	269.1	273.9	278.8	283.7	288.5
130°	271.3	272.2	273.2	274.2	275.2	277.7	281.7	285.8	289.9	293.9	298.6
132.5°	286.1	286.9	287.7	288.4	289.2	291.1	294.5	297.8	301.1	304.4	308.7
135°	305.1	306.1	307.1	308.1	309.1	310.7	312.9	315.0	317.3	319.5	323.6
137.5°	326.0	326.8	327.6	328.3	329.1	330.0	331.2	332.3	333.4	334.6	338.2
140°	338.7	339.3	339.8	340.5	341.1	341.8	342.7	343.5	344.4	345.2	348.5
142.5°	351.6	352.2	352.8	353.4	354.0	354.5	354.9	355.3	355.6	356.1	358.7
145°	369.3	369.9	370.5	371.1	371.8	372.4	372.9	373.4	374.0	374.5	375.8
147.5°	385.8	386.6	387.4	388.1	388.9	389.4	389.8	390.1	390.5	390.8	391.2
150°	397.2	397.7	398.2	398.8	399.3	399.8	400.1	400.5	400.8	401.2	401.4
152.5°	407.2	407.7	408.2	408.8	409.3	409.8	410.2	410.6	411.1	411.5	411.9
155°	422.1	422.4	422.7	423.0	423.3	423.6	423.8	424.1	424.4	424.6	425.1
157.5°	435.1	435.2	435.4	435.6	435.8	435.9	436.0	436.2	436.4	436.6	437.2
160°	442.8	443.0	443.2	443.4	443.5	443.6	443.7	443.8	443.9	444.0	444.5
162.5°	449.9	450.0	450.0	450.0	450.0	450.1	450.2	450.3	450.4	450.5	451.0
165°	459.3	459.2	459.1	459.1	459.0	459.0	459.0	459.0	459.0	459.0	459.6
167.5°	467.3	467.0	466.7	466.5	466.2	466.0	466.0	466.0	466.0	466.0	466.6
170°	471.4	471.2	470.9	470.6	470.4	470.2	470.1	470.0	469.9	469.8	470.5
172.5°	474.4	474.1	473.9	473.6	473.3	473.1	473.1	473.0	472.9	472.8	473.4
175°	478.0	477.7	477.4	477.2	476.9	476.6	476.4	476.3	476.1	475.9	476.5
177.5°	479.4	479.2	478.9	478.8	478.5	478.3	478.2	478.0	477.9	477.8	478.2
180°	478.8	478.8	478.8	478.8	478.8	478.8	478.8	478.8	478.8	478.8	478.8



