

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: P332125-927

Luminaire Tested: **S123DIW-S560D460U927-4F0-1E-UDD-F1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332125-927
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-9,
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S123DIW-S560D460U927-4F0-1E-UDD-F1
Description: DEFINE 3 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 560 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
UPLIGHT 460 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3104.0 lumens
Efficiency: N/A
Efficacy: 102.8 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.18 / 1.31
Luminous Opening: Rectangular (W 0.25' x L: 4' x H: 0')
CIE Type: General Diffuse

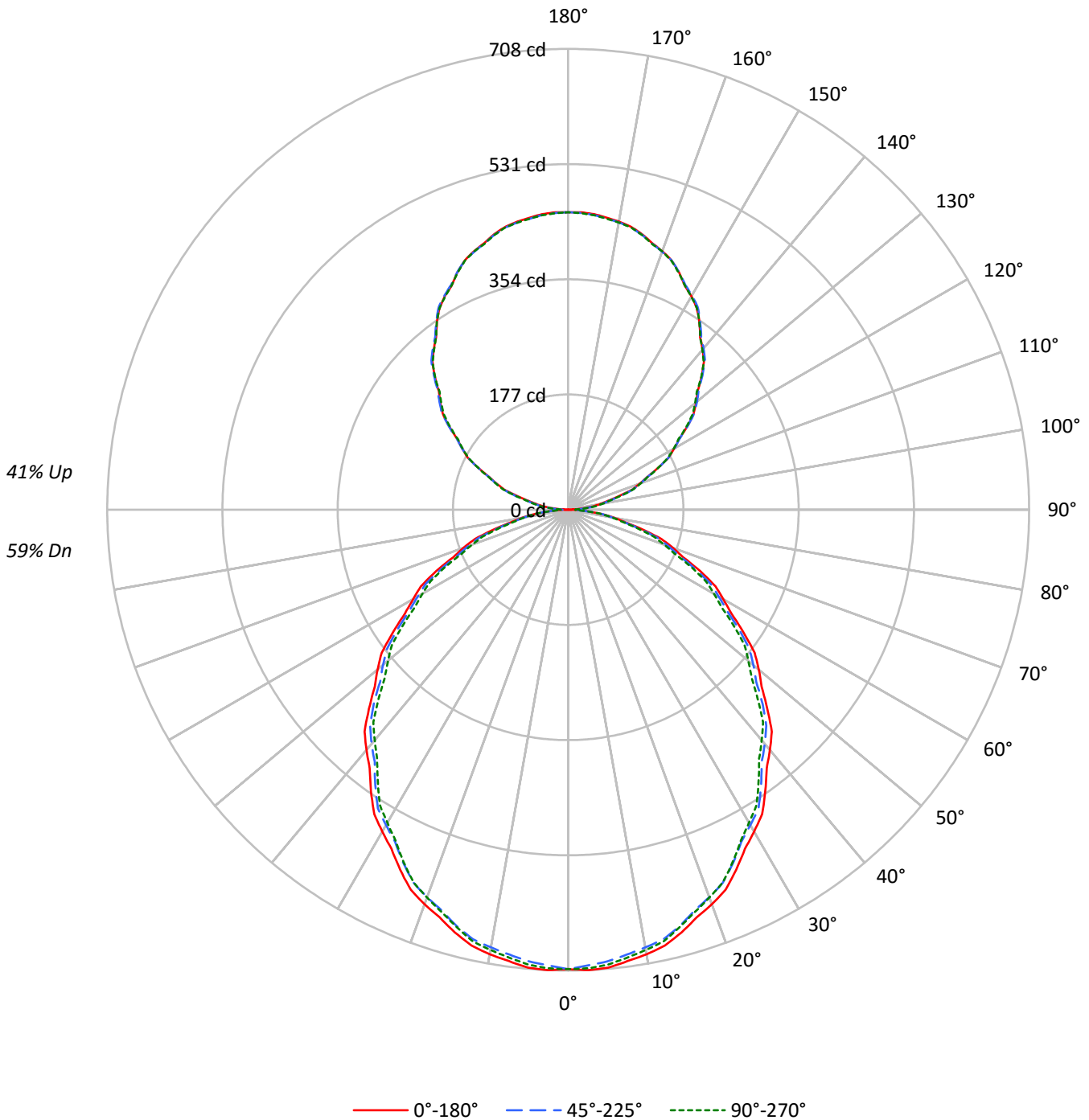
Input Watts (W): 30.2
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P332125-927

