

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: P331916-840

Luminaire Tested: **S123DIP-S560D365U840-4F0-1E-UDD-F**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P331916-840
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: S123DIP-S560D365U840-4F0-1E-UDD-F
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 560 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
UPLIGHT 365 LUMENS PER FOOT, NO LENS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3807.1 lumens
Efficiency: N/A
Efficacy: 138.4 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: Semi-Direct

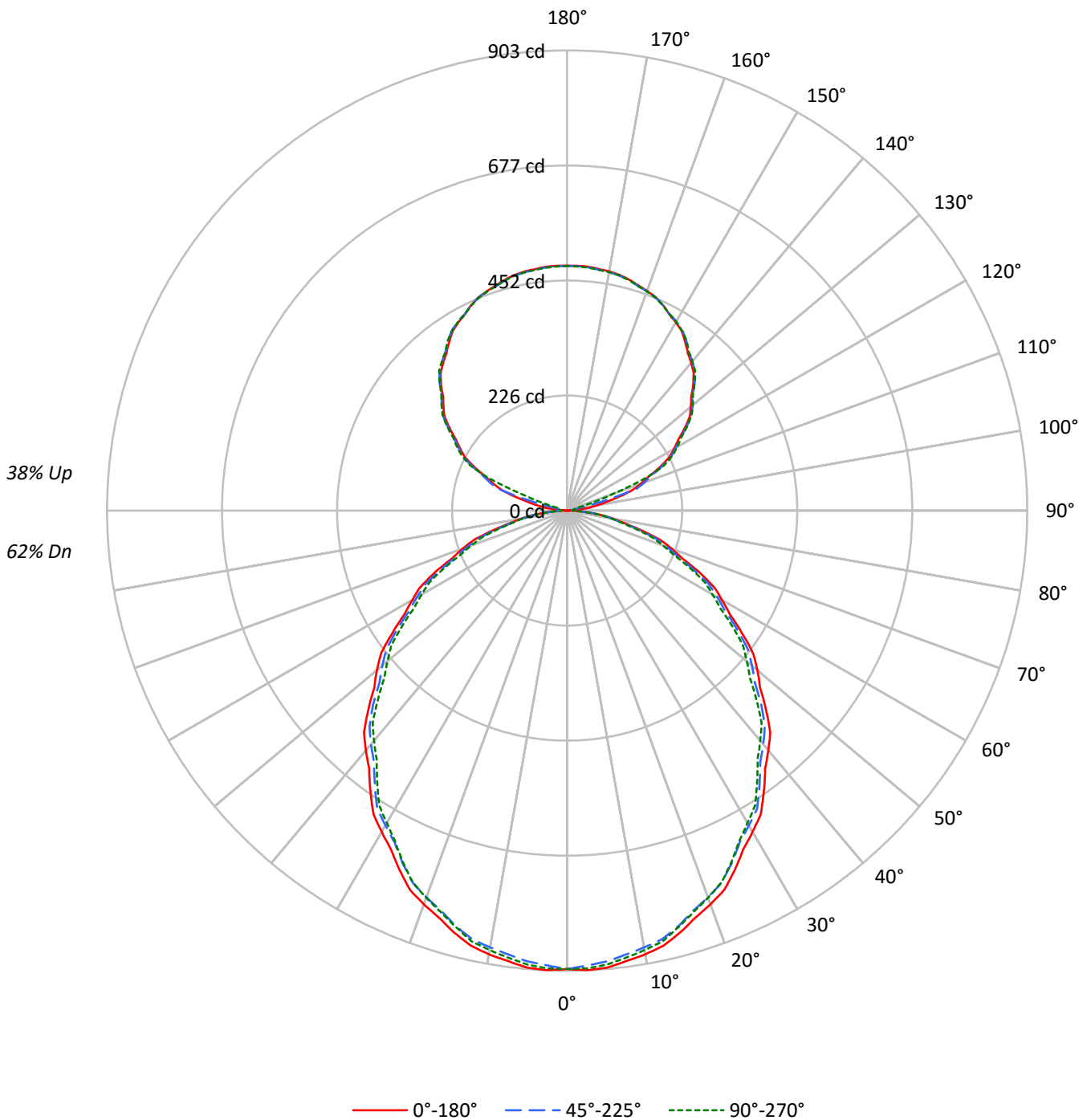
Input Watts (W): 27.5
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P331916-840

