

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: P332092

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

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332092
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-S340D460U835-4F0-1E-UDD-D
Description: DEFINE 3 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 340 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER
UPLIGHT 460 LUMENS PER FOOT, NO LENS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3283.2 lumens
Efficiency: N/A
Efficacy: 142.7 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.26 / 1.37
Luminous Opening: Rectangular w/ Sides (W: 0.25' x L: 4' x H: 0.08')
CIE Type: General Diffuse

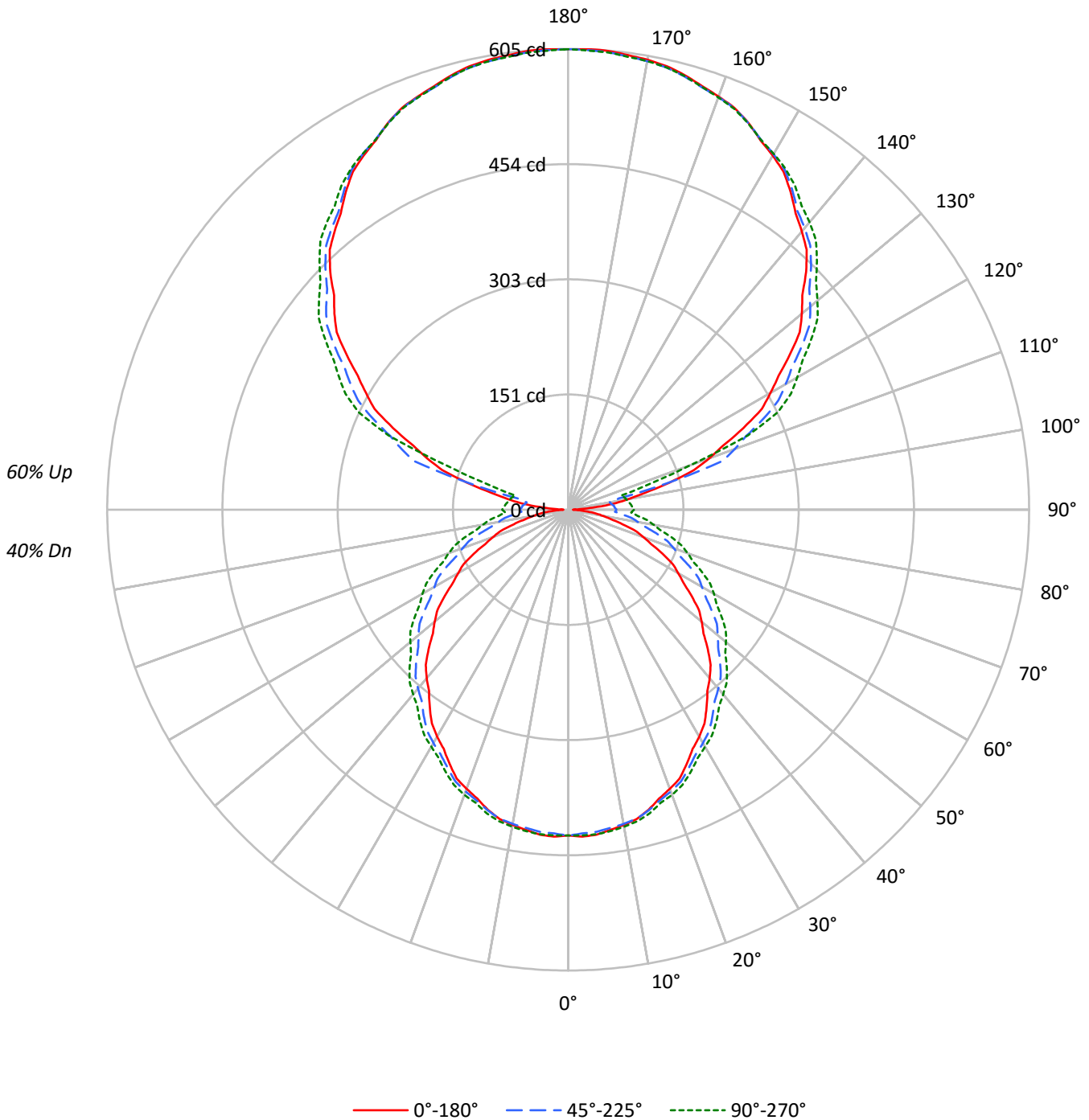
Input Watts (W): 23
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P332092

