

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: P331475-940

Luminaire Tested: **S122DIW-S290D710U940-4F0-1E-UDD-F**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P331475-940
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-S290D710U940-4F0-1E-UDD-F
Description: DEFINE 2 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 290 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
UPLIGHT 710 LUMENS PER FOOT, NO LENS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3602.1 lumens
Efficiency: N/A
Efficacy: 118.5 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-Indirect

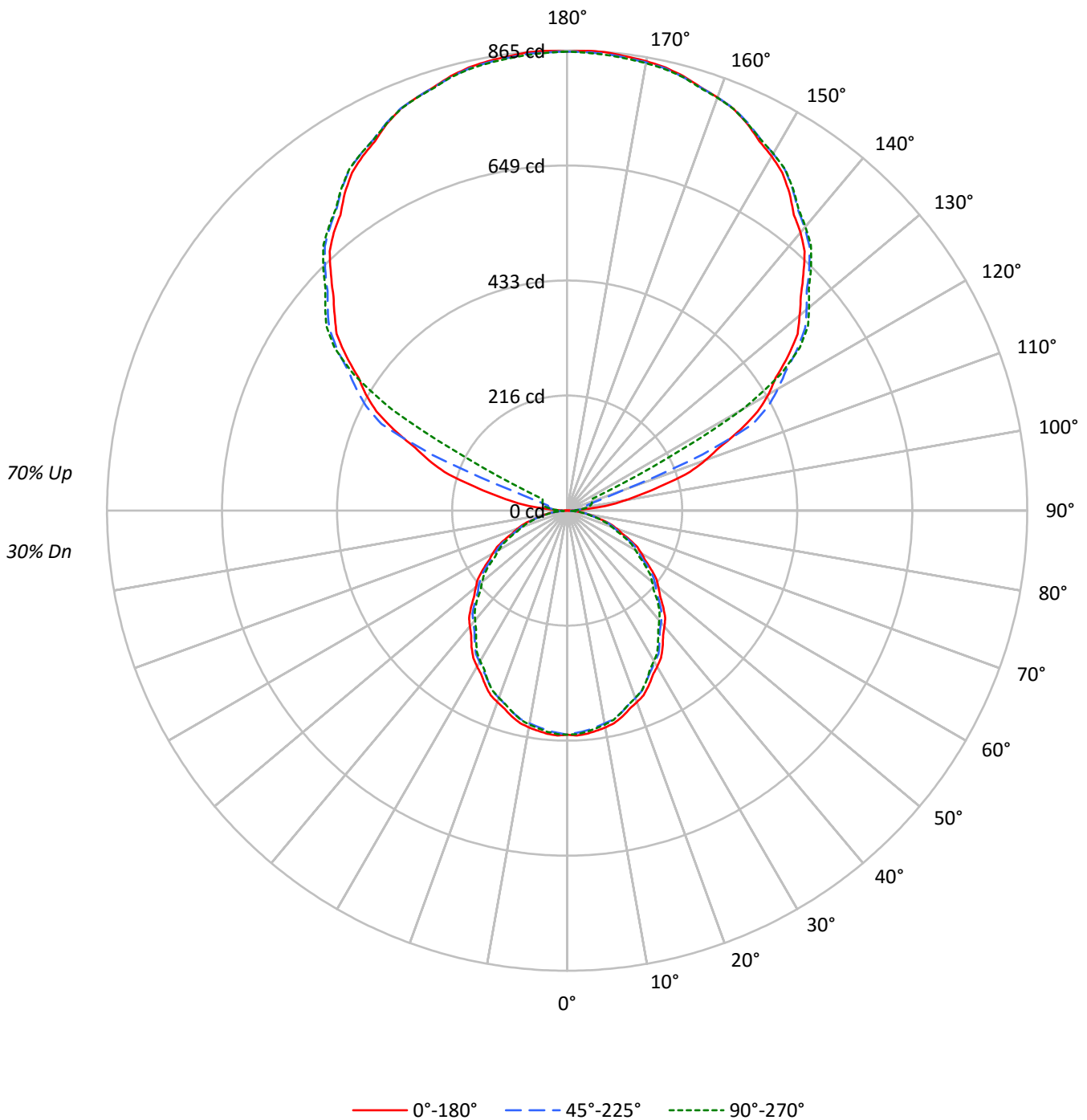
Input Watts (W): 30.4
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P331475-940

