

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: P332125-840

Luminaire Tested: **S123DIW-S560D460U840-4F0-1E-UDD-F1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332125-840
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-S560D460U840-4F0-1E-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: 3956.9 lumens
Efficiency: N/A
Efficacy: 131.0 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

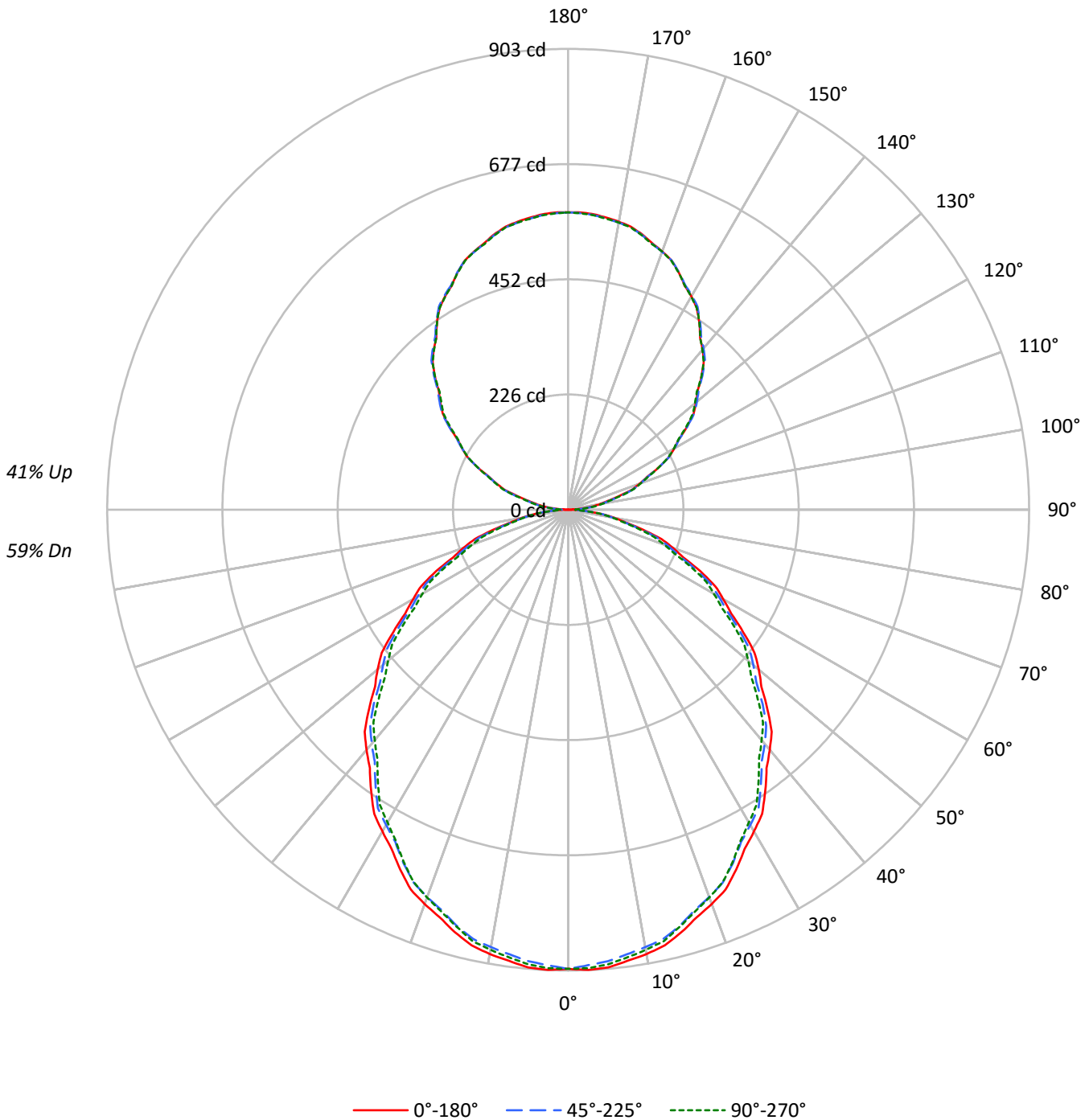
Input Watts (W): 30.2
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P332125-840

