

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: P331533-940

Luminaire Tested: **S122DIW-S675D710U940-4F0-1E-UDD-D**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P331533-940
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-S675D710U940-4F0-1E-UDD-D
Description: DEFINE 2 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 675 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER
UPLIGHT 710 LUMENS PER FOOT, NO LENS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4926.6 lumens
Efficiency: N/A
Efficacy: 109.5 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

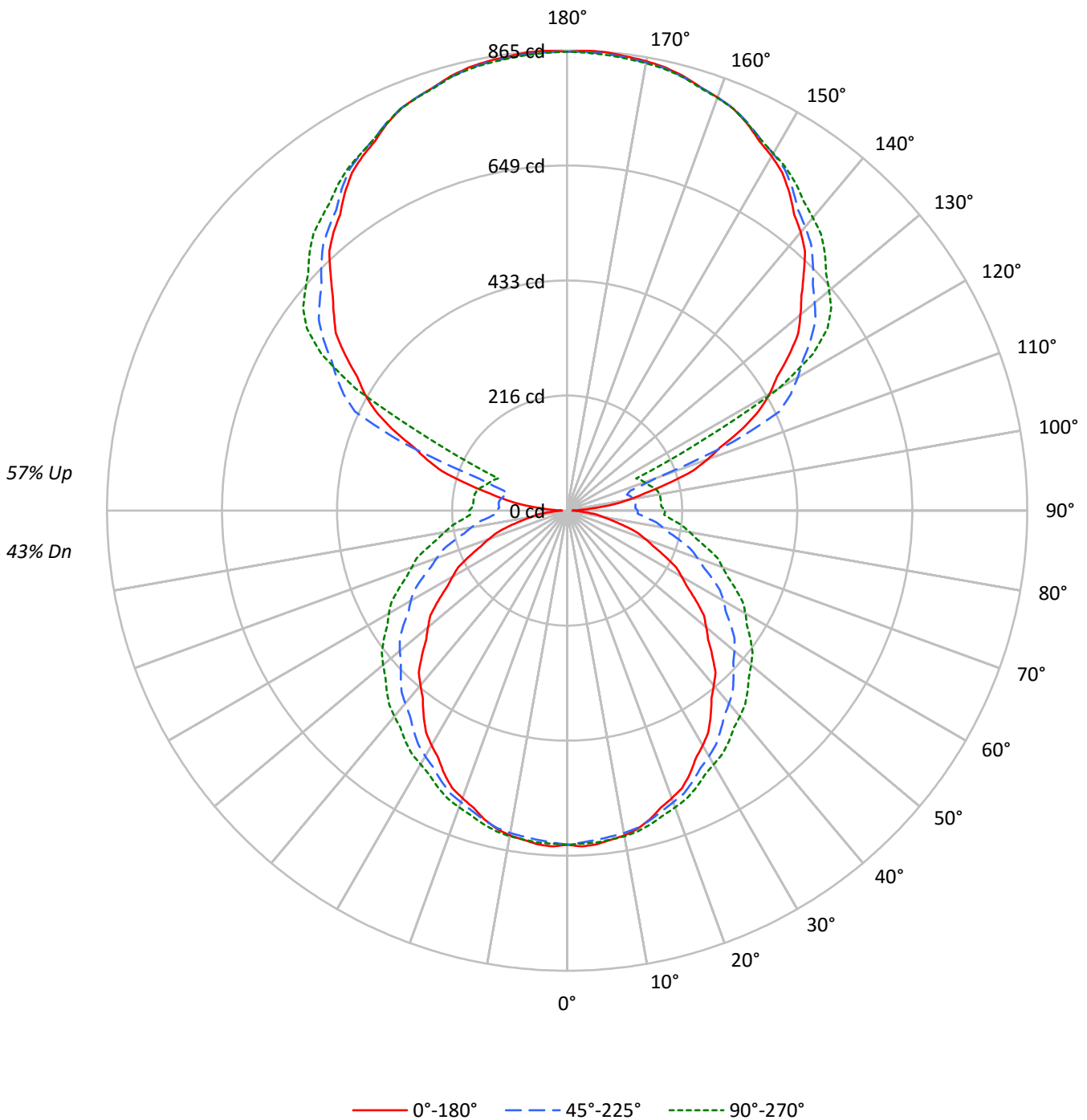
Input Watts (W): 45
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P331533-940