CATALOG NUMBER: S122DIW-S290D710U940-4F0-1E-UDD-F

Luminous Intensity Polar Plot





TEST NUMBER: P331475-940

CATALOG NUMBER: S122DIW-S290D710U940-4F0-1E-UDD-F

COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20				20				20				20				20
RC	80				70				50				30				10
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10
RCR																	
0	102	102	102	102	92	92	92	92	72	72	72	54	54	54	38	38	38
1	93	89	85	82	83	80	77	74	63	61	59	47	46	45	33	32	32
2	85	78	72	67	76	70	65	61	55	52	49	42	39	37	29	28	27
3	77	68	61	56	69	61	55	51	49	44	41	37	34	32	26	24	23
4	71	60	53	47	63	54	48	43	43	38	35	33	30	27	23	21	20
5	65	54	46	40	58	48	42	37	39	34	30	29	26	23	21	19	17
6	60	48	40	34	53	43	37	32	35	30	26	26	23	20	19	17	15
7	55	43	35	30	49	39	32	28	31	26	23	24	21	18	17	15	13
8	51	39	32	26	46	35	29	24	28	24	20	22	18	16	16	13	12
9	47	36	28	23	42	32	26	22	26	21	18	20	17	14	15	12	11
10	44	32	25	21	40	29	23	19	24	19	16	18	15	13	13	11	10

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	6801	6801	6801
5°	6827	6729	6770
10°	6787	6661	6694
15°	6703	6574	6569
20°	6584	6445	6438
25°	6465	6285	6285
30°	6315	6139	6087
35°	6173	5964	5876
40°	5994	5788	5678
45°	5818	5613	5476
50°	5627	5433	5242
55°	5427	5225	5027
60°	5205	4970	4789
65°	4967	4722	4504
70°	4664	4414	4206
75°	4242	4067	3968
80°	3766	3654	3468
85°	3075	2927	2631



TEST NUMBER: P331475-940

CATALOG NUMBER: S122DIW-S290D710U940-4F0-1E-UDD-F

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	39.6	1.1
10°-20°	111.5	3.1
20°-30°	163.8	4.5
30°-40°	190.3	5.3
40°-50°	190.1	5.3
50°-60°	165.8	4.6
60°-70°	122.6	3.4
70°-80°	69.4	1.9
80°-90°	20.8	0.6
90°-100°	28.8	0.8
100°-110°	105.5	2.9
110°-120°	282.1	7.8
120°-130°	465.6	12.9
130°-140°	495.2	13.7
140°-150°	460.3	12.8
150°-160°	370.1	10.3
160°-170°	238.5	6.6
170°-180°	82.1	2.3
0°-30°	314.9	8.7
0°-40°	505.2	14.0
0°-60°	861.1	23.9
0°-90°	1073.9	29.8
90°-120°	416.4	11.6
90°-150°	1837.6	51.0
90°-180°	2528.0	70.2
0°-180°	3602.1	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	421	421	421	421	421	
5°	421	420	415	418	418	40
15°	401	398	393	395	393	113
25°	363	360	353	354	353	167
35°	313	309	303	300	298	195
45°	255	252	246	242	240	197
55°	193	190	186	181	179	172
65°	130	128	124	120	118	129
75°	68	67	65	63	64	73
85°	17	16	16	15	14	19
90°	1	7	12	16	17	3
95°	41	21	24	27	27	50
105°	190	198	38	45	47	203
115°	359	370	385	110	51	353
125°	508	516	527	532	534	452
135°	628	638	644	649	649	485
145°	728	728	738	742	740	455
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: P331475-940