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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	105	105	105	105	95	95	95	95	78	78	78	62	62	62	47	47	47	40
1	95	90	86	82	86	82	78	75	67	64	62	53	51	50	40	39	38	32
2	86	78	72	66	78	71	66	61	58	54	51	46	43	41	35	33	31	26
3	78	68	61	55	71	62	56	51	51	46	42	40	37	34	31	28	26	22
4	71	60	52	46	64	55	48	43	45	40	36	36	32	29	27	25	22	18
5	65	54	45	39	59	49	42	36	40	35	31	32	28	25	24	22	19	16
6	60	48	40	34	54	44	37	31	36	31	26	29	25	22	22	19	17	14
7	55	43	35	29	50	39	32	27	33	27	23	26	22	19	20	17	15	12
8	51	39	31	26	47	36	29	24	30	24	20	24	20	17	18	16	13	11
9	48	36	28	23	43	33	26	21	27	22	18	22	18	15	17	14	12	10
10	45	32	25	20	40	30	23	19	25	20	16	20	16	14	16	13	11	9

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	4604	4604	4604
5°	4618	4488	4490
10°	4577	4385	4363
15°	4518	4267	4223
20°	4434	4133	4070
25°	4330	3980	3908
30°	4224	3841	3744
35°	4103	3694	3614
40°	3990	3560	3474
45°	3864	3432	3362
50°	3739	3305	3239
55°	3601	3175	3128
60°	3466	3044	3015
65°	3328	2903	2878
70°	3120	2744	2740
75°	2859	2565	2600
80°	2556	2387	2438
85°	2274	2264	2344



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	40.5	1.2
10°-20°	115.6	3.5
20°-30°	172.9	5.3
30°-40°	206.5	6.3
40°-50°	216.0	6.6
50°-60°	202.7	6.2
60°-70°	169.3	5.2
70°-80°	121.1	3.7
80°-90°	73.9	2.3
90°-100°	67.3	2.1
100°-110°	138.1	4.2
110°-120°	273.9	8.3
120°-130°	333.2	10.1
130°-140°	348.2	10.6
140°-150°	321.5	9.8
150°-160°	258.3	7.9
160°-170°	166.7	5.1
170°-180°	57.5	1.7
0°-30°	329.0	10.0
0°-40°	535.5	16.3
0°-60°	954.2	29.1
0°-90°	1318.6	40.2
90°-120°	479.3	14.6
90°-150°	1482.2	45.1
90°-180°	1965.0	59.8
0°-180°	3283.2	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	428	428	428	428	428	
5°	428	427	424	428	428	41
15°	408	409	409	413	413	115
25°	368	373	374	380	380	170
35°	317	324	330	337	339	198
45°	259	270	282	290	294	200
55°	198	213	230	242	246	177
65°	136	155	175	189	194	135
75°	74	96	119	134	140	79
85°	23	46	71	86	91	24
90°	6	34	63	80	87	5
95°	32	34	60	77	82	38
105°	138	152	133	71	72	146
115°	254	262	283	298	304	250
125°	355	360	374	385	389	317
135°	442	444	451	460	462	340
145°	509	512	513	517	519	318
155°	560	559	560	562	559	258
165°	591	590	589	592	590	167
175°	605	603	603	606	602	58
180°	605	605	605	605	605	



