

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: P332130-840

Luminaire Tested: **S123DIW-S560D755U840-4F0-1E-UDD-F**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332130-840
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-5,
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S123DIW-S560D755U840-4F0-1E-UDD-F
Description: DEFINE 3 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 560 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
UPLIGHT 755 LUMENS PER FOOT, NO LENS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 5394.1 lumens
Efficiency: N/A
Efficacy: 143.5 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

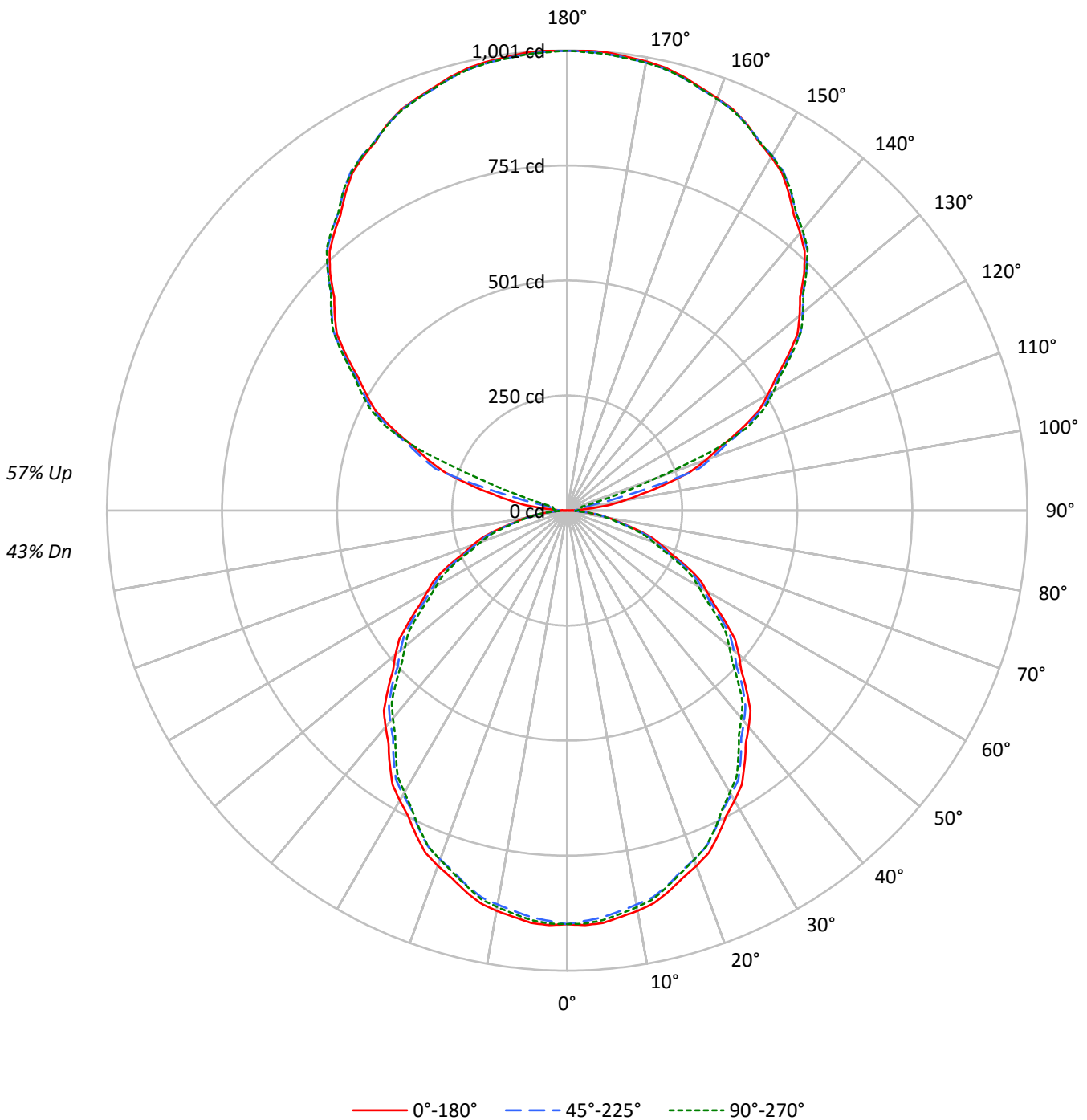
Input Watts (W): 37.6
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P332130-840

