

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: P331877

Luminaire Tested: **S123DIP-S340D585U835-4F0-1E-UDD-D**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P331877  
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-S340D585U835-4F0-1E-UDD-D  
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 340 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER  
UPLIGHT 585 LUMENS PER FOOT, NO LENS  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 3780.7 lumens  
Efficiency: N/A  
Efficacy: 147.7 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: Semi-Indirect