CATALOG NUMBER: S123DIW-S560D460U840-4F0-1E-UDD-F1

Luminous Intensity Polar Plot





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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°	9684	9684	9684
5°	9729	9596	9662
10°	9664	9512	9571
15°	9551	9404	9423
20°	9419	9251	9260
25°	9242	9069	9049
30°	9047	8866	8797
35°	8843	8650	8539
40°	8630	8413	8283
45°	8397	8196	7995
50°	8162	7927	7708
55°	7854	7651	7418
60°	7543	7326	7093
65°	7272	6976	6757
70°	6864	6571	6279
75°	6276	6047	5793
80°	5659	5424	5368
85°	4965	4780	4594



TEST NUMBER: P332125-840

CATALOG NUMBER: S123DIW-S560D460U840-4F0-1E-UDD-F1

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	84.7	2.1
10°-20°	239.3	6.0
20°-30°	353.5	8.9
30°-40°	412.9	10.4
40°-50°	415.1	10.5
50°-60°	364.6	9.2
60°-70°	271.7	6.9
70°-80°	154.8	3.9
80°-90°	46.2	1.2
90°-100°	37.9	1.0
100°-110°	113.6	2.9
110°-120°	193.2	4.9
120°-130°	254.1	6.4
130°-140°	285.6	7.2
140°-150°	280.8	7.1
150°-160°	236.4	6.0
160°-170°	157.3	4.0
170°-180°	55.1	1.4
0°-30°	677.5	17.1
0°-40°	1090.4	27.6
0°-60°	1870.2	47.3
0°-90°	2342.8	59.2
90°-120°	344.8	8.7
90°-150°	1165.3	29.5
90°-180°	1614.0	40.8
0°-180°	3956.9	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	900	900	900	900	900	
5°	900	896	888	895	894	85
15°	857	854	844	850	846	242
25°	778	773	764	764	762	358
35°	673	668	658	654	650	421
45°	552	548	538	529	525	426
55°	418	417	408	399	395	375
65°	286	281	274	268	265	282
75°	151	148	145	142	139	161
85°	40	39	39	37	37	44
90°	0	5	11	13	14	4
95°	27	30	34	36	36	30
105°	103	104	108	108	109	110
115°	194	196	195	195	195	192
125°	285	286	285	283	281	254
135°	369	372	372	370	369	284
145°	448	449	450	450	448	280
155°	513	513	514	515	512	236
165°	559	557	557	560	557	157
175°	581	580	579	582	579	55
180°	583	583	583	583	583	