TEST NUMBER: P331528-940

CATALOG NUMBER: S122DIW-S675D435U940-4F0-1E-UDD-D1

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	628.1	628.1	628.1	628.1	628.1	628.1	628.1	628.1
2.5°	626.1	626.9	627.7	627.9	627.6	627.3	627.0	626.7
5°	624.2	625.4	626.6	627.1	626.9	626.7	626.5	626.2
7.5°	621.2	622.7	624.1	624.7	624.6	624.3	624.1	623.9
10°	618.6	620.2	621.9	622.5	622.3	622.1	622.0	621.7
12.5°	614.2	615.8	617.5	618.1	618.0	617.8	617.6	617.3
15°	606.3	608.1	609.9	610.7	610.6	610.3	610.1	609.9
17.5°	596.0	598.0	599.9	600.8	600.8	600.8	600.8	600.8
20°	588.0	590.2	592.4	593.5	593.5	593.5	593.5	593.5
22.5°	579.3	581.5	583.6	585.0	585.2	585.6	585.9	586.2
25°	565.6	568.0	570.4	571.9	572.6	573.2	573.8	574.4
27.5°	550.5	553.6	556.7	558.4	558.8	559.3	559.7	560.2
30°	539.9	543.1	546.4	548.3	548.9	549.6	550.1	550.7
32.5°	528.5	532.3	535.9	538.3	539.5	540.6	541.6	542.7
35°	512.3	516.7	521.2	524.1	525.6	527.0	528.3	529.8
37.5°	495.6	500.5	505.5	508.7	510.2	511.7	513.2	514.7
40°	483.8	489.1	494.4	497.9	499.7	501.6	503.4	505.2
42.5°	472.4	478.2	483.9	487.8	489.5	491.4	493.2	495.0
45°	455.0	461.2	467.5	471.6	473.7	475.7	477.7	479.7
47.5°	436.8	443.4	449.9	454.2	456.5	458.7	460.9	463.2
50°	424.3	431.1	438.1	442.6	444.9	447.1	449.2	451.5
52.5°	410.8	417.9	424.9	429.6	431.9	434.4	436.8	439.2
55°	390.5	397.8	405.1	410.0	412.7	415.3	417.9	420.5
57.5°	369.1	376.9	384.8	390.0	392.7	395.4	398.1	400.7
60°	354.9	362.6	370.3	375.6	378.4	381.2	384.1	386.9
62.5°	339.8	348.0	356.2	361.7	364.3	366.9	369.6	372.3
65°	317.0	325.3	333.6	339.0	341.7	344.3	347.0	349.6
67.5°	293.8	302.2	310.6	316.2	318.9	321.6	324.4	327.2
70°	277.8	286.4	295.2	300.7	303.1	305.6	308.0	310.4
72.5°	262.2	270.6	279.2	284.9	287.8	290.8	293.6	296.6
75°	238.6	247.3	256.0	261.6	264.3	266.9	269.6	272.2
77.5°	215.6	224.3	232.9	238.6	241.5	244.3	247.1	249.9
80°	199.9	208.5	217.0	222.7	225.4	228.3	231.1	234.0
82.5°	185.4	193.9	202.4	207.9	210.6	213.3	216.0	218.6
85°	164.4	173.0	181.5	187.1	189.9	192.8	195.6	198.4
87.5°	149.6	157.8	166.0	171.5	174.1	176.6	179.3	181.9
90°	150.2	158.0	165.9	171.1	173.7	176.2	178.7	181.2
92.5°	142.4	150.3	158.3	163.5	165.9	168.4	170.9	173.3
95°	145.9	153.6	161.3	166.2	168.5	170.8	173.0	175.2
97.5°	155.3	162.7	170.2	175.2	177.5	179.9	182.3	184.7
100°	161.8	169.2	176.7	181.6	183.7	185.8	188.0	190.1
102.5°	169.7	177.1	184.5	189.3	191.5	193.6	195.6	197.8
105°	181.6	189.0	196.2	200.9	203.1	205.4	207.6	209.8
107.5°	195.4	202.2	209.1	213.4	215.3	217.0	218.8	220.7
110°	205.0	211.5	218.0	222.2	224.2	226.1	228.1	230.1



TEST NUMBER: P331528-940

CATALOG NUMBER: S122DIW-S675D435U940-4F0-1E-UDD-D1

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	214.7	221.0	227.2	231.4	233.4	235.4	237.5	239.5
115°	229.8	235.8	241.7	245.8	247.6	249.6	251.6	253.5
117.5°	244.1	249.9	255.6	259.4	261.2	263.0	264.7	266.5
120°	253.7	259.3	265.0	268.9	270.8	272.8	274.7	276.6
122.5°	264.0	269.4	274.6	278.1	279.8	281.5	283.3	285.0
125°	278.9	284.1	289.3	292.7	294.4	296.2	297.9	299.6
127.5°	293.1	297.8	302.6	305.6	307.1	308.6	310.1	311.6
130°	303.3	308.0	312.6	315.6	316.8	318.2	319.4	320.7
132.5°	313.0	317.4	321.6	324.4	325.7	327.1	328.4	329.8
135°	327.8	332.0	336.1	338.9	340.2	341.5	343.0	344.3
137.5°	341.9	345.5	349.2	351.5	352.5	353.6	354.5	355.5
140°	351.7	354.9	358.2	360.3	361.1	361.9	362.7	363.6
142.5°	361.3	364.0	366.7	368.4	369.1	369.8	370.4	371.1
145°	377.1	378.4	379.7	380.7	381.4	382.0	382.6	383.3
147.5°	391.6	391.9	392.3	392.5	392.6	392.8	393.0	393.1
150°	401.7	402.0	402.3	402.3	402.0	401.7	401.4	401.2
152.5°	412.1	412.5	412.9	412.9	412.5	412.1	411.9	411.5
155°	425.5	426.0	426.4	426.5	426.2	426.0	425.7	425.4
157.5°	437.7	438.4	439.0	439.1	438.6	438.2	437.8	437.4
160°	445.1	445.6	446.1	446.2	445.9	445.5	445.1	444.8
162.5°	451.7	452.3	452.9	453.0	452.5	452.1	451.7	451.3
165°	460.2	460.8	461.5	461.5	461.1	460.7	460.2	459.8
167.5°	467.3	467.9	468.5	468.6	468.1	467.6	467.2	466.7
170°	471.1	471.7	472.3	472.4	471.9	471.4	470.8	470.3
172.5°	474.0	474.7	475.3	475.3	474.7	474.2	473.7	473.1
175°	477.2	477.8	478.4	478.5	478.0	477.4	476.9	476.4
177.5°	478.7	479.0	479.5	479.5	479.0	478.7	478.2	477.8
180°	478.8	478.8	478.8	478.8	478.8	478.8	478.8	478.8

(END OF REPORT)