CATALOG NUMBER: S122DIW-S290D710U940-4F0-1E-UDD-F

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	421.2	421.2	421.2	421.2	421.2	421.2	421.2	421.2	421.2	421.2	421.2
2.5°	423.2	422.8	422.5	422.1	421.8	421.2	420.4	419.6	418.8	418.0	418.7
5°	421.2	420.9	420.5	420.2	419.8	419.2	418.2	417.2	416.2	415.2	415.9
7.5°	417.6	417.0	416.4	415.9	415.4	414.6	413.6	412.5	411.5	410.5	411.3
10°	414.0	413.4	412.8	412.1	411.4	410.6	409.6	408.5	407.4	406.3	407.0
12.5°	409.1	408.6	408.0	407.4	406.9	406.1	405.0	403.9	402.9	401.8	402.3
15°	401.0	400.5	399.9	399.4	398.9	398.1	396.8	395.7	394.5	393.3	393.7
17.5°	390.7	390.1	389.6	389.1	388.5	387.6	386.5	385.2	384.1	382.9	383.3
20°	383.2	382.6	382.1	381.6	381.0	380.1	378.9	377.6	376.4	375.1	375.4
22.5°	375.8	375.0	374.3	373.4	372.7	371.8	370.6	369.3	368.2	367.0	367.0
25°	362.9	362.2	361.5	360.8	360.1	358.9	357.4	355.9	354.4	352.8	353.0
27.5°	348.4	347.8	347.1	346.4	345.8	344.8	343.7	342.4	341.3	340.0	339.7
30°	338.7	338.0	337.2	336.5	335.7	334.7	333.4	332.1	330.6	329.3	329.0
32.5°	328.2	327.7	327.2	326.5	326.0	324.9	323.5	322.2	320.7	319.3	318.8
35°	313.2	312.2	311.3	310.4	309.5	308.4	306.9	305.5	304.1	302.6	302.0
37.5°	296.0	295.2	294.4	293.6	292.8	291.8	290.3	288.9	287.4	286.0	285.3
40°	284.4	283.7	282.9	282.2	281.5	280.4	278.9	277.5	276.1	274.6	273.8
42.5°	273.0	272.3	271.6	270.9	270.2	269.0	267.6	266.2	264.7	263.3	262.4
45°	254.8	254.1	253.5	252.9	252.3	251.3	249.9	248.6	247.3	245.8	244.9
47.5°	236.7	236.0	235.5	234.9	234.3	233.3	231.8	230.5	229.1	227.7	226.6
50°	224.0	223.6	223.1	222.7	222.2	221.3	220.1	218.8	217.6	216.3	215.1
52.5°	211.7	211.1	210.5	209.9	209.3	208.4	207.2	206.1	204.8	203.7	202.6
55°	192.8	192.3	191.7	191.2	190.6	189.8	188.8	187.7	186.6	185.6	184.4
57.5°	173.9	173.4	173.0	172.5	172.1	171.3	170.1	169.0	167.7	166.6	165.5
60°	161.2	160.9	160.5	160.2	159.8	159.0	157.7	156.5	155.2	153.9	152.9
62.5°	148.9	148.3	147.8	147.2	146.6	145.8	144.8	143.9	142.9	142.0	141.0
65°	130.0	129.5	128.9	128.4	127.9	127.2	126.3	125.4	124.5	123.6	122.7
67.5°	110.8	110.4	109.9	109.5	109.1	108.5	107.6	106.8	106.0	105.2	104.6
70°	98.8	98.4	98.1	97.7	97.4	96.8	96.0	95.2	94.3	93.5	92.9
72.5°	86.5	86.1	85.8	85.4	85.1	84.6	84.1	83.6	83.1	82.6	81.9
75°	68.0	67.9	67.7	67.5	67.3	67.1	66.6	66.1	65.6	65.2	64.6
77.5°	51.5	51.2	50.9	50.6	50.3	50.0	49.8	49.7	49.5	49.3	49.0
80°	40.5	40.4	40.3	40.2	40.1	40.0	39.9	39.7	39.5	39.3	39.1
82.5°	30.1	30.1	30.1	30.1	30.1	30.0	29.9	29.8	29.7	29.6	29.2
85°	16.6	16.5	16.4	16.3	16.2	16.1	16.1	16.0	15.9	15.8	15.5
87.5°	6.0	6.2	6.2	6.4	6.6	6.7	6.8	6.9	7.0	7.0	7.0
90°	0.6	2.1	3.7	5.2	6.7	8.0	9.2	10.3	11.4	12.5	13.2
92.5°	12.6	12.5	12.3	12.2	12.0	12.3	12.8	13.4	13.9	14.4	14.8
95°	40.6	36.0	31.4	26.8	22.3	20.4	21.4	22.4	23.4	24.3	25.1
97.5°	80.5	67.6	54.8	41.8	28.9	23.6	25.9	28.1	30.3	32.5	33.2
100°	110.5	91.5	72.5	53.5	34.5	26.1	28.5	30.9	33.3	35.6	36.6
102.5°	143.5	139.5	135.4	131.3	127.3	115.5	95.8	76.1	56.3	36.6	38.0
105°	189.8	193.9	198.1	202.2	206.4	189.6	151.7	113.8	76.0	38.1	39.6
107.5°	242.5	245.9	249.3	252.6	256.0	235.0	189.6	144.2	98.7	53.3	51.7
110°	276.5	279.5	282.4	285.3	288.2	269.6	229.5	189.4	149.4	109.2	95.4