TEST NUMBER: P332125-840

CATALOG NUMBER: S123DIW-S560D460U840-4F0-1E-UDD-F1

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	899.7	899.7	899.7	899.7	899.7	899.7	899.7	899.7	899.7	899.7	899.7
2.5°	902.7	902.2	901.7	901.1	900.6	899.5	898.0	896.5	895.0	893.5	894.8
5°	900.4	899.6	898.7	897.9	897.0	895.6	893.7	891.8	890.0	888.1	889.8
7.5°	891.6	890.8	889.9	889.1	888.2	886.8	884.8	882.8	880.9	879.0	880.5
10°	884.2	883.3	882.5	881.6	880.8	879.2	877.0	874.7	872.5	870.3	871.8
12.5°	874.3	873.5	872.8	872.1	871.4	870.0	867.9	865.8	863.7	861.6	862.7
15°	857.1	856.5	855.8	855.1	854.3	852.9	850.7	848.5	846.2	843.9	845.4
17.5°	837.2	836.3	835.4	834.5	833.5	832.0	829.8	827.6	825.4	823.0	824.0
20°	822.3	821.3	820.2	819.2	818.2	816.6	814.4	812.1	809.8	807.6	808.3
22.5°	805.6	804.6	803.5	802.5	801.4	799.8	797.6	795.4	793.1	790.9	791.4
25°	778.2	777.2	776.2	775.2	774.1	772.4	770.2	768.0	765.8	763.6	763.7
27.5°	749.0	748.0	747.0	746.0	745.0	743.3	740.8	738.5	736.1	733.7	733.8
30°	727.9	727.1	726.2	725.4	724.5	722.9	720.4	718.0	715.7	713.3	713.3
32.5°	706.9	705.8	704.6	703.5	702.4	700.8	699.0	697.1	695.3	693.5	692.5
35°	673.0	672.0	671.0	669.9	668.9	667.2	665.0	662.8	660.6	658.3	657.3
37.5°	638.3	637.0	635.7	634.4	633.1	631.4	629.0	626.8	624.5	622.3	621.1
40°	614.2	613.2	612.2	611.2	610.1	608.3	605.9	603.6	601.2	598.7	597.3
42.5°	590.1	589.0	587.7	586.5	585.4	583.6	581.2	578.9	576.4	574.0	572.6
45°	551.6	550.9	550.2	549.5	548.8	547.3	545.1	542.9	540.7	538.4	536.3
47.5°	513.3	512.3	511.4	510.4	509.4	507.8	505.7	503.6	501.5	499.4	497.4
50°	487.4	486.5	485.6	484.7	483.9	482.4	480.1	477.9	475.6	473.4	471.5
52.5°	460.1	459.5	459.0	458.4	457.8	456.3	453.9	451.6	449.2	446.9	445.2
55°	418.5	418.3	418.2	418.0	417.8	416.6	414.3	412.1	409.9	407.7	405.8
57.5°	378.9	378.3	377.7	377.2	376.6	375.4	373.5	371.8	370.0	368.2	366.6
60°	350.4	350.2	350.1	349.9	349.7	348.6	346.6	344.5	342.4	340.3	338.8
62.5°	325.1	324.6	324.2	323.8	323.3	322.0	319.9	317.9	315.8	313.8	312.3
65°	285.5	284.6	283.8	282.9	282.1	280.7	279.0	277.3	275.6	273.9	272.5
67.5°	243.5	242.8	242.0	241.3	240.4	239.4	238.1	236.8	235.5	234.3	233.1
70°	218.1	217.1	216.1	215.1	214.0	213.0	212.0	211.0	209.8	208.8	207.6
72.5°	191.6	190.8	190.1	189.2	188.5	187.5	186.4	185.2	184.0	182.9	181.8
75°	150.9	150.2	149.5	148.8	148.1	147.5	146.9	146.4	145.9	145.4	144.6
77.5°	114.8	114.4	114.0	113.7	113.3	112.8	112.2	111.6	110.9	110.3	109.8
80°	91.3	90.8	90.3	89.8	89.2	88.8	88.5	88.1	87.8	87.5	87.3
82.5°	68.4	68.3	68.2	68.1	68.0	67.9	67.9	67.8	67.7	67.7	67.3
85°	40.2	39.9	39.6	39.2	38.9	38.7	38.7	38.7	38.7	38.7	38.4
87.5°	16.2	16.0	15.8	15.6	15.3	15.3	15.5	15.6	15.7	15.9	15.8
90°	0.5	1.5	2.5	3.5	4.5	5.7	7.0	8.4	9.7	11.0	11.4
92.5°	11.1	11.8	12.4	13.1	13.8	14.5	15.3	16.1	16.9	17.6	17.9
95°	27.0	27.7	28.4	29.2	29.9	30.6	31.4	32.2	33.0	33.8	34.2
97.5°	48.0	48.5	49.0	49.6	50.1	50.6	51.2	51.8	52.4	53.0	53.4
100°	62.2	62.8	63.4	64.0	64.6	65.2	65.7	66.2	66.8	67.3	67.6
102.5°	78.7	79.1	79.5	79.8	80.2	80.7	81.4	82.0	82.7	83.4	83.7
105°	103.0	103.2	103.4	103.6	103.8	104.3	105.2	106.1	107.0	108.0	108.0
107.5°	131.2	131.3	131.4	131.5	131.7	131.9	132.3	132.6	133.0	133.4	133.7
110°	148.8	149.0	149.2	149.4	149.6	149.8	150.0	150.2	150.4	150.6	151.0