CATALOG NUMBER: S123DIP-S560D365U840-4F0-1E-UDD-F

Luminous Intensity Polar Plot





TEST NUMBER: P331916-840

CATALOG NUMBER: S123DIP-S560D365U840-4F0-1E-UDD-F

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	110	110	110	110	103	103	103	103	90	90	90	78	78	78	67	67	67	62
1	100	96	92	88	94	90	86	83	79	76	74	68	66	65	59	57	56	52
2	91	84	77	72	85	79	73	68	69	65	61	60	57	54	52	49	47	43
3	83	74	66	60	78	69	62	57	61	56	51	53	49	46	46	43	40	37
4	76	65	57	51	71	61	54	48	54	48	44	47	43	39	41	37	35	31
5	70	58	50	44	65	55	47	42	48	42	38	42	38	34	37	33	30	27
6	65	52	44	38	60	49	42	36	44	38	33	38	33	30	33	30	27	24
7	60	47	39	33	56	45	37	32	40	34	29	35	30	26	31	27	24	21
8	55	43	35	30	52	41	33	28	36	30	26	32	27	24	28	24	21	19
9	52	39	32	26	48	37	30	25	33	27	23	29	25	21	26	22	19	17
10	48	36	29	24	45	34	27	23	31	25	21	27	23	19	24	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: P331916-840

CATALOG NUMBER: S123DIP-S560D365U840-4F0-1E-UDD-F

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	84.7	2.2
10°-20°	239.3	6.3
20°-30°	353.5	9.3
30°-40°	412.9	10.8
40°-50°	415.1	10.9
50°-60°	364.6	9.6
60°-70°	271.7	7.1
70°-80°	154.8	4.1
80°-90°	45.8	1.2
90°-100°	17.5	0.5
100°-110°	83.2	2.2
110°-120°	199.9	5.3
120°-130°	254.6	6.7
130°-140°	272.0	7.1
140°-150°	254.4	6.7
150°-160°	205.2	5.4
160°-170°	132.4	3.5
170°-180°	45.6	1.2
0°-30°	677.5	17.8
0°-40°	1090.4	28.6
0°-60°	1870.2	49.1
0°-90°	2342.4	61.5
90°-120°	300.6	7.9
90°-150°	1081.5	28.4
90°-180°	1465.0	38.5
0°-180°	3807.1	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°	0	4	9	10	11	3
95°	22	8	11	13	14	27
105°	106	108	78	18	16	113
115°	199	202	205	208	210	197
125°	281	284	286	286	287	251
135°	350	352	354	355	354	269
145°	404	406	407	408	408	253
155°	445	444	445	446	444	205
165°	469	468	468	470	468	133
175°	480	479	479	481	479	46
180°	480	480	480	480	480	



TEST NUMBER: P331916-840

CATALOG NUMBER: S123DIP-S560D365U840-4F0-1E-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°	16.2	16.0	15.7	15.3	15.1	15.0	15.1	15.1	15.2	15.3	15.2
90°	0.4	1.1	1.9	2.7	3.5	4.4	5.5	6.5	7.6	8.6	8.9
92.5°	6.7	6.5	6.2	6.0	5.8	6.1	6.8	7.6	8.4	9.1	9.6
95°	21.8	18.5	15.2	12.0	8.8	7.6	8.5	9.3	10.2	11.1	11.6
97.5°	43.7	42.3	40.8	39.4	37.9	34.3	28.6	22.9	17.2	11.5	12.1
100°	60.3	61.9	63.5	65.0	66.7	61.3	48.9	36.6	24.1	11.8	12.4
102.5°	79.2	80.3	81.4	82.6	83.7	77.6	64.0	50.5	37.0	23.5	21.5
105°	106.3	107.2	108.1	109.0	109.9	106.7	99.6	92.4	85.3	78.2	64.1
107.5°	135.0	135.7	136.4	137.1	137.8	138.8	139.9	141.0	142.1	143.2	132.9
110°	154.2	154.8	155.4	156.0	156.7	157.4	158.3	159.2	160.1	161.0	158.3