CATALOG NUMBER: S123DIW-S560D460U927-4F0-1E-UDD-F1

Luminous Intensity Polar Plot





TEST NUMBER: P332125-927

CATALOG NUMBER: S123DIW-S560D460U927-4F0-1E-UDD-F1

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	102	102	102	102	88	88	88	76	76	76	65	65	65	59
1	100	95	91	88	93	89	86	83	78	75	73	67	65	63	57	56	54	50
2	91	83	77	72	84	78	72	68	68	64	60	59	55	53	50	48	46	42
3	83	73	66	60	77	69	62	57	60	55	50	52	48	45	44	41	39	35
4	76	65	57	51	70	61	54	48	53	48	43	46	42	38	40	36	34	30
5	70	58	49	43	65	54	47	41	48	42	37	41	37	33	36	32	29	26
6	64	52	44	38	60	49	41	36	43	37	32	38	33	29	32	29	26	23
7	59	47	39	33	55	44	37	32	39	33	29	34	29	26	30	26	23	20
8	55	43	35	29	51	40	33	28	36	30	25	31	26	23	27	23	20	18
9	51	39	31	26	48	37	30	25	33	27	23	29	24	21	25	21	19	16
10	48	36	28	24	45	34	27	23	30	24	21	27	22	19	23	20	17	15

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	7597	7597	7597
5°	7632	7527	7580
10°	7581	7462	7508
15°	7492	7377	7392
20°	7389	7257	7263
25°	7251	7114	7099
30°	7097	6954	6901
35°	6937	6786	6699
40°	6770	6600	6497
45°	6587	6428	6272
50°	6402	6219	6047
55°	6161	6001	5819
60°	5918	5748	5565
65°	5703	5471	5300
70°	5385	5155	4925
75°	4924	4745	4541
80°	4438	4252	4215
85°	3890	3742	3606



TEST NUMBER: P332125-927

CATALOG NUMBER: S123DIW-S560D460U927-4F0-1E-UDD-F1

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	66.5	2.1
10°-20°	187.7	6.0
20°-30°	277.3	8.9
30°-40°	323.9	10.4
40°-50°	325.6	10.5
50°-60°	286.0	9.2
60°-70°	213.1	6.9
70°-80°	121.4	3.9
80°-90°	36.2	1.2
90°-100°	29.8	1.0
100°-110°	89.1	2.9
110°-120°	151.6	4.9
120°-130°	199.4	6.4
130°-140°	224.1	7.2
140°-150°	220.3	7.1
150°-160°	185.4	6.0
160°-170°	123.4	4.0
170°-180°	43.2	1.4
0°-30°	531.5	17.1
0°-40°	855.4	27.6
0°-60°	1467.0	47.3
0°-90°	1837.7	59.2
90°-120°	270.4	8.7
90°-150°	914.1	29.5
90°-180°	1266.0	40.8
0°-180°	3104.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	706	706	706	706	706	
5°	706	703	697	702	702	67
15°	672	670	662	666	663	189
25°	610	607	599	599	598	281
35°	528	524	516	513	510	330
45°	433	430	422	415	412	334
55°	328	327	320	313	310	294
65°	224	221	215	210	208	221
75°	118	116	114	111	109	127
85°	32	30	30	29	29	35
90°	0	4	9	10	11	3
95°	21	24	26	28	28	24
105°	81	82	85	85	86	87
115°	153	154	153	153	153	151
125°	223	224	224	222	221	199
135°	290	292	292	290	289	223
145°	352	352	353	353	352	219
155°	402	402	403	404	402	185
165°	438	437	437	439	437	124
175°	456	455	454	456	454	43
180°	457	457	457	457	457	