TEST NUMBER: P332125-840

CATALOG NUMBER: S123DIW-S560D460U840-4F0-1E-UDD-F1

CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	167.0	167.1	167.3	167.4	167.5	167.6	167.6	167.7	167.7	167.7	168.2
115°	194.5	194.8	195.1	195.4	195.7	195.8	195.6	195.4	195.2	195.0	195.1
117.5°	222.2	222.4	222.6	222.8	223.0	222.9	222.7	222.4	222.2	221.9	221.9
120°	239.3	239.9	240.5	241.2	241.8	241.9	241.4	240.9	240.3	239.8	239.7
122.5°	257.3	257.7	258.2	258.6	259.0	259.1	258.9	258.6	258.4	258.1	257.8
125°	284.7	285.0	285.3	285.6	285.9	285.9	285.7	285.5	285.3	285.1	284.7
127.5°	309.9	310.5	311.2	311.8	312.6	312.8	312.6	312.3	312.0	311.8	311.2
130°	326.8	327.6	328.4	329.2	330.0	330.2	329.9	329.6	329.3	329.0	328.6
132.5°	343.6	344.4	345.3	346.1	346.9	347.2	346.9	346.7	346.5	346.3	345.8
135°	369.3	369.9	370.5	371.1	371.7	372.0	371.9	371.8	371.7	371.6	371.2
137.5°	393.1	393.6	394.2	394.7	395.2	395.6	395.8	396.1	396.4	396.6	396.2
140°	409.6	410.1	410.6	411.1	411.6	411.9	412.0	412.1	412.2	412.3	412.2
142.5°	424.6	425.2	425.7	426.2	426.7	427.0	427.2	427.4	427.6	427.7	427.6
145°	448.1	448.3	448.5	448.7	448.9	449.1	449.4	449.7	450.0	450.3	450.2
147.5°	468.6	468.9	469.3	469.6	470.0	470.3	470.6	470.9	471.2	471.5	471.5
150°	482.8	483.0	483.2	483.4	483.6	483.8	484.0	484.2	484.4	484.6	484.6
152.5°	494.5	494.8	495.1	495.3	495.6	495.8	495.9	496.1	496.2	496.3	496.6
155°	513.0	513.0	513.0	513.0	513.0	513.1	513.2	513.3	513.4	513.5	513.9
157.5°	528.8	528.7	528.6	528.4	528.3	528.3	528.4	528.5	528.5	528.6	529.0
160°	538.7	538.5	538.3	538.1	537.9	537.8	537.8	537.8	537.8	537.8	538.3
162.5°	547.4	547.1	546.8	546.5	546.3	546.2	546.2	546.3	546.4	546.5	547.0
165°	558.8	558.5	558.2	557.8	557.5	557.4	557.4	557.4	557.4	557.4	558.1
167.5°	567.8	567.4	567.0	566.6	566.2	566.0	566.1	566.2	566.3	566.3	567.0
170°	573.0	572.6	572.2	571.8	571.4	571.2	571.2	571.2	571.2	571.2	571.9
172.5°	577.0	576.6	576.2	575.8	575.3	575.1	575.1	575.1	575.1	575.1	575.8
175°	581.2	580.8	580.4	580.0	579.6	579.4	579.4	579.4	579.4	579.4	580.0
177.5°	583.0	582.6	582.3	582.0	581.7	581.5	581.5	581.5	581.5	581.5	582.0
180°	582.6	582.6	582.6	582.6	582.6	582.6	582.6	582.6	582.6	582.6	582.6



TEST NUMBER: P332125-840

CATALOG NUMBER: S123DIW-S560D460U840-4F0-1E-UDD-F1

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	899.7	899.7	899.7	899.7	899.7	899.7	899.7	899.7
2.5°	896.3	897.6	899.0	899.6	899.5	899.3	899.2	899.1
5°	891.5	893.2	894.9	895.6	895.2	894.9	894.6	894.2
7.5°	882.0	883.5	885.1	885.8	885.6	885.3	885.1	884.9
10°	873.3	874.9	876.5	877.1	876.8	876.4	876.1	875.7
12.5°	863.8	865.1	866.2	866.6	866.4	866.2	866.0	865.8
15°	846.8	848.1	849.5	849.6	848.6	847.6	846.6	845.6
17.5°	825.1	826.0	827.0	827.2	826.9	826.5	826.1	825.7
20°	809.0	809.7	810.3	810.4	809.9	809.4	808.9	808.4
22.5°	792.0	792.5	793.1	793.0	792.4	791.7	791.1	790.4
25°	763.9	764.1	764.2	764.1	763.6	763.1	762.4	761.9
27.5°	734.0	734.1	734.2	734.0	733.3	732.7	732.0	731.3
30°	713.3	713.3	713.3	712.7	711.4	710.2	709.0	707.8
32.5°	691.6	690.5	689.5	688.7	688.1	687.5	686.8	686.2
35°	656.2	655.2	654.2	653.3	652.4	651.6	650.7	649.8
37.5°	619.8	618.5	617.3	616.4	615.9	615.3	614.8	614.2
40°	596.0	594.6	593.3	592.2	591.5	590.9	590.2	589.5
42.5°	571.3	569.9	568.5	567.4	566.7	566.1	565.4	564.7
45°	534.3	532.2	530.2	528.7	527.9	526.9	526.1	525.2
47.5°	495.3	493.3	491.3	489.9	489.2	488.4	487.7	486.9
50°	469.7	467.8	465.9	464.4	463.3	462.3	461.3	460.3
52.5°	443.6	442.0	440.4	439.0	438.0	437.0	436.0	434.9
55°	403.8	402.0	400.1	398.7	397.9	397.0	396.2	395.3
57.5°	364.9	363.1	361.5	360.1	359.1	358.2	357.2	356.2
60°	337.3	335.8	334.2	333.0	332.1	331.2	330.4	329.5
62.5°	310.6	309.1	307.6	306.5	305.9	305.4	304.8	304.2
65°	271.0	269.7	268.3	267.4	266.9	266.4	265.9	265.3
67.5°	231.9	230.7	229.4	228.4	227.7	227.0	226.3	225.6
70°	206.4	205.3	204.1	203.0	202.2	201.3	200.5	199.5
72.5°	180.8	179.7	178.6	177.8	177.4	176.9	176.5	176.0
75°	143.7	142.9	142.0	141.3	140.8	140.3	139.8	139.3
77.5°	109.2	108.6	108.0	107.7	107.7	107.7	107.7	107.7
80°	87.1	86.8	86.7	86.6	86.6	86.6	86.6	86.6
82.5°	67.0	66.7	66.3	66.1	66.0	65.8	65.7	65.6
85°	38.0	37.7	37.3	37.2	37.2	37.2	37.2	37.2
87.5°	15.7	15.7	15.6	15.6	15.7	15.7	15.7	15.8
90°	11.8	12.2	12.6	12.9	13.1	13.3	13.5	13.7
92.5°	18.2	18.6	18.9	19.0	18.9	18.7	18.6	18.5
95°	34.6	35.0	35.4	35.6	35.6	35.6	35.6	35.6
97.5°	53.9	54.4	54.8	55.0	55.0	55.0	54.9	54.9
100°	67.9	68.2	68.5	68.8	69.0	69.2	69.4	69.6
102.5°	84.0	84.3	84.6	84.7	84.7	84.6	84.6	84.5
105°	108.0	108.0	108.0	108.1	108.4	108.6	108.8	109.0
107.5°	134.0	134.3	134.6	134.7	134.6	134.5	134.4	134.3
110°	151.4	151.8	152.2	152.3	152.1	151.9	151.7	151.5