CATALOG NUMBER: S123DIW-S560D755U840-4F0-1E-UDD-F

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	106	106	106	106	97	97	97	97	80	80	80	64	64	64	50	50	50	43
1	96	92	88	85	88	84	81	78	70	67	65	56	55	53	44	43	42	36
2	88	80	74	69	80	74	68	64	61	57	54	50	47	44	39	37	35	31
3	80	70	63	57	73	65	58	53	54	49	45	44	40	38	34	32	30	26
4	73	62	54	48	66	57	50	45	48	43	39	39	35	32	31	28	26	22
5	67	55	47	41	61	51	44	39	43	37	33	35	31	28	28	25	23	19
6	62	50	42	36	56	46	39	34	38	33	29	32	27	24	25	22	20	17
7	57	45	37	31	52	41	34	29	35	29	25	29	25	21	23	20	18	15
8	53	41	33	28	48	38	31	26	32	26	23	26	22	19	21	18	16	13
9	49	37	30	25	45	34	28	23	29	24	20	24	20	17	19	16	14	12
10	46	34	27	22	42	31	25	21	27	22	18	22	18	15	18	15	13	11

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: P332130-840

CATALOG NUMBER: S123DIW-S560D755U840-4F0-1E-UDD-F

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	84.7	1.6
10°-20°	239.3	4.4
20°-30°	353.5	6.6
30°-40°	412.9	7.7
40°-50°	415.1	7.7
50°-60°	364.6	6.8
60°-70°	271.7	5.0
70°-80°	154.8	2.9
80°-90°	47.2	0.9
90°-100°	36.4	0.7
100°-110°	173.3	3.2
110°-120°	416.3	7.7
120°-130°	530.1	9.8
130°-140°	566.4	10.5
140°-150°	529.7	9.8
150°-160°	427.3	7.9
160°-170°	275.7	5.1
170°-180°	95.0	1.8
0°-30°	677.5	12.6
0°-40°	1090.4	20.2
0°-60°	1870.2	34.7
0°-90°	2343.9	43.5
90°-120°	626.0	11.6
90°-150°	2252.2	41.8
90°-180°	3050.0	56.5
0°-180°	5394.1	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°	1	8	18	21	22	4
95°	45	17	23	28	28	56
105°	222	225	163	39	33	235
115°	415	420	427	434	437	410
125°	586	591	594	596	597	523
135°	729	733	736	738	736	561
145°	841	846	848	849	849	526
155°	927	925	926	929	925	427
165°	977	975	974	980	975	276
175°	1000	997	997	1002	996	95
180°	1000	1000	1000	1000	1000	



TEST NUMBER: P332130-840

CATALOG NUMBER: S123DIW-S560D755U840-4F0-1E-UDD-F

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°	16.3	16.2	16.1	16.0	16.0	16.1	16.3	16.6	16.9	17.2	17.2
90°	0.7	2.4	4.0	5.7	7.4	9.3	11.4	13.5	15.7	17.9	18.5
92.5°	13.8	13.3	12.9	12.4	12.0	12.5	14.1	15.8	17.4	19.0	20.1
95°	45.3	38.6	31.8	25.0	18.3	15.8	17.6	19.4	21.2	23.0	24.2
97.5°	91.1	88.1	85.0	82.0	79.0	71.5	59.6	47.7	35.9	23.9	25.2
100°	125.6	128.9	132.2	135.5	138.8	127.5	101.8	76.0	50.3	24.5	25.9
102.5°	164.8	167.2	169.6	172.0	174.3	161.5	133.3	105.1	77.1	48.9	44.8
105°	221.5	223.3	225.1	226.9	228.7	222.2	207.3	192.5	177.6	162.8	133.5
107.5°	281.1	282.7	284.1	285.6	287.0	288.9	291.2	293.6	296.0	298.3	276.8
110°	321.0	322.3	323.7	325.0	326.3	327.9	329.7	331.5	333.4	335.2	329.7



