

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: P332095

Luminaire Tested: **S123DIW-S340D460U835-4F0-1E-UDD-F1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332095
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-S340D460U835-4F0-1E-UDD-F1
Description: DEFINE 3 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 340 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: 3010.2 lumens
Efficiency: N/A
Efficacy: 130.9 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

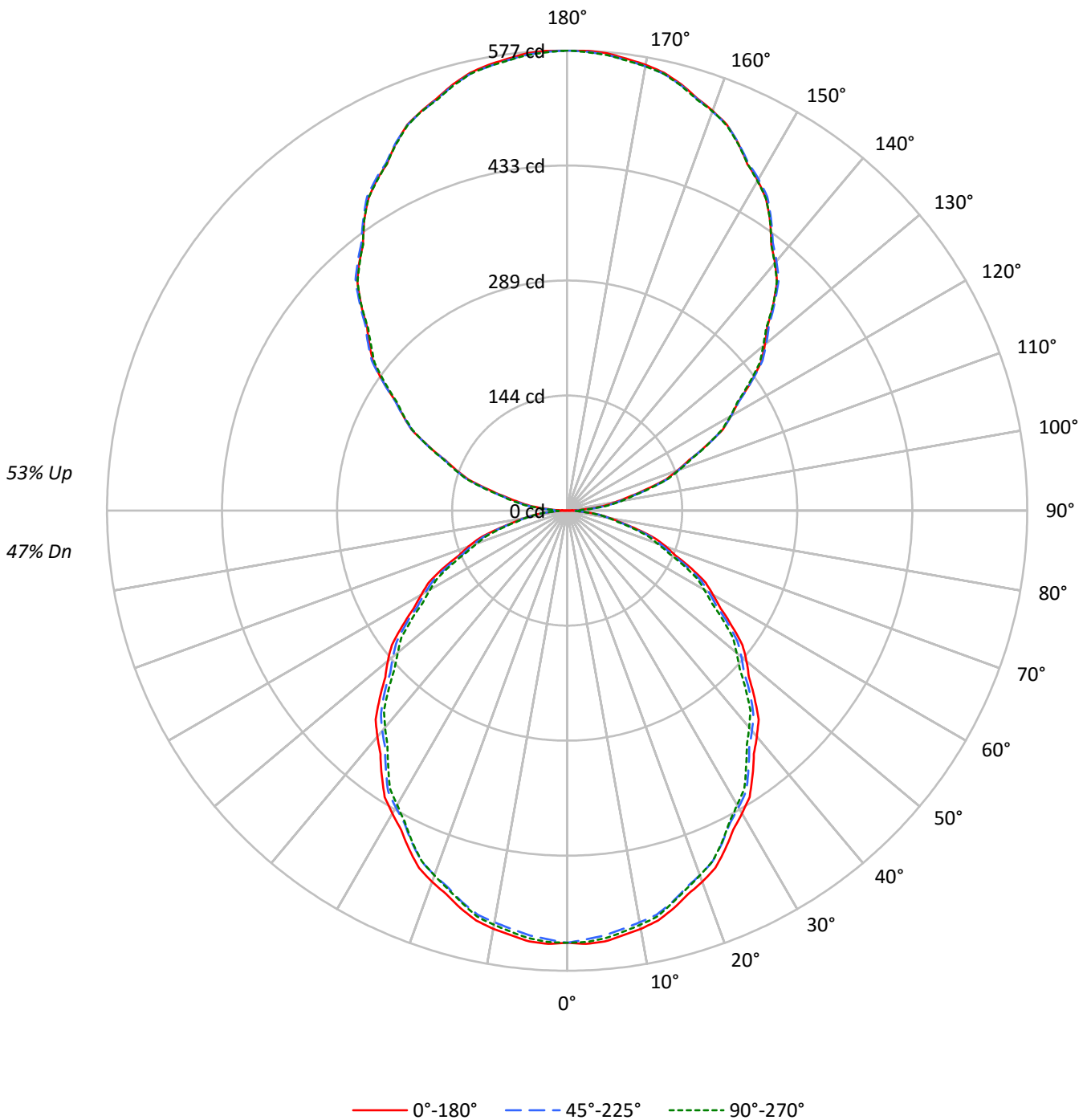
Input Watts (W): 23
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P332095