TEST NUMBER: P332125-840

CATALOG NUMBER: S123DIW-S560D460U840-4F0-1E-UDD-F1

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	168.7	169.3	169.8	170.0	169.9	169.9	169.9	169.8
115°	195.2	195.3	195.4	195.4	195.3	195.2	195.1	195.0
117.5°	221.9	221.8	221.8	221.7	221.4	221.1	220.8	220.5
120°	239.6	239.5	239.4	239.2	239.0	238.8	238.6	238.4
122.5°	257.6	257.3	257.0	256.8	256.5	256.2	255.9	255.6
125°	284.3	283.9	283.5	283.1	282.7	282.3	281.9	281.4
127.5°	310.7	310.1	309.5	309.0	308.6	308.1	307.6	307.2
130°	328.2	327.8	327.4	326.9	326.2	325.5	324.8	324.0
132.5°	345.3	344.8	344.3	343.8	343.3	342.6	342.1	341.5
135°	370.8	370.4	370.0	369.7	369.5	369.3	369.1	368.9
137.5°	395.8	395.4	394.9	394.5	394.0	393.7	393.3	392.9
140°	412.1	412.0	411.9	411.5	410.8	410.1	409.4	408.7
142.5°	427.5	427.4	427.3	427.0	426.5	425.9	425.4	424.7
145°	450.1	450.0	449.9	449.7	449.3	448.9	448.5	448.1
147.5°	471.5	471.5	471.5	471.2	470.6	469.9	469.3	468.7
150°	484.6	484.6	484.6	484.3	483.7	483.1	482.5	481.9
152.5°	496.7	496.9	497.1	496.9	496.3	495.7	495.2	494.7
155°	514.3	514.7	515.1	514.9	514.2	513.5	512.8	512.1
157.5°	529.5	529.9	530.3	530.2	529.7	529.1	528.5	528.0
160°	538.8	539.3	539.8	539.8	539.4	539.0	538.6	538.2
162.5°	547.5	548.1	548.6	548.5	547.9	547.1	546.5	545.8
165°	558.7	559.3	559.9	559.8	559.1	558.4	557.6	556.9
167.5°	567.6	568.3	568.9	568.9	568.3	567.6	567.0	566.3
170°	572.6	573.3	574.0	574.0	573.3	572.6	571.9	571.2
172.5°	576.4	577.0	577.6	577.6	576.9	576.2	575.5	574.8
175°	580.6	581.2	581.8	581.8	581.1	580.4	579.7	579.0
177.5°	582.5	583.0	583.4	583.4	582.8	582.3	581.7	581.1
180°	582.6	582.6	582.6	582.6	582.6	582.6	582.6	582.6

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