TEST NUMBER: P331475-940

CATALOG NUMBER: S122DIW-S290D710U940-4F0-1E-UDD-F

CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	308.5	311.1	313.7	316.2	318.8	315.1	305.2	295.3	285.4	275.5	225.0
115°	358.9	361.3	363.6	366.0	368.4	371.3	374.8	378.3	381.7	385.1	320.9
117.5°	404.0	406.6	409.3	411.9	414.6	417.1	419.5	421.9	424.2	426.6	411.1
120°	436.9	439.1	441.1	443.2	445.3	447.5	450.0	452.5	455.0	457.5	459.2
122.5°	464.9	467.2	469.3	471.5	473.7	476.2	478.8	481.6	484.3	487.1	488.0
125°	507.5	509.3	511.1	512.9	514.7	516.9	519.6	522.2	524.9	527.4	528.4
127.5°	546.1	548.0	550.1	552.1	554.1	556.1	558.0	560.0	562.0	563.9	565.3
130°	570.5	572.7	575.0	577.2	579.4	581.3	582.8	584.3	585.9	587.5	589.0
132.5°	595.6	597.4	599.3	601.2	603.1	604.8	606.3	607.8	609.4	610.9	612.2
135°	628.0	630.2	632.4	634.6	636.9	638.6	639.9	641.1	642.4	643.6	645.0
137.5°	660.8	662.4	664.0	665.5	667.0	668.5	669.9	671.4	672.8	674.2	675.6
140°	682.3	683.4	684.5	685.6	686.7	688.0	689.6	691.1	692.6	694.2	695.4
142.5°	700.3	701.2	702.3	703.3	704.3	705.6	707.4	709.2	710.9	712.7	713.8
145°	728.5	728.3	728.3	728.1	727.9	729.1	731.4	733.8	736.1	738.5	739.5
147.5°	753.0	752.6	752.1	751.5	751.0	751.9	754.2	756.5	758.8	761.2	762.0
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: P331475-940