CATALOG NUMBER: S122DIW-S675D710U940-4F0-1E-UDD-D

Luminous Intensity Polar Plot





TEST NUMBER: P331533-940

CATALOG NUMBER: S122DIW-S675D710U940-4F0-1E-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	50	30	10	0	
RCR																						
0	106	106	106	106	96	96	96	96	80	80	80	64	64	64	50	50	50	43				
1	95	90	86	82	86	82	79	75	68	65	63	54	52	51	42	41	40	34				
2	86	78	71	66	78	71	66	61	59	54	51	47	44	41	36	34	32	27				
3	78	68	60	54	71	62	55	50	51	46	42	41	37	34	32	29	27	22				
4	71	60	52	45	65	55	48	42	45	40	35	36	32	29	28	25	23	19				
5	65	53	45	39	59	49	41	36	40	35	30	32	28	25	25	22	20	16				
6	60	47	39	33	54	44	36	31	36	30	26	29	25	22	23	20	17	14				
7	55	43	35	29	50	39	32	27	33	27	23	26	22	19	21	18	15	12				
8	51	39	31	25	47	36	29	24	30	24	20	24	20	17	19	16	13	11				
9	48	35	28	22	43	32	26	21	27	22	18	22	18	15	17	14	12	10				
10	44	32	25	20	40	30	23	19	25	20	16	20	16	13	16	13	11	9				

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: P331533-940

CATALOG NUMBER: S122DIW-S675D710U940-4F0-1E-UDD-D

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	59.5	1.2
10°-20°	170.7	3.5
20°-30°	258.6	5.2
30°-40°	315.0	6.4
40°-50°	338.9	6.9
50°-60°	329.1	6.7
60°-70°	287.4	5.8
70°-80°	221.2	4.5
80°-90°	150.6	3.1
90°-100°	131.1	2.7
100°-110°	180.2	3.7
110°-120°	331.4	6.7
120°-130°	493.2	10.0
130°-140°	506.8	10.3
140°-150°	462.3	9.4
150°-160°	370.1	7.5
160°-170°	238.5	4.8
170°-180°	82.1	1.7
0°-30°	488.8	9.9
0°-40°	803.8	16.3
0°-60°	1471.8	29.9
0°-90°	2131.0	43.3
90°-120°	642.7	13.0
90°-150°	2105.0	42.7
90°-180°	2796.0	56.8
0°-180°	4926.6	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	70	133	171	184	8
95°	48	72	129	165	177	55
105°	194	230	116	154	168	208
115°	363	385	440	191	143	357
125°	509	519	558	586	597	454
135°	629	639	654	678	685	486
145°	728	728	738	748	750	456
155°	802	797	804	807	803	369
165°	845	842	843	847	843	239
175°	865	860	862	865	860	82
180°	863	863	863	863	863	