CATALOG NUMBER: S123DIW-S340D460U835-4F0-1E-UDD-F1

Luminous Intensity Polar Plot





TEST NUMBER: P332095

CATALOG NUMBER: S123DIW-S340D460U835-4F0-1E-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	106	106	106	106	98	98	98	98	82	82	82	67	67	67	53	53	53	47
1	97	93	89	85	89	85	82	79	71	69	67	59	57	56	47	46	45	39
2	88	81	75	70	81	75	69	65	63	59	55	52	49	46	41	39	38	33
3	81	71	64	58	74	66	59	54	55	50	46	46	42	39	37	34	32	28
4	74	63	55	49	67	58	51	46	49	44	40	41	37	33	33	30	28	24
5	68	56	48	42	62	52	45	39	44	38	34	36	32	29	29	26	24	21
6	62	50	42	36	57	46	39	34	39	34	30	33	29	25	27	24	21	18
7	58	45	37	32	53	42	35	30	36	30	26	30	26	22	24	21	19	16
8	53	41	33	28	49	38	31	26	33	27	23	27	23	20	22	19	17	14
9	50	37	30	25	46	35	28	24	30	24	21	25	21	18	21	17	15	13
10	46	34	27	22	43	32	25	21	27	22	19	23	19	16	19	16	14	12

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	5833	5833	5833
5°	5861	5780	5820
10°	5821	5729	5766
15°	5753	5665	5675
20°	5674	5573	5577
25°	5567	5462	5451
30°	5450	5340	5299
35°	5327	5210	5143
40°	5199	5067	4990
45°	5057	4937	4816
50°	4915	4776	4642
55°	4731	4609	4468
60°	4545	4413	4273
65°	4378	4200	4070
70°	4135	3959	3783
75°	3780	3643	3489
80°	3409	3267	3236
85°	2989	2878	2766



TEST NUMBER: P332095

CATALOG NUMBER: S123DIW-S340D460U835-4F0-1E-UDD-F1

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	51.0	1.7
10°-20°	144.1	4.8
20°-30°	212.9	7.1
30°-40°	248.7	8.3
40°-50°	250.0	8.3
50°-60°	219.6	7.3
60°-70°	163.6	5.4
70°-80°	93.2	3.1
80°-90°	28.5	0.9
90°-100°	37.6	1.2
100°-110°	112.5	3.7
110°-120°	191.3	6.4
120°-130°	251.7	8.4
130°-140°	282.9	9.4
140°-150°	278.0	9.2
150°-160°	234.1	7.8
160°-170°	155.8	5.2
170°-180°	54.6	1.8
0°-30°	408.1	13.6
0°-40°	656.8	21.8
0°-60°	1126.5	37.4
0°-90°	1411.8	46.9
90°-120°	341.4	11.3
90°-150°	1153.9	38.3
90°-180°	1598.0	53.1
0°-180°	3010.2	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	542	542	542	542	542	
5°	542	540	535	539	539	51
15°	516	514	508	512	509	145
25°	469	466	460	460	459	216
35°	405	402	396	394	391	254
45°	332	330	324	319	316	256
55°	252	251	246	241	238	226
65°	172	170	165	161	160	170
75°	91	89	88	85	84	97
85°	24	23	23	22	22	27
90°	0	5	11	13	14	3
95°	27	30	34	35	35	30
105°	102	103	107	107	108	109
115°	193	194	193	194	193	191
125°	282	283	282	280	279	251
135°	366	368	368	366	365	282
145°	444	445	446	445	444	277
155°	508	508	508	510	507	234
165°	553	552	552	554	552	156
175°	576	574	574	576	573	55
180°	577	577	577	577	577	