TEST NUMBER: P332130-840

CATALOG NUMBER: S123DIW-S560D755U840-4F0-1E-UDD-F

CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	359.1	360.2	361.4	362.6	363.9	365.4	367.2	369.0	370.8	372.6	372.7
115°	415.4	416.4	417.4	418.4	419.4	420.6	422.1	423.5	425.1	426.6	428.2
117.5°	470.0	471.2	472.4	473.6	474.8	475.8	476.6	477.4	478.1	478.9	480.2
120°	503.8	505.3	506.9	508.3	509.8	510.8	511.3	511.8	512.3	512.7	514.1
122.5°	538.4	539.6	540.8	542.0	543.2	544.1	544.7	545.4	546.0	546.6	547.5
125°	585.6	586.9	588.2	589.6	590.9	591.9	592.5	593.2	593.8	594.5	594.8
127.5°	631.4	632.7	634.0	635.3	636.6	637.7	638.5	639.2	640.1	640.9	641.4
130°	659.8	661.3	662.6	663.9	665.2	666.2	666.8	667.5	668.1	668.8	669.4
132.5°	687.2	688.5	689.8	691.2	692.6	693.5	694.0	694.5	695.0	695.6	696.2
135°	729.0	730.0	730.9	732.0	733.0	733.8	734.5	735.1	735.8	736.4	736.9
137.5°	764.7	765.9	767.2	768.4	769.7	770.5	770.8	771.2	771.6	771.9	772.7
140°	788.4	789.4	790.4	791.4	792.4	793.1	793.7	794.2	794.7	795.2	795.8
142.5°	810.4	811.4	812.4	813.4	814.5	815.2	815.7	816.2	816.7	817.2	817.7
145°	841.2	842.3	843.5	844.7	845.9	846.6	846.9	847.3	847.6	847.9	848.2
147.5°	870.2	870.9	871.7	872.4	873.2	873.7	874.1	874.4	874.7	875.0	875.5
150°	888.1	888.5	889.0	889.5	890.0	890.4	890.8	891.1	891.4	891.7	892.1
152.5°	904.0	904.3	904.5	904.7	905.0	905.2	905.4	905.6	905.8	906.1	906.6
155°	926.7	926.3	926.0	925.6	925.3	925.2	925.4	925.6	925.7	925.9	926.8
157.5°	944.2	944.2	944.1	944.1	944.1	944.0	943.8	943.6	943.5	943.3	944.3
160°	954.9	954.7	954.6	954.4	954.2	954.1	953.9	953.7	953.6	953.4	954.4
162.5°	965.0	964.6	964.1	963.7	963.3	963.0	962.8	962.7	962.5	962.3	963.5
165°	977.2	976.7	976.2	975.7	975.2	974.9	974.7	974.5	974.4	974.2	975.5
167.5°	986.7	986.0	985.4	984.7	984.1	983.7	983.7	983.7	983.7	983.7	985.0
170°	992.1	991.4	990.8	990.1	989.5	989.1	989.1	989.1	989.1	989.1	990.4
172.5°	995.6	994.8	994.0	993.3	992.5	992.1	992.3	992.4	992.5	992.7	994.0
175°	1000.3	999.4	998.6	997.7	996.9	996.6	996.7	996.9	997.1	997.2	998.5
177.5°	1001.4	1000.8	1000.1	999.5	998.8	998.6	998.7	998.8	999.0	999.1	1000.1
180°	1000.3	1000.3	1000.3	1000.3	1000.3	1000.3	1000.3	1000.3	1000.3	1000.3	1000.3