TEST NUMBER: P332092

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

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	427.7	427.7	427.7	427.7	427.7	427.7	427.7	427.7	427.7	427.7	427.7
2.5°	429.6	429.4	429.1	428.9	428.6	428.2	427.5	426.8	426.2	425.5	426.2
5°	428.2	428.0	427.8	427.6	427.4	427.0	426.3	425.7	425.1	424.5	425.3
7.5°	424.0	424.1	424.1	424.1	424.2	423.9	423.3	422.7	422.1	421.5	422.5
10°	420.3	420.5	420.7	420.9	421.1	421.0	420.4	419.9	419.4	418.9	419.9
12.5°	415.8	416.1	416.4	416.7	417.0	416.9	416.6	416.2	415.9	415.5	416.5
15°	407.7	408.0	408.3	408.6	408.9	409.1	408.9	408.8	408.7	408.6	409.7
17.5°	397.5	398.1	398.7	399.3	399.9	400.2	400.2	400.1	400.1	400.1	401.0
20°	390.0	390.6	391.2	391.9	392.5	392.9	393.1	393.3	393.5	393.7	394.7
22.5°	382.2	382.8	383.4	384.0	384.7	385.1	385.4	385.7	386.0	386.3	387.5
25°	368.1	369.1	370.2	371.2	372.2	372.9	373.2	373.5	373.8	374.2	375.5
27.5°	353.9	355.1	356.3	357.5	358.7	359.6	360.2	360.9	361.6	362.2	363.4
30°	343.9	345.2	346.6	347.9	349.3	350.3	351.2	352.0	352.8	353.7	354.9
32.5°	332.7	334.2	335.7	337.2	338.7	340.0	341.1	342.2	343.3	344.3	345.7
35°	316.8	318.5	320.2	321.8	323.5	325.0	326.3	327.7	329.0	330.4	331.9
37.5°	300.1	301.9	303.8	305.7	307.5	309.3	310.9	312.6	314.3	315.9	317.7
40°	288.9	290.8	292.6	294.5	296.3	298.3	300.4	302.5	304.5	306.6	308.4
42.5°	276.6	278.9	281.1	283.4	285.7	287.9	290.1	292.2	294.4	296.5	298.5
45°	259.1	261.6	264.0	266.5	269.0	271.5	274.1	276.7	279.3	281.9	283.9
47.5°	240.7	243.5	246.3	249.2	252.0	254.9	257.8	260.8	263.7	266.7	268.9
50°	228.8	231.7	234.6	237.5	240.4	243.4	246.6	249.9	253.1	256.3	258.7
52.5°	216.1	219.2	222.2	225.3	228.4	231.7	235.2	238.8	242.3	245.8	248.3
55°	197.6	201.0	204.4	207.8	211.2	214.8	218.5	222.3	226.0	229.7	232.5
57.5°	179.5	183.0	186.6	190.2	193.7	197.6	201.6	205.7	209.8	213.9	216.7
60°	166.8	170.5	174.3	178.0	181.7	185.7	190.0	194.2	198.4	202.7	205.6
62.5°	154.9	158.7	162.5	166.3	170.1	174.3	178.8	183.3	187.8	192.3	195.1
65°	136.5	140.6	144.6	148.6	152.7	157.0	161.5	166.1	170.6	175.2	178.3
67.5°	117.9	122.2	126.5	130.7	135.0	139.5	144.1	148.8	153.4	158.1	161.4
70°	104.8	109.3	113.7	118.2	122.6	127.4	132.3	137.3	142.3	147.2	150.6
72.5°	92.9	97.4	101.8	106.3	110.7	115.5	120.6	125.8	130.9	136.1	139.5
75°	74.1	79.0	83.8	88.7	93.6	98.6	103.8	108.9	114.1	119.3	122.7
77.5°	57.7	62.6	67.5	72.4	77.3	82.4	87.6	92.8	98.0	103.3	106.9
80°	46.1	51.2	56.3	61.4	66.4	71.7	77.0	82.4	87.8	93.2	96.7
82.5°	36.1	41.2	46.4	51.5	56.7	62.0	67.5	72.9	78.4	83.9	87.4
85°	22.8	28.0	33.2	38.4	43.5	48.9	54.4	59.8	65.3	70.8	74.3
87.5°	12.5	17.8	23.2	28.6	33.9	39.4	44.9	50.4	56.0	61.5	65.1
90°	6.5	12.6	18.7	24.7	30.8	37.1	43.7	50.3	56.9	63.4	67.4
92.5°	14.0	18.3	22.6	26.9	31.2	36.5	42.6	48.8	55.0	61.2	65.2
95°	32.5	32.5	32.4	32.4	32.3	35.4	41.5	47.7	53.9	60.1	64.0
97.5°	59.6	61.5	63.3	65.1	66.9	66.6	64.3	61.9	59.6	57.2	61.1
100°	80.1	85.4	90.7	96.1	101.4	98.6	87.8	77.0	66.2	55.4	59.2
102.5°	103.5	107.9	112.3	116.7	121.1	117.2	104.9	92.5	80.2	67.9	68.3
105°	137.6	141.2	144.8	148.4	151.9	151.5	146.9	142.4	137.9	133.3	118.6
107.5°	173.2	176.2	179.2	182.1	185.1	189.5	195.1	200.7	206.4	212.0	201.8
110°	196.9	199.5	202.2	204.9	207.5	211.5	216.7	222.0	227.2	232.4	231.8