TEST NUMBER: P332095

CATALOG NUMBER: S123DIW-S340D460U835-4F0-1E-UDD-F1

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	541.9	541.9	541.9	541.9	541.9	541.9	541.9	541.9	541.9	541.9	541.9
2.5°	543.8	543.4	543.1	542.8	542.4	541.8	540.9	540.0	539.1	538.2	539.0
5°	542.4	541.8	541.3	540.8	540.3	539.5	538.3	537.2	536.0	534.9	535.9
7.5°	537.1	536.5	536.0	535.5	535.0	534.1	533.0	531.8	530.6	529.4	530.3
10°	532.6	532.1	531.5	531.0	530.5	529.6	528.2	526.9	525.5	524.2	525.1
12.5°	526.6	526.2	525.7	525.3	524.9	524.0	522.8	521.5	520.2	519.0	519.7
15°	516.3	515.9	515.4	515.0	514.6	513.7	512.4	511.0	509.7	508.4	509.2
17.5°	504.2	503.7	503.2	502.6	502.1	501.2	499.8	498.5	497.1	495.8	496.3
20°	495.3	494.7	494.1	493.4	492.8	491.8	490.5	489.1	487.8	486.5	486.9
22.5°	485.2	484.6	484.0	483.4	482.8	481.8	480.4	479.1	477.7	476.4	476.7
25°	468.7	468.1	467.5	466.9	466.3	465.3	463.9	462.6	461.2	459.9	460.0
27.5°	451.1	450.5	449.9	449.3	448.7	447.7	446.3	444.8	443.4	441.9	442.0
30°	438.5	437.9	437.4	436.9	436.4	435.4	434.0	432.5	431.1	429.6	429.6
32.5°	425.8	425.1	424.4	423.7	423.1	422.1	421.0	419.9	418.8	417.7	417.1
35°	405.4	404.8	404.1	403.5	402.9	401.9	400.6	399.2	397.9	396.5	395.9
37.5°	384.5	383.7	382.9	382.1	381.4	380.3	378.9	377.5	376.2	374.8	374.1
40°	370.0	369.3	368.7	368.1	367.5	366.4	365.0	363.5	362.1	360.6	359.8
42.5°	355.4	354.7	354.0	353.3	352.6	351.5	350.1	348.6	347.2	345.7	344.9
45°	332.2	331.8	331.4	331.0	330.6	329.7	328.3	327.0	325.6	324.3	323.1
47.5°	309.2	308.6	308.0	307.4	306.8	305.9	304.6	303.3	302.1	300.8	299.6
50°	293.5	293.0	292.5	292.0	291.5	290.5	289.2	287.9	286.5	285.2	284.0
52.5°	277.1	276.8	276.4	276.1	275.7	274.8	273.4	272.0	270.6	269.1	268.2
55°	252.1	252.0	251.9	251.8	251.7	250.9	249.6	248.2	246.9	245.6	244.4
57.5°	228.2	227.9	227.5	227.2	226.8	226.1	225.0	223.9	222.9	221.8	220.8
60°	211.1	211.0	210.9	210.8	210.7	210.0	208.7	207.5	206.3	205.0	204.1
62.5°	195.8	195.5	195.3	195.0	194.7	194.0	192.7	191.5	190.2	189.0	188.1
65°	171.9	171.4	170.9	170.4	169.9	169.1	168.1	167.0	166.0	164.9	164.1
67.5°	146.7	146.2	145.8	145.3	144.9	144.2	143.5	142.7	141.9	141.1	140.4
70°	131.4	130.8	130.2	129.5	128.9	128.3	127.7	127.0	126.4	125.8	125.1
72.5°	115.4	114.9	114.5	114.0	113.5	113.0	112.3	111.6	110.9	110.2	109.5
75°	90.9	90.4	90.0	89.6	89.2	88.8	88.5	88.2	87.9	87.6	87.1
77.5°	69.1	68.9	68.7	68.5	68.2	67.9	67.6	67.2	66.8	66.4	66.1
80°	55.0	54.7	54.4	54.1	53.7	53.5	53.3	53.1	52.9	52.7	52.5
82.5°	41.2	41.1	41.1	41.0	40.9	40.9	40.8	40.8	40.8	40.7	40.5
85°	24.2	24.0	23.8	23.6	23.4	23.3	23.3	23.3	23.3	23.3	23.1
87.5°	9.8	9.7	9.7	9.6	9.6	9.7	9.8	10.0	10.2	10.4	10.4
90°	0.5	1.5	2.5	3.5	4.5	5.6	6.9	8.3	9.6	10.9	11.3
92.5°	11.0	11.7	12.3	13.0	13.7	14.4	15.2	15.9	16.7	17.4	17.7
95°	26.7	27.4	28.1	28.9	29.6	30.3	31.1	31.9	32.7	33.5	33.9
97.5°	47.5	48.0	48.5	49.1	49.6	50.1	50.7	51.3	51.9	52.5	52.9
100°	61.6	62.2	62.8	63.4	64.0	64.6	65.1	65.6	66.1	66.6	66.9
102.5°	77.9	78.3	78.7	79.0	79.4	79.9	80.6	81.2	81.9	82.6	82.9
105°	102.0	102.2	102.4	102.6	102.8	103.3	104.2	105.1	106.0	106.9	106.9
107.5°	129.9	130.0	130.1	130.2	130.4	130.6	131.0	131.3	131.7	132.1	132.4
110°	147.3	147.5	147.7	147.9	148.1	148.3	148.5	148.7	148.9	149.1	149.5