TEST NUMBER: P332125-927

CATALOG NUMBER: S123DIW-S560D460U927-4F0-1E-UDD-F1

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	705.8	705.8	705.8	705.8	705.8	705.8	705.8	705.8	705.8	705.8	705.8
2.5°	708.1	707.7	707.3	706.9	706.5	705.6	704.4	703.2	702.1	700.9	702.0
5°	706.3	705.7	705.0	704.3	703.6	702.6	701.1	699.6	698.2	696.6	698.0
7.5°	699.4	698.8	698.1	697.4	696.7	695.6	694.1	692.5	691.0	689.5	690.7
10°	693.6	692.9	692.3	691.6	690.9	689.7	687.9	686.2	684.4	682.7	683.9
12.5°	685.9	685.2	684.7	684.1	683.6	682.5	680.8	679.1	677.6	675.9	676.8
15°	672.3	671.8	671.3	670.7	670.2	669.1	667.3	665.6	663.8	662.0	663.1
17.5°	656.7	656.0	655.3	654.6	653.9	652.7	650.9	649.2	647.5	645.6	646.4
20°	645.1	644.3	643.4	642.6	641.8	640.6	638.8	637.1	635.3	633.5	634.1
22.5°	631.9	631.1	630.3	629.5	628.7	627.4	625.7	623.9	622.2	620.4	620.8
25°	610.5	609.7	608.9	608.1	607.2	605.9	604.2	602.5	600.7	599.0	599.0
27.5°	587.6	586.8	586.0	585.2	584.4	583.0	581.1	579.3	577.4	575.5	575.6
30°	571.0	570.4	569.7	569.0	568.3	567.0	565.1	563.2	561.4	559.5	559.5
32.5°	554.5	553.7	552.7	551.8	551.0	549.8	548.3	546.8	545.4	544.0	543.2
35°	527.9	527.1	526.3	525.5	524.7	523.4	521.7	519.9	518.2	516.4	515.6
37.5°	500.7	499.7	498.7	497.6	496.6	495.3	493.5	491.7	489.9	488.1	487.2
40°	481.8	481.0	480.2	479.4	478.6	477.2	475.3	473.5	471.6	469.7	468.6
42.5°	462.9	462.0	461.1	460.1	459.2	457.8	455.9	454.1	452.2	450.3	449.2
45°	432.7	432.1	431.6	431.0	430.5	429.4	427.6	425.9	424.1	422.3	420.7
47.5°	402.7	401.9	401.2	400.4	399.6	398.3	396.7	395.1	393.4	391.7	390.1
50°	382.3	381.6	381.0	380.2	379.6	378.4	376.6	374.9	373.1	371.4	369.9
52.5°	360.9	360.4	360.0	359.6	359.1	357.9	356.1	354.3	352.4	350.5	349.3
55°	328.3	328.1	328.0	327.9	327.7	326.8	325.0	323.3	321.5	319.8	318.3
57.5°	297.2	296.8	296.3	295.9	295.4	294.5	293.0	291.7	290.3	288.8	287.6
60°	274.9	274.7	274.6	274.5	274.3	273.5	271.9	270.2	268.6	267.0	265.8
62.5°	255.0	254.6	254.3	254.0	253.6	252.6	251.0	249.4	247.7	246.1	244.9
65°	223.9	223.2	222.6	221.9	221.3	220.2	218.9	217.5	216.2	214.8	213.7
67.5°	191.0	190.4	189.8	189.3	188.6	187.8	186.8	185.8	184.7	183.8	182.8
70°	171.1	170.3	169.5	168.7	167.9	167.1	166.3	165.5	164.6	163.8	162.9
72.5°	150.3	149.6	149.1	148.5	147.9	147.1	146.2	145.3	144.3	143.5	142.6
75°	118.4	117.8	117.2	116.7	116.2	115.7	115.3	114.9	114.5	114.1	113.4
77.5°	90.1	89.8	89.4	89.2	88.9	88.5	88.0	87.5	87.0	86.5	86.1
80°	71.6	71.2	70.8	70.4	69.9	69.6	69.4	69.1	68.8	68.6	68.4
82.5°	53.6	53.6	53.5	53.4	53.3	53.2	53.2	53.2	53.1	53.1	52.8
85°	31.5	31.3	31.1	30.7	30.5	30.3	30.3	30.3	30.3	30.3	30.1
87.5°	12.7	12.5	12.4	12.2	12.0	12.0	12.1	12.2	12.3	12.4	12.4
90°	0.4	1.2	2.0	2.8	3.6	4.4	5.5	6.6	7.6	8.6	9.0
92.5°	8.7	9.3	9.7	10.3	10.9	11.4	12.0	12.6	13.2	13.8	14.0
95°	21.2	21.7	22.3	22.9	23.4	24.0	24.6	25.3	25.9	26.5	26.9
97.5°	37.6	38.0	38.4	38.9	39.3	39.7	40.2	40.6	41.1	41.6	41.9
100°	48.8	49.3	49.7	50.2	50.7	51.2	51.6	52.0	52.4	52.8	53.0
102.5°	61.7	62.0	62.3	62.6	62.9	63.3	63.8	64.3	64.9	65.4	65.7
105°	80.8	81.0	81.1	81.3	81.4	81.8	82.5	83.3	84.0	84.7	84.7
107.5°	102.9	103.0	103.1	103.1	103.3	103.5	103.8	104.0	104.3	104.6	104.9
110°	116.7	116.8	117.0	117.2	117.3	117.5	117.6	117.8	118.0	118.1	118.4