TEST NUMBER: P331533-940

CATALOG NUMBER: S122DIW-S675D710U940-4F0-1E-UDD-D

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	30.3	42.7	55.0	67.4	80.2	93.4	106.6	119.7	132.9	141.2
90°	9.7	23.0	36.2	49.5	62.8	76.4	90.5	104.5	118.6	132.7	141.4
92.5°	21.0	31.7	42.5	53.3	64.1	76.1	89.1	102.1	115.0	128.0	136.3
95°	47.9	52.8	57.7	62.7	67.6	76.6	89.7	102.8	115.9	129.0	137.4
97.5°	86.9	82.5	78.0	73.6	69.1	73.8	87.7	101.7	115.6	129.5	137.5
100°	116.9	105.3	93.8	82.3	70.8	71.9	85.5	99.2	112.9	126.6	135.2
102.5°	149.1	151.9	154.7	157.6	160.3	157.4	148.6	140.0	131.3	122.5	131.3
105°	194.3	204.4	214.4	224.4	234.4	225.8	198.4	171.0	143.7	116.4	124.9
107.5°	246.9	255.0	263.1	271.1	279.2	265.5	230.2	194.8	159.4	124.1	129.4
110°	280.2	287.1	294.1	301.0	308.0	296.4	266.3	236.0	205.9	175.7	168.3



TEST NUMBER: P331533-940

CATALOG NUMBER: S122DIW-S675D710U940-4F0-1E-UDD-D

CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	312.1	318.2	324.1	330.1	336.1	338.9	338.3	337.9	337.3	336.9	292.7
115°	362.6	367.2	371.8	376.3	380.9	389.5	402.1	414.6	427.2	439.8	381.7
117.5°	406.7	410.8	414.9	419.0	423.1	430.5	441.4	452.2	463.0	473.8	464.2
120°	439.7	442.6	445.5	448.4	451.3	458.0	468.6	479.2	489.7	500.3	507.7
122.5°	467.7	470.2	472.7	475.2	477.7	484.1	494.5	504.8	515.1	525.5	532.0
125°	509.3	511.1	512.9	514.8	516.6	522.0	531.1	540.2	549.3	558.5	564.9
127.5°	547.9	549.7	551.5	553.3	555.1	559.5	566.8	574.0	581.1	588.4	594.8
130°	572.4	574.4	576.4	578.5	580.4	584.3	590.1	595.9	601.6	607.4	613.9
132.5°	597.4	599.1	600.7	602.4	604.0	607.3	612.2	617.0	621.7	626.5	632.6
135°	628.9	631.2	633.4	635.5	637.8	640.5	643.8	647.0	650.3	653.6	659.2
137.5°	661.7	663.3	664.8	666.3	667.8	669.7	672.0	674.3	676.6	678.9	684.0
140°	683.2	684.1	685.0	685.9	686.8	688.2	690.2	692.1	694.0	696.0	700.4
142.5°	701.2	702.0	702.8	703.6	704.4	705.7	707.5	709.4	711.1	713.0	716.8
145°	728.5	728.3	728.3	728.1	727.9	729.1	731.4	733.8	736.1	738.5	740.7
147.5°	753.0	752.6	752.1	751.5	751.0	751.9	754.2	756.5	758.8	761.2	762.1
150°	769.1	768.1	767.1	766.2	765.2	765.8	768.0	770.3	772.5	774.7	775.5
152.5°	782.6	781.5	780.4	779.3	778.2	778.7	780.9	782.9	785.1	787.2	788.0
155°	802.2	800.9	799.7	798.4	797.2	797.4	799.1	800.7	802.4	804.1	804.9
157.5°	817.5	816.5	815.4	814.3	813.3	813.3	814.5	815.6	816.8	818.0	818.9
160°	826.5	825.6	824.8	824.0	823.1	823.1	824.0	824.8	825.6	826.5	827.3
162.5°	834.5	833.7	832.9	832.0	831.2	831.1	831.8	832.6	833.3	834.0	834.9
165°	845.3	844.4	843.6	842.8	841.9	841.7	842.1	842.5	842.9	843.4	844.4
167.5°	853.2	852.4	851.6	850.7	849.9	849.7	850.1	850.4	850.9	851.2	852.2
170°	857.7	856.8	856.0	855.2	854.3	854.1	854.3	854.7	855.0	855.2	856.2
172.5°	860.7	859.9	859.1	858.2	857.4	857.1	857.4	857.6	857.9	858.2	859.2
175°	864.6	863.6	862.6	861.7	860.7	860.3	860.6	860.9	861.2	861.5	862.5
177.5°	865.2	864.4	863.6	862.9	862.1	861.7	861.8	862.0	862.1	862.2	863.0
180°	862.7	862.7	862.7	862.7	862.7	862.7	862.7	862.7	862.7	862.7	862.7