TEST NUMBER: P332095

CATALOG NUMBER: S123DIW-S340D460U835-4F0-1E-UDD-F1

CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	165.4	165.5	165.7	165.8	165.9	166.0	166.0	166.1	166.1	166.1	166.6
115°	192.6	192.9	193.2	193.5	193.8	193.9	193.7	193.5	193.3	193.1	193.2
117.5°	220.0	220.2	220.4	220.6	220.8	220.7	220.5	220.2	220.0	219.7	219.7
120°	237.0	237.6	238.2	238.8	239.4	239.5	239.0	238.5	238.0	237.5	237.4
122.5°	254.8	255.2	255.7	256.1	256.5	256.6	256.4	256.1	255.9	255.6	255.3
125°	281.9	282.2	282.5	282.8	283.1	283.1	282.9	282.7	282.5	282.3	281.9
127.5°	306.9	307.5	308.2	308.8	309.5	309.7	309.5	309.2	309.0	308.8	308.2
130°	323.6	324.4	325.2	326.0	326.8	327.0	326.7	326.4	326.1	325.8	325.4
132.5°	340.2	341.0	341.9	342.7	343.5	343.8	343.5	343.3	343.1	342.9	342.4
135°	365.7	366.3	366.9	367.5	368.1	368.4	368.3	368.2	368.1	368.0	367.6
137.5°	389.3	389.8	390.3	390.8	391.3	391.7	391.9	392.2	392.5	392.7	392.3
140°	405.6	406.1	406.6	407.1	407.6	407.9	408.0	408.1	408.2	408.3	408.2
142.5°	420.5	421.0	421.5	422.0	422.5	422.8	423.0	423.2	423.4	423.5	423.4
145°	443.7	443.9	444.1	444.3	444.5	444.7	445.0	445.3	445.6	445.9	445.8
147.5°	464.0	464.3	464.7	465.0	465.4	465.7	466.0	466.3	466.6	466.9	466.9
150°	478.1	478.3	478.5	478.7	478.9	479.1	479.3	479.5	479.7	479.9	479.9
152.5°	489.7	490.0	490.3	490.5	490.8	491.0	491.1	491.3	491.4	491.5	491.7
155°	508.0	508.0	508.0	508.0	508.0	508.1	508.2	508.3	508.4	508.5	508.9
157.5°	523.6	523.5	523.4	523.2	523.1	523.1	523.2	523.3	523.3	523.4	523.8
160°	533.4	533.2	533.0	532.8	532.6	532.5	532.5	532.5	532.5	532.5	533.0
162.5°	542.1	541.8	541.5	541.2	541.0	540.9	540.9	541.0	541.1	541.2	541.7
165°	553.3	553.0	552.7	552.4	552.1	552.0	552.0	552.0	552.0	552.0	552.6
167.5°	562.3	561.9	561.5	561.1	560.7	560.5	560.6	560.7	560.8	560.8	561.5
170°	567.4	567.0	566.6	566.2	565.8	565.6	565.6	565.6	565.6	565.6	566.3
172.5°	571.4	571.0	570.6	570.2	569.7	569.5	569.5	569.5	569.5	569.5	570.2
175°	575.5	575.1	574.7	574.3	573.9	573.7	573.7	573.7	573.7	573.7	574.3
177.5°	577.3	576.9	576.6	576.3	576.0	575.8	575.8	575.8	575.8	575.8	576.3
180°	576.9	576.9	576.9	576.9	576.9	576.9	576.9	576.9	576.9	576.9	576.9