TEST NUMBER: P332125-927

CATALOG NUMBER: S123DIW-S560D460U927-4F0-1E-UDD-F1

CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	131.0	131.1	131.3	131.3	131.4	131.5	131.5	131.6	131.6	131.6	132.0
115°	152.6	152.8	153.0	153.3	153.5	153.6	153.4	153.3	153.1	153.0	153.0
117.5°	174.3	174.4	174.6	174.8	174.9	174.8	174.7	174.4	174.3	174.0	174.0
120°	187.7	188.2	188.7	189.2	189.6	189.7	189.3	188.9	188.5	188.1	188.1
122.5°	201.8	202.2	202.6	202.9	203.2	203.3	203.1	202.9	202.7	202.5	202.2
125°	223.3	223.6	223.8	224.0	224.3	224.3	224.1	223.9	223.8	223.6	223.3
127.5°	243.1	243.6	244.2	244.6	245.2	245.3	245.2	244.9	244.8	244.6	244.2
130°	256.4	257.0	257.6	258.3	258.9	259.0	258.8	258.6	258.3	258.1	257.8
132.5°	269.5	270.1	270.8	271.5	272.1	272.4	272.1	272.0	271.8	271.6	271.2
135°	289.7	290.2	290.7	291.1	291.6	291.8	291.8	291.7	291.6	291.5	291.2
137.5°	308.4	308.8	309.2	309.6	310.0	310.3	310.5	310.7	310.9	311.1	310.8
140°	321.3	321.7	322.1	322.5	322.9	323.1	323.2	323.3	323.4	323.4	323.4
142.5°	333.1	333.5	333.9	334.3	334.7	334.9	335.1	335.3	335.4	335.5	335.4
145°	351.5	351.6	351.8	352.0	352.1	352.3	352.5	352.8	353.0	353.2	353.2
147.5°	367.6	367.8	368.1	368.4	368.7	368.9	369.2	369.4	369.6	369.9	369.9
150°	378.7	378.9	379.1	379.2	379.4	379.5	379.7	379.9	380.0	380.2	380.2
152.5°	387.9	388.2	388.4	388.6	388.8	389.0	389.0	389.2	389.3	389.4	389.5
155°	402.4	402.4	402.4	402.4	402.4	402.5	402.6	402.7	402.7	402.8	403.1
157.5°	414.8	414.7	414.6	414.5	414.4	414.4	414.5	414.5	414.5	414.6	414.9
160°	422.6	422.4	422.2	422.1	421.9	421.8	421.8	421.8	421.8	421.8	422.2
162.5°	429.4	429.2	429.0	428.7	428.6	428.5	428.5	428.6	428.6	428.7	429.1
165°	438.3	438.1	437.8	437.6	437.4	437.3	437.3	437.3	437.3	437.3	437.8
167.5°	445.4	445.1	444.8	444.5	444.2	444.0	444.1	444.2	444.3	444.3	444.8
170°	449.5	449.2	448.9	448.5	448.2	448.1	448.1	448.1	448.1	448.1	448.6
172.5°	452.7	452.3	452.0	451.7	451.3	451.1	451.1	451.1	451.1	451.1	451.7
175°	455.9	455.6	455.3	455.0	454.6	454.5	454.5	454.5	454.5	454.5	455.0
177.5°	457.3	457.0	456.8	456.5	456.3	456.1	456.1	456.1	456.1	456.1	456.5
180°	457.0	457.0	457.0	457.0	457.0	457.0	457.0	457.0	457.0	457.0	457.0