TEST NUMBER: P332092

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

CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	219.9	222.1	224.4	226.6	228.9	232.6	237.6	242.7	247.8	252.9	255.5
115°	253.5	255.3	257.2	259.0	260.8	264.1	268.7	273.3	278.0	282.6	286.1
117.5°	286.4	287.9	289.4	290.9	292.4	295.1	299.1	303.0	307.0	310.9	314.2
120°	306.5	307.9	309.3	310.7	312.1	314.7	318.4	322.1	325.9	329.6	332.8
122.5°	327.3	328.3	329.3	330.3	331.4	333.7	337.3	340.9	344.6	348.2	351.1
125°	355.4	356.2	357.0	357.8	358.6	360.7	364.1	367.5	370.9	374.3	376.7
127.5°	383.1	383.8	384.5	385.2	385.9	387.7	390.7	393.6	396.6	399.6	401.9
130°	400.4	401.1	401.7	402.4	403.1	404.7	407.2	409.7	412.1	414.6	417.0
132.5°	416.5	417.3	418.1	418.9	419.6	421.0	423.0	425.0	426.9	428.9	431.2
135°	441.7	442.2	442.7	443.2	443.7	444.7	446.2	447.7	449.3	450.8	453.0
137.5°	463.1	463.8	464.5	465.2	465.8	466.6	467.5	468.3	469.2	470.1	472.2
140°	477.1	477.7	478.3	478.9	479.5	480.2	480.8	481.4	482.0	482.6	484.5
142.5°	490.4	491.0	491.5	492.0	492.5	493.0	493.3	493.7	494.0	494.4	496.1
145°	509.0	509.6	510.2	510.8	511.4	511.8	512.0	512.2	512.4	512.6	513.7
147.5°	526.1	526.6	527.0	527.5	527.9	528.3	528.5	528.7	528.9	529.1	529.5
150°	536.9	537.2	537.5	537.8	538.1	538.3	538.5	538.7	538.9	539.1	539.3
152.5°	546.6	546.7	546.9	547.0	547.2	547.3	547.4	547.5	547.6	547.8	548.1
155°	560.2	560.0	559.8	559.7	559.5	559.4	559.5	559.6	559.7	559.8	560.3
157.5°	570.9	570.8	570.8	570.8	570.8	570.7	570.6	570.5	570.4	570.3	570.9
160°	577.3	577.2	577.1	577.0	576.9	576.8	576.7	576.6	576.5	576.4	577.0
162.5°	583.4	583.2	582.9	582.7	582.4	582.2	582.1	582.0	581.9	581.8	582.5
165°	590.8	590.5	590.2	589.9	589.6	589.4	589.3	589.2	589.1	589.0	589.8
167.5°	596.6	596.2	595.8	595.4	595.0	594.8	594.8	594.8	594.8	594.8	595.6
170°	599.8	599.4	599.0	598.6	598.2	598.0	598.0	598.0	598.0	598.0	598.8
172.5°	601.9	601.5	601.0	600.5	600.0	599.8	599.9	600.0	600.1	600.1	600.9
175°	604.7	604.2	603.7	603.2	602.7	602.5	602.6	602.7	602.8	602.9	603.6
177.5°	605.4	605.0	604.6	604.2	603.8	603.7	603.8	603.8	603.9	604.0	604.6
180°	604.7	604.7	604.7	604.7	604.7	604.7	604.7	604.7	604.7	604.7	604.7