TEST NUMBER: P332095

CATALOG NUMBER: S123DIW-S340D460U835-4F0-1E-UDD-F1

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	541.9	541.9	541.9	541.9	541.9	541.9	541.9	541.9
2.5°	539.8	540.7	541.5	541.9	541.8	541.7	541.6	541.5
5°	537.0	538.0	539.1	539.5	539.3	539.1	538.8	538.6
7.5°	531.3	532.2	533.1	533.5	533.4	533.3	533.2	533.0
10°	526.1	527.0	527.9	528.3	528.1	527.9	527.7	527.5
12.5°	520.3	521.0	521.7	522.0	521.9	521.7	521.6	521.5
15°	510.0	510.8	511.7	511.8	511.1	510.5	509.9	509.3
17.5°	496.9	497.5	498.1	498.3	498.0	497.8	497.6	497.4
20°	487.3	487.7	488.1	488.2	487.8	487.5	487.2	486.9
22.5°	477.0	477.4	477.7	477.7	477.3	476.9	476.5	476.1
25°	460.1	460.2	460.3	460.2	459.9	459.6	459.3	459.0
27.5°	442.1	442.2	442.2	442.1	441.7	441.3	440.9	440.5
30°	429.6	429.6	429.6	429.2	428.5	427.8	427.1	426.3
32.5°	416.5	415.9	415.4	414.9	414.5	414.1	413.7	413.3
35°	395.3	394.7	394.0	393.5	393.0	392.4	391.9	391.4
37.5°	373.3	372.6	371.8	371.3	371.0	370.6	370.3	370.0
40°	359.0	358.2	357.3	356.7	356.3	355.9	355.5	355.1
42.5°	344.1	343.2	342.4	341.8	341.4	341.0	340.6	340.1
45°	321.8	320.6	319.3	318.5	317.9	317.4	316.9	316.4
47.5°	298.4	297.2	295.9	295.1	294.6	294.2	293.7	293.3
50°	282.9	281.7	280.6	279.7	279.1	278.5	277.9	277.2
52.5°	267.2	266.2	265.2	264.4	263.8	263.2	262.6	262.0
55°	243.3	242.1	241.0	240.2	239.7	239.1	238.6	238.1
57.5°	219.8	218.7	217.7	216.9	216.3	215.7	215.1	214.5
60°	203.2	202.2	201.3	200.6	200.0	199.5	199.0	198.5
62.5°	187.1	186.2	185.3	184.6	184.3	183.9	183.6	183.2
65°	163.3	162.5	161.6	161.1	160.8	160.4	160.1	159.8
67.5°	139.6	138.9	138.2	137.6	137.2	136.7	136.3	135.9
70°	124.4	123.6	122.9	122.3	121.8	121.3	120.7	120.2
72.5°	108.9	108.2	107.6	107.1	106.9	106.6	106.3	106.0
75°	86.6	86.0	85.5	85.1	84.8	84.5	84.2	83.9
77.5°	65.7	65.4	65.0	64.9	64.9	64.9	64.9	64.9
80°	52.4	52.3	52.2	52.2	52.2	52.2	52.2	52.2
82.5°	40.4	40.2	40.0	39.8	39.8	39.7	39.6	39.5
85°	22.9	22.7	22.5	22.4	22.4	22.4	22.4	22.4
87.5°	10.4	10.4	10.4	10.4	10.4	10.5	10.5	10.5
90°	11.7	12.1	12.5	12.8	13.0	13.2	13.4	13.6
92.5°	18.0	18.4	18.7	18.8	18.7	18.5	18.4	18.3
95°	34.3	34.7	35.1	35.3	35.3	35.3	35.3	35.3
97.5°	53.4	53.9	54.3	54.5	54.5	54.5	54.4	54.4
100°	67.2	67.5	67.8	68.1	68.3	68.5	68.7	68.9
102.5°	83.2	83.5	83.8	83.9	83.9	83.8	83.8	83.7
105°	106.9	106.9	106.9	107.0	107.3	107.5	107.7	107.9
107.5°	132.7	133.0	133.3	133.4	133.3	133.2	133.1	133.0
110°	149.9	150.3	150.7	150.8	150.6	150.4	150.2	150.0