TEST NUMBER: P331916-840

CATALOG NUMBER: S123DIP-S560D365U840-4F0-1E-UDD-F

CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	172.4	173.0	173.6	174.1	174.7	175.4	176.3	177.2	178.0	178.9	178.9
115°	199.4	200.0	200.5	200.9	201.4	202.0	202.7	203.4	204.1	204.8	205.6
117.5°	225.7	226.3	226.8	227.4	228.0	228.5	228.8	229.2	229.6	229.9	230.6
120°	242.0	242.7	243.4	244.1	244.8	245.3	245.5	245.8	246.0	246.2	246.9
122.5°	258.5	259.1	259.6	260.2	260.8	261.3	261.6	261.9	262.2	262.5	263.0
125°	281.2	281.9	282.5	283.1	283.8	284.2	284.6	284.9	285.2	285.5	285.7
127.5°	303.2	303.9	304.5	305.1	305.7	306.2	306.6	307.0	307.4	307.7	308.0
130°	316.9	317.5	318.1	318.8	319.4	319.9	320.2	320.5	320.8	321.1	321.4
132.5°	330.0	330.6	331.3	331.9	332.5	333.0	333.3	333.6	333.8	334.1	334.4
135°	350.1	350.5	351.0	351.5	351.9	352.3	352.6	353.0	353.4	353.7	353.9
137.5°	367.2	367.8	368.4	369.0	369.6	370.0	370.2	370.3	370.5	370.7	371.1
140°	378.6	379.1	379.6	380.0	380.5	380.9	381.1	381.3	381.6	381.8	382.1
142.5°	389.2	389.7	390.1	390.6	391.1	391.4	391.7	391.9	392.1	392.4	392.6
145°	403.9	404.6	405.1	405.7	406.2	406.6	406.7	406.9	407.0	407.2	407.4
147.5°	417.9	418.3	418.6	419.0	419.3	419.6	419.8	419.9	420.1	420.2	420.4
150°	426.5	426.7	426.9	427.2	427.4	427.6	427.8	427.9	428.1	428.2	428.4
152.5°	434.1	434.2	434.3	434.4	434.5	434.7	434.7	434.8	434.9	435.0	435.4
155°	445.0	444.8	444.6	444.5	444.3	444.3	444.4	444.4	444.5	444.6	445.0
157.5°	453.4	453.4	453.4	453.3	453.3	453.3	453.2	453.1	453.0	453.0	453.4
160°	458.6	458.5	458.4	458.3	458.3	458.2	458.1	458.0	458.0	457.9	458.3
162.5°	463.4	463.2	463.0	462.8	462.6	462.4	462.3	462.3	462.2	462.1	462.6
165°	469.3	469.0	468.8	468.6	468.3	468.2	468.1	468.0	467.9	467.9	468.5
167.5°	473.8	473.5	473.2	472.9	472.5	472.4	472.4	472.4	472.4	472.4	473.0
170°	476.4	476.1	475.7	475.4	475.1	474.9	474.9	474.9	474.9	474.9	475.6
172.5°	478.1	477.8	477.4	477.0	476.6	476.5	476.5	476.6	476.7	476.7	477.4
175°	480.3	479.9	479.5	479.2	478.8	478.6	478.7	478.8	478.8	478.9	479.5
177.5°	480.9	480.6	480.3	480.0	479.6	479.5	479.6	479.6	479.7	479.8	480.3
180°	480.3	480.3	480.3	480.3	480.3	480.3	480.3	480.3	480.3	480.3	480.3