TEST NUMBER: P332125-927

CATALOG NUMBER: S123DIW-S560D460U927-4F0-1E-UDD-F1

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	705.8	705.8	705.8	705.8	705.8	705.8	705.8	705.8
2.5°	703.1	704.1	705.2	705.7	705.6	705.4	705.4	705.3
5°	699.3	700.7	702.0	702.6	702.3	702.0	701.8	701.5
7.5°	691.9	693.1	694.3	694.8	694.7	694.5	694.3	694.2
10°	685.1	686.3	687.5	688.0	687.8	687.5	687.2	686.9
12.5°	677.6	678.6	679.5	679.8	679.6	679.5	679.3	679.1
15°	664.2	665.3	666.4	666.5	665.7	664.9	664.1	663.3
17.5°	647.2	647.9	648.7	648.9	648.6	648.3	648.0	647.7
20°	634.6	635.2	635.6	635.7	635.3	634.9	634.5	634.1
22.5°	621.3	621.7	622.2	622.1	621.6	621.1	620.6	620.0
25°	599.2	599.4	599.4	599.4	599.0	598.6	598.1	597.7
27.5°	575.8	575.8	575.9	575.8	575.2	574.7	574.2	573.7
30°	559.5	559.5	559.5	559.0	558.1	557.1	556.2	555.2
32.5°	542.5	541.7	540.9	540.3	539.8	539.3	538.8	538.3
35°	514.8	514.0	513.2	512.5	511.7	511.1	510.4	509.8
37.5°	486.2	485.2	484.3	483.5	483.2	482.7	482.3	481.8
40°	467.5	466.4	465.4	464.5	464.0	463.5	463.0	462.4
42.5°	448.1	447.0	445.9	445.1	444.6	444.1	443.5	443.0
45°	419.1	417.5	415.9	414.7	414.1	413.4	412.7	412.0
47.5°	388.6	387.0	385.4	384.3	383.7	383.1	382.5	381.9
50°	368.4	366.9	365.4	364.3	363.5	362.7	361.9	361.1
52.5°	348.0	346.7	345.5	344.4	343.6	342.8	342.0	341.2
55°	316.8	315.4	313.9	312.8	312.1	311.4	310.8	310.1
57.5°	286.2	284.9	283.6	282.5	281.7	281.0	280.2	279.4
60°	264.6	263.4	262.1	261.2	260.5	259.8	259.2	258.5
62.5°	243.7	242.5	241.3	240.4	240.0	239.6	239.1	238.6
65°	212.6	211.6	210.5	209.8	209.4	209.0	208.6	208.1
67.5°	181.9	180.9	180.0	179.2	178.6	178.1	177.5	177.0
70°	161.9	161.1	160.1	159.2	158.6	157.9	157.2	156.5
72.5°	141.8	140.9	140.1	139.5	139.2	138.8	138.5	138.1
75°	112.7	112.1	111.4	110.8	110.4	110.0	109.6	109.2
77.5°	85.6	85.2	84.7	84.4	84.4	84.4	84.4	84.4
80°	68.3	68.1	68.0	68.0	68.0	68.0	68.0	68.0
82.5°	52.5	52.3	52.0	51.9	51.8	51.7	51.6	51.5
85°	29.8	29.5	29.2	29.2	29.2	29.2	29.2	29.2
87.5°	12.3	12.3	12.2	12.2	12.3	12.3	12.3	12.4
90°	9.3	9.6	9.9	10.1	10.3	10.5	10.6	10.8
92.5°	14.3	14.6	14.8	14.9	14.8	14.7	14.6	14.5
95°	27.2	27.5	27.8	28.0	28.0	28.0	28.0	28.0
97.5°	42.3	42.7	43.0	43.2	43.2	43.2	43.1	43.1
100°	53.2	53.5	53.7	53.9	54.1	54.3	54.4	54.6
102.5°	65.9	66.1	66.4	66.5	66.5	66.4	66.4	66.3
105°	84.7	84.7	84.7	84.8	85.0	85.2	85.3	85.5
107.5°	105.1	105.4	105.6	105.7	105.6	105.5	105.4	105.4
110°	118.7	119.1	119.4	119.5	119.3	119.1	119.0	118.8