TEST NUMBER: P332095

CATALOG NUMBER: S123DIW-S340D460U835-4F0-1E-UDD-F1

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	167.1	167.6	168.1	168.3	168.2	168.2	168.2	168.1
115°	193.3	193.4	193.5	193.5	193.4	193.3	193.2	193.1
117.5°	219.7	219.6	219.6	219.5	219.2	218.9	218.6	218.3
120°	237.3	237.2	237.1	236.9	236.7	236.5	236.3	236.1
122.5°	255.1	254.8	254.5	254.3	254.0	253.7	253.4	253.1
125°	281.5	281.1	280.7	280.3	279.9	279.5	279.1	278.7
127.5°	307.7	307.1	306.5	306.0	305.6	305.1	304.6	304.2
130°	325.0	324.6	324.2	323.7	323.0	322.3	321.6	320.8
132.5°	341.9	341.4	340.9	340.4	339.9	339.3	338.8	338.2
135°	367.2	366.8	366.4	366.1	365.9	365.7	365.5	365.3
137.5°	391.9	391.5	391.0	390.6	390.2	389.9	389.5	389.1
140°	408.1	408.0	407.9	407.5	406.8	406.1	405.4	404.7
142.5°	423.3	423.2	423.1	422.8	422.3	421.7	421.2	420.6
145°	445.7	445.6	445.5	445.3	444.9	444.5	444.1	443.7
147.5°	466.9	466.9	466.9	466.6	466.0	465.3	464.7	464.1
150°	479.9	479.9	479.9	479.6	479.0	478.4	477.8	477.2
152.5°	491.8	492.0	492.2	492.0	491.5	490.9	490.4	489.9
155°	509.3	509.7	510.1	509.9	509.2	508.5	507.8	507.1
157.5°	524.3	524.7	525.1	525.0	524.5	523.9	523.3	522.8
160°	533.5	534.0	534.5	534.5	534.1	533.7	533.3	532.9
162.5°	542.2	542.7	543.2	543.1	542.5	541.8	541.2	540.5
165°	553.2	553.8	554.4	554.3	553.6	552.9	552.2	551.5
167.5°	562.1	562.7	563.3	563.3	562.7	562.1	561.5	560.8
170°	567.0	567.7	568.4	568.4	567.7	567.0	566.3	565.6
172.5°	570.8	571.4	572.0	572.0	571.3	570.6	569.9	569.2
175°	574.9	575.5	576.1	576.1	575.4	574.7	574.0	573.3
177.5°	576.8	577.3	577.7	577.7	577.1	576.6	576.0	575.4
180°	576.9	576.9	576.9	576.9	576.9	576.9	576.9	576.9

(END OF REPORT)