TEST NUMBER: P332130-840

CATALOG NUMBER: S123DIW-S560D755U840-4F0-1E-UDD-F

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°	17.2	17.2	17.2	17.2	17.3	17.4	17.4	17.5
90°	19.2	19.8	20.5	21.0	21.3	21.6	21.9	22.3
92.5°	21.1	22.2	23.2	23.8	24.0	24.2	24.4	24.6
95°	25.3	26.5	27.7	28.3	28.3	28.3	28.3	28.3
97.5°	26.6	27.9	29.2	30.0	30.1	30.3	30.5	30.6
100°	27.2	28.5	29.8	30.6	30.7	30.9	31.0	31.2
102.5°	40.7	36.7	32.5	30.6	30.9	31.2	31.5	31.8
105°	104.3	75.0	45.8	31.4	31.7	32.0	32.4	32.7
107.5°	255.4	234.0	212.6	190.9	168.7	146.7	124.7	102.7
110°	324.3	318.8	313.4	298.8	275.2	251.6	227.9	204.4



TEST NUMBER: P332130-840

CATALOG NUMBER: S123DIW-S560D755U840-4F0-1E-UDD-F

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	372.8	372.9	373.0	370.5	365.6	360.6	355.6	350.6
115°	429.9	431.5	433.1	434.3	434.9	435.7	436.3	437.0
117.5°	481.5	482.8	484.1	484.8	485.0	485.1	485.2	485.4
120°	515.4	516.7	518.1	518.7	518.7	518.7	518.7	518.7
122.5°	548.5	549.4	550.4	550.9	551.0	551.1	551.3	551.4
125°	595.1	595.5	595.8	596.1	596.5	596.8	597.1	597.4
127.5°	642.0	642.5	643.0	643.1	642.8	642.4	642.1	641.8
130°	670.1	670.8	671.5	671.7	671.3	671.0	670.7	670.2
132.5°	696.9	697.5	698.2	698.3	697.8	697.4	696.9	696.4
135°	737.4	737.9	738.4	738.4	737.9	737.4	736.9	736.4
137.5°	773.6	774.4	775.2	775.4	775.1	774.7	774.4	774.1
140°	796.5	797.1	797.8	798.0	797.6	797.3	797.0	796.6
142.5°	818.2	818.7	819.2	819.3	818.8	818.4	817.9	817.4
145°	848.6	848.9	849.2	849.4	849.4	849.4	849.4	849.4
147.5°	875.8	876.1	876.5	876.2	875.5	874.6	873.9	873.1
150°	892.4	892.7	893.0	893.0	892.5	892.0	891.5	891.0
152.5°	907.2	907.8	908.4	908.3	907.6	906.8	906.1	905.2
155°	927.6	928.4	929.3	929.2	928.2	927.2	926.1	925.1
157.5°	945.3	946.2	947.3	947.2	945.8	944.5	943.3	942.0
160°	955.4	956.4	957.4	957.4	956.1	955.0	953.8	952.7
162.5°	964.6	965.7	966.8	966.8	965.8	964.8	963.8	962.8
165°	976.8	978.2	979.5	979.6	978.5	977.2	976.1	974.9
167.5°	986.3	987.7	989.1	989.1	987.7	986.3	985.0	983.7
170°	991.7	993.1	994.4	994.4	993.1	991.7	990.4	989.1
172.5°	995.3	996.6	997.9	997.8	996.4	995.0	993.5	992.1
175°	999.6	1000.8	1001.9	1001.8	1000.5	999.2	997.8	996.5
177.5°	1001.2	1002.2	1003.3	1003.1	1001.8	1000.5	999.2	997.8
180°	1000.3	1000.3	1000.3	1000.3	1000.3	1000.3	1000.3	1000.3

(END OF REPORT)