TEST NUMBER: P332092

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

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	427.7	427.7	427.7	427.7	427.7	427.7	427.7	427.7
2.5°	426.8	427.5	428.2	428.4	428.4	428.3	428.2	428.1
5°	426.1	427.0	427.8	428.2	428.1	427.9	427.8	427.7
7.5°	423.6	424.6	425.6	426.1	426.0	425.8	425.7	425.6
10°	421.0	422.0	423.0	423.4	423.2	423.0	422.8	422.6
12.5°	417.4	418.4	419.3	419.7	419.5	419.3	419.1	418.9
15°	410.7	411.7	412.8	413.2	413.1	413.0	412.9	412.8
17.5°	401.9	402.9	403.8	404.2	404.0	403.9	403.8	403.6
20°	395.6	396.5	397.5	398.0	398.1	398.2	398.3	398.4
22.5°	388.6	389.8	391.0	391.6	391.5	391.4	391.4	391.3
25°	376.8	378.2	379.5	380.2	380.2	380.2	380.2	380.2
27.5°	364.5	365.7	366.9	367.5	367.6	367.7	367.7	367.8
30°	356.1	357.4	358.6	359.2	359.2	359.2	359.2	359.2
32.5°	347.0	348.3	349.6	350.4	350.7	350.9	351.2	351.4
35°	333.5	335.0	336.6	337.6	338.0	338.4	338.8	339.2
37.5°	319.4	321.2	323.0	324.0	324.3	324.7	325.0	325.3
40°	310.1	311.9	313.6	314.7	315.1	315.6	316.0	316.4
42.5°	300.4	302.3	304.2	305.5	306.1	306.6	307.2	307.8
45°	285.8	287.8	289.8	291.2	292.0	292.8	293.7	294.5
47.5°	271.1	273.4	275.6	277.0	277.6	278.3	278.9	279.6
50°	261.0	263.4	265.8	267.4	268.1	268.8	269.5	270.3
52.5°	250.8	253.2	255.7	257.4	258.3	259.2	260.0	260.9
55°	235.3	238.1	240.9	242.7	243.5	244.4	245.2	246.0
57.5°	219.5	222.3	225.1	227.0	228.0	229.0	230.0	230.9
60°	208.5	211.4	214.3	216.3	217.4	218.6	219.7	220.9
62.5°	198.0	200.9	203.8	205.8	206.9	207.9	209.0	210.1
65°	181.4	184.5	187.6	189.7	190.7	191.8	192.8	193.8
67.5°	164.8	168.2	171.6	173.8	174.6	175.5	176.4	177.2
70°	153.9	157.2	160.5	162.7	163.7	164.7	165.8	166.8
72.5°	142.8	146.2	149.6	151.9	152.9	153.9	155.0	156.0
75°	126.1	129.5	133.0	135.3	136.5	137.8	139.0	140.3
77.5°	110.5	114.1	117.7	119.9	120.9	121.9	122.8	123.8
80°	100.2	103.8	107.3	109.5	110.6	111.6	112.7	113.7
82.5°	90.9	94.4	98.0	100.2	101.3	102.3	103.3	104.4
85°	77.9	81.4	84.9	87.2	88.2	89.3	90.3	91.3
87.5°	68.7	72.3	75.9	78.3	79.3	80.4	81.5	82.6
90°	71.3	75.2	79.1	81.7	82.9	84.2	85.4	86.6
92.5°	69.3	73.4	77.5	80.1	81.1	82.2	83.3	84.3
95°	67.9	71.8	75.7	78.2	79.2	80.2	81.3	82.3
97.5°	65.0	68.9	72.8	75.3	76.4	77.6	78.7	79.8
100°	63.0	66.8	70.6	73.0	74.2	75.3	76.4	77.6
102.5°	68.8	69.2	69.6	70.5	71.7	72.9	74.1	75.3
105°	103.8	89.0	74.2	67.4	68.6	69.7	70.8	72.0
107.5°	191.7	181.5	171.3	160.0	147.6	135.2	122.8	110.4
110°	231.2	230.6	230.0	223.0	209.6	196.1	182.7	169.2