TEST NUMBER: P331533-940

CATALOG NUMBER: S122DIW-S675D710U940-4F0-1E-UDD-D

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	158.0	166.4	171.9	174.6	177.3	179.9	182.5
90°	150.3	159.0	167.8	173.5	176.2	179.0	181.6	184.3
92.5°	144.6	152.9	161.2	166.7	169.2	171.9	174.5	177.1
95°	145.8	154.2	162.6	167.9	170.1	172.5	174.8	177.0
97.5°	145.5	153.6	161.6	166.9	169.4	172.0	174.6	177.1
100°	143.8	152.4	161.0	166.6	169.1	171.6	174.1	176.6
102.5°	140.1	148.8	157.6	163.3	165.9	168.5	171.1	173.7
105°	133.6	142.2	150.8	156.5	159.3	162.0	164.8	167.6
107.5°	134.6	139.8	145.1	149.1	151.9	154.7	157.5	160.2
110°	160.9	153.5	146.1	143.8	146.6	149.4	152.1	154.9



TEST NUMBER: P331533-940

CATALOG NUMBER: S122DIW-S675D710U940-4F0-1E-UDD-D

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	248.6	204.5	160.3	139.6	142.3	145.0	147.7	150.3
115°	323.4	265.3	207.1	174.2	166.4	158.6	150.9	143.1
117.5°	454.7	445.1	435.6	415.4	384.7	353.9	323.2	292.4
120°	515.1	522.4	529.7	525.1	508.5	492.0	475.5	459.1
122.5°	538.4	544.9	551.4	553.8	552.1	550.4	548.7	546.9
125°	571.3	577.7	584.2	588.5	590.8	593.0	595.2	597.4
127.5°	601.2	607.6	614.0	618.2	620.1	622.0	623.8	625.6
130°	620.2	626.6	632.9	636.9	638.4	639.9	641.3	642.8
132.5°	638.6	644.5	650.5	654.2	655.8	657.2	658.7	660.2
135°	664.9	670.5	676.2	679.7	681.0	682.3	683.7	685.0
137.5°	689.1	694.2	699.3	702.2	703.1	704.0	705.0	705.9
140°	705.0	709.4	713.9	716.4	716.9	717.5	718.0	718.5
142.5°	720.4	724.2	727.9	730.0	730.3	730.7	731.0	731.4
145°	742.9	745.0	747.3	748.5	748.8	749.1	749.4	749.8
147.5°	762.9	763.8	764.7	765.1	765.0	764.9	764.8	764.7
150°	776.3	777.2	778.0	778.1	777.4	776.7	776.0	775.3
152.5°	788.8	789.7	790.5	790.5	789.5	788.6	787.7	786.8
155°	805.7	806.6	807.4	807.2	806.1	805.0	803.9	802.8
157.5°	819.9	820.8	821.8	821.7	820.6	819.6	818.5	817.3
160°	828.1	829.0	829.8	829.7	828.8	827.8	826.9	825.9
162.5°	835.9	836.8	837.8	837.7	836.4	835.3	834.0	832.9
165°	845.3	846.2	847.2	847.2	846.2	845.3	844.4	843.4
167.5°	853.2	854.2	855.1	855.0	853.7	852.5	851.2	850.0
170°	857.2	858.1	859.1	859.0	857.7	856.5	855.2	854.0
172.5°	860.1	861.1	862.1	861.9	860.7	859.4	858.2	856.9
175°	863.4	864.3	865.3	865.1	863.7	862.4	860.9	859.6
177.5°	863.8	864.5	865.3	865.2	864.2	863.2	862.2	861.2
180°	862.7	862.7	862.7	862.7	862.7	862.7	862.7	862.7

(END OF REPORT)