TEST NUMBER: P331916-840

CATALOG NUMBER: S123DIP-S560D365U840-4F0-1E-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°	15.1	15.1	15.0	15.0	15.0	15.0	15.1	15.1
90°	9.2	9.5	9.8	10.1	10.2	10.4	10.5	10.7
92.5°	10.2	10.7	11.2	11.5	11.5	11.6	11.7	11.8
95°	12.2	12.7	13.3	13.5	13.5	13.5	13.5	13.5
97.5°	12.7	13.4	14.0	14.3	14.4	14.5	14.6	14.7
100°	13.0	13.6	14.3	14.6	14.7	14.8	14.9	14.9
102.5°	19.6	17.6	15.7	14.7	14.8	14.9	15.1	15.2
105°	50.1	36.1	22.0	15.0	15.2	15.3	15.6	15.7
107.5°	122.7	112.4	102.1	91.6	81.1	70.5	59.9	49.3
110°	155.7	153.1	150.5	143.5	132.2	120.8	109.5	98.2



TEST NUMBER: P331916-840

CATALOG NUMBER: S123DIP-S560D365U840-4F0-1E-UDD-F

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	179.0	179.0	179.2	177.9	175.5	173.2	170.8	168.3
115°	206.4	207.2	208.0	208.5	208.8	209.2	209.5	209.8
117.5°	231.3	231.9	232.5	232.9	232.9	233.0	233.1	233.1
120°	247.5	248.1	248.7	249.1	249.1	249.1	249.1	249.1
122.5°	263.4	263.9	264.3	264.5	264.6	264.7	264.7	264.8
125°	285.8	286.0	286.1	286.3	286.4	286.6	286.8	286.9
127.5°	308.2	308.5	308.8	308.8	308.6	308.5	308.3	308.2
130°	321.8	322.1	322.4	322.6	322.3	322.2	322.0	321.8
132.5°	334.7	335.0	335.3	335.4	335.1	334.9	334.7	334.5
135°	354.2	354.4	354.6	354.6	354.4	354.2	353.9	353.7
137.5°	371.4	371.8	372.2	372.3	372.1	372.0	371.8	371.7
140°	382.4	382.7	383.1	383.1	383.0	382.8	382.7	382.5
142.5°	392.9	393.1	393.4	393.4	393.2	392.9	392.7	392.5
145°	407.5	407.7	407.8	407.9	407.9	407.9	407.9	407.9
147.5°	420.5	420.7	420.9	420.8	420.4	420.0	419.7	419.3
150°	428.6	428.7	428.9	428.8	428.6	428.4	428.1	427.9
152.5°	435.7	436.0	436.3	436.2	435.9	435.5	435.0	434.7
155°	445.5	445.9	446.3	446.2	445.8	445.2	444.7	444.2
157.5°	453.9	454.4	454.9	454.8	454.2	453.6	452.9	452.3
160°	458.8	459.3	459.8	459.7	459.2	458.6	458.1	457.5
162.5°	463.2	463.7	464.2	464.3	463.8	463.3	462.8	462.3
165°	469.1	469.8	470.4	470.4	469.9	469.3	468.8	468.2
167.5°	473.6	474.3	474.9	474.9	474.3	473.6	473.0	472.4
170°	476.3	476.9	477.5	477.5	476.9	476.3	475.6	474.9
172.5°	478.0	478.6	479.2	479.2	478.5	477.8	477.1	476.4
175°	480.0	480.6	481.1	481.1	480.5	479.8	479.2	478.6
177.5°	480.8	481.3	481.8	481.7	481.1	480.5	479.8	479.2
180°	480.3	480.3	480.3	480.3	480.3	480.3	480.3	480.3

(END OF REPORT)