TEST NUMBER: P332125-927

CATALOG NUMBER: S123DIW-S560D460U927-4F0-1E-UDD-F1

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	132.4	132.8	133.2	133.3	133.2	133.2	133.2	133.2
115°	153.1	153.2	153.3	153.3	153.2	153.1	153.0	153.0
117.5°	174.0	174.0	174.0	173.9	173.6	173.4	173.2	172.9
120°	188.0	187.9	187.8	187.7	187.5	187.4	187.2	187.0
122.5°	202.1	201.8	201.6	201.5	201.2	201.0	200.7	200.5
125°	223.0	222.7	222.4	222.0	221.7	221.4	221.1	220.8
127.5°	243.8	243.3	242.8	242.4	242.1	241.7	241.3	241.0
130°	257.5	257.1	256.8	256.4	255.9	255.3	254.8	254.1
132.5°	270.8	270.5	270.1	269.7	269.3	268.8	268.4	267.9
135°	290.9	290.6	290.3	290.0	289.9	289.7	289.5	289.4
137.5°	310.5	310.1	309.7	309.4	309.1	308.9	308.6	308.2
140°	323.3	323.2	323.1	322.8	322.3	321.7	321.2	320.6
142.5°	335.3	335.3	335.2	334.9	334.5	334.1	333.7	333.2
145°	353.1	353.0	352.9	352.8	352.4	352.1	351.8	351.5
147.5°	369.9	369.9	369.9	369.6	369.2	368.6	368.1	367.7
150°	380.2	380.2	380.2	379.9	379.5	379.0	378.5	378.0
152.5°	389.6	389.8	389.9	389.8	389.4	388.9	388.5	388.1
155°	403.5	403.8	404.1	403.9	403.4	402.8	402.3	401.7
157.5°	415.3	415.7	416.0	415.9	415.5	415.0	414.5	414.2
160°	422.6	423.0	423.4	423.4	423.1	422.8	422.5	422.2
162.5°	429.5	429.9	430.3	430.2	429.8	429.2	428.7	428.2
165°	438.2	438.7	439.2	439.1	438.6	438.0	437.4	436.9
167.5°	445.3	445.8	446.2	446.2	445.8	445.3	444.8	444.3
170°	449.2	449.7	450.3	450.3	449.7	449.2	448.6	448.1
172.5°	452.2	452.7	453.1	453.1	452.6	452.0	451.5	450.9
175°	455.4	455.9	456.4	456.4	455.8	455.3	454.7	454.2
177.5°	456.9	457.3	457.6	457.6	457.2	456.8	456.3	455.8
180°	457.0	457.0	457.0	457.0	457.0	457.0	457.0	457.0

(END OF REPORT)