CATALOG NUMBER: S122DIW-S290D710U940-4F0-1E-UDD-F

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	421.2	421.2	421.2	421.2	421.2	421.2	421.2	421.2
2.5°	419.5	420.2	420.9	421.2	421.1	420.9	420.8	420.6
5°	416.7	417.4	418.1	418.4	418.2	418.0	417.9	417.7
7.5°	412.0	412.7	413.4	413.7	413.5	413.2	413.0	412.9
10°	407.8	408.5	409.2	409.4	409.1	408.8	408.6	408.3
12.5°	402.8	403.2	403.8	403.9	403.8	403.5	403.3	403.1
15°	394.0	394.4	394.8	394.8	394.3	393.9	393.4	393.0
17.5°	383.7	384.1	384.5	384.5	384.1	383.7	383.3	382.8
20°	375.7	375.9	376.2	376.1	375.8	375.4	375.1	374.7
22.5°	367.1	367.2	367.2	367.1	366.9	366.7	366.5	366.3
25°	353.2	353.4	353.6	353.6	353.4	353.2	353.0	352.8
27.5°	339.5	339.2	338.9	338.6	338.1	337.7	337.3	336.9
30°	328.8	328.5	328.2	328.0	327.6	327.3	326.9	326.5
32.5°	318.3	317.8	317.4	316.9	316.6	316.2	315.8	315.5
35°	301.5	301.0	300.4	300.0	299.5	299.1	298.6	298.1
37.5°	284.6	284.0	283.3	282.8	282.3	281.9	281.5	281.1
40°	273.0	272.2	271.4	270.8	270.5	270.1	269.7	269.4
42.5°	261.5	260.6	259.8	259.0	258.6	258.1	257.6	257.1
45°	243.9	242.9	241.9	241.2	240.9	240.5	240.1	239.8
47.5°	225.6	224.5	223.5	222.7	222.2	221.7	221.1	220.6
50°	213.8	212.5	211.2	210.4	210.0	209.6	209.1	208.7
52.5°	201.6	200.5	199.5	198.7	198.0	197.5	196.9	196.3
55°	183.3	182.3	181.2	180.5	180.0	179.5	179.1	178.6
57.5°	164.4	163.4	162.3	161.6	161.3	161.0	160.6	160.2
60°	151.9	151.0	150.0	149.4	149.1	148.8	148.6	148.3
62.5°	140.1	139.2	138.3	137.7	137.3	137.0	136.6	136.3
65°	121.9	121.1	120.3	119.7	119.2	118.8	118.3	117.9
67.5°	104.0	103.3	102.7	102.2	101.8	101.5	101.1	100.8
70°	92.3	91.7	91.0	90.6	90.2	89.8	89.4	89.1
72.5°	81.3	80.7	80.1	79.5	79.3	79.0	78.7	78.4
75°	64.1	63.6	63.0	62.9	63.0	63.2	63.4	63.6
77.5°	48.8	48.5	48.2	48.0	47.7	47.5	47.3	47.0
80°	38.8	38.5	38.3	38.0	37.8	37.6	37.5	37.3
82.5°	28.9	28.5	28.2	28.0	28.0	27.9	27.9	27.9
85°	15.2	15.0	14.7	14.5	14.4	14.4	14.3	14.2
87.5°	6.9	6.8	6.7	6.7	6.7	6.7	6.6	6.6
90°	13.9	14.5	15.2	15.8	16.1	16.3	16.6	16.9
92.5°	15.2	15.6	16.0	16.2	16.3	16.5	16.7	16.9
95°	25.8	26.4	27.1	27.4	27.3	27.1	27.0	26.8
97.5°	33.7	34.2	34.8	35.1	35.3	35.5	35.7	35.8
100°	37.8	38.9	40.0	40.8	41.0	41.3	41.6	41.8
102.5°	39.5	40.9	42.4	43.2	43.7	44.1	44.4	44.9
105°	41.1	42.6	44.1	45.2	45.7	46.4	46.9	47.4
107.5°	50.2	48.7	47.1	46.6	47.2	47.7	48.2	48.8
110°	81.5	67.6	53.8	47.1	47.6	48.2	48.8	49.3



TEST NUMBER: P331475-940

CATALOG NUMBER: S122DIW-S290D710U940-4F0-1E-UDD-F

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	174.3	123.8	73.1	48.1	48.5	49.0	49.4	49.8
115°	256.7	192.4	128.2	91.1	81.1	71.2	61.2	51.2
117.5°	395.6	380.0	364.4	340.3	307.5	274.6	241.8	209.0
120°	460.9	462.5	464.2	455.7	436.9	418.2	399.5	380.8
122.5°	489.0	490.0	491.1	489.7	486.1	482.4	478.8	475.2
125°	529.4	530.4	531.4	532.1	532.4	532.9	533.3	533.7
127.5°	566.8	568.2	569.6	570.3	570.4	570.5	570.6	570.7
130°	590.5	592.0	593.5	594.2	594.1	594.0	593.8	593.7
132.5°	613.5	614.8	616.1	616.7	616.5	616.4	616.3	616.2
135°	646.4	647.7	649.2	649.7	649.4	649.2	648.9	648.6
137.5°	676.9	678.2	679.7	680.1	679.6	679.1	678.7	678.1
140°	696.7	697.9	699.2	699.5	698.7	698.0	697.3	696.7
142.5°	714.9	716.0	717.2	717.4	716.8	716.0	715.3	714.6
145°	740.4	741.4	742.3	742.5	741.8	741.1	740.4	739.8
147.5°	762.7	763.4	764.1	764.2	763.6	763.0	762.4	761.8
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)