TEST NUMBER: P332092

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

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	258.2	260.9	263.5	263.8	261.7	259.6	257.5	255.4
115°	289.5	293.0	296.5	298.9	300.1	301.3	302.6	303.8
117.5°	317.5	320.7	324.0	326.1	327.0	327.9	328.7	329.6
120°	335.9	339.1	342.3	344.2	345.0	345.7	346.4	347.1
122.5°	353.9	356.8	359.6	361.5	362.3	363.1	363.9	364.7
125°	379.1	381.5	383.8	385.5	386.4	387.3	388.3	389.2
127.5°	404.3	406.7	409.1	410.5	411.0	411.5	412.0	412.5
130°	419.3	421.7	424.1	425.5	425.9	426.3	426.7	427.1
132.5°	433.5	435.8	438.0	439.4	439.8	440.2	440.7	441.1
135°	455.2	457.3	459.5	460.7	460.9	461.1	461.3	461.5
137.5°	474.3	476.4	478.5	479.7	480.1	480.4	480.7	481.0
140°	486.5	488.4	490.4	491.5	491.9	492.2	492.5	492.8
142.5°	497.8	499.5	501.2	502.2	502.4	502.7	502.9	503.2
145°	514.7	515.7	516.7	517.5	517.9	518.3	518.7	519.1
147.5°	530.0	530.4	530.9	531.0	531.0	530.9	530.8	530.7
150°	539.5	539.7	539.9	540.0	539.9	539.8	539.7	539.6
152.5°	548.5	548.8	549.2	549.2	548.8	548.3	547.9	547.5
155°	560.8	561.3	561.8	561.7	561.1	560.5	559.9	559.4
157.5°	571.5	572.1	572.7	572.6	571.8	571.1	570.3	569.5
160°	577.6	578.2	578.8	578.8	578.1	577.4	576.7	576.0
162.5°	583.2	583.9	584.5	584.6	583.9	583.3	582.7	582.1
165°	590.6	591.4	592.2	592.2	591.5	590.9	590.2	589.5
167.5°	596.4	597.1	597.9	597.9	597.1	596.4	595.6	594.8
170°	599.6	600.4	601.2	601.2	600.4	599.6	598.8	598.0
172.5°	601.7	602.5	603.3	603.3	602.4	601.5	600.7	599.8
175°	604.3	605.0	605.7	605.7	604.9	604.1	603.3	602.5
177.5°	605.3	605.9	606.6	606.5	605.7	604.9	604.1	603.3
180°	604.7	604.7	604.7	604.7	604.7	604.7	604.7	604.7

(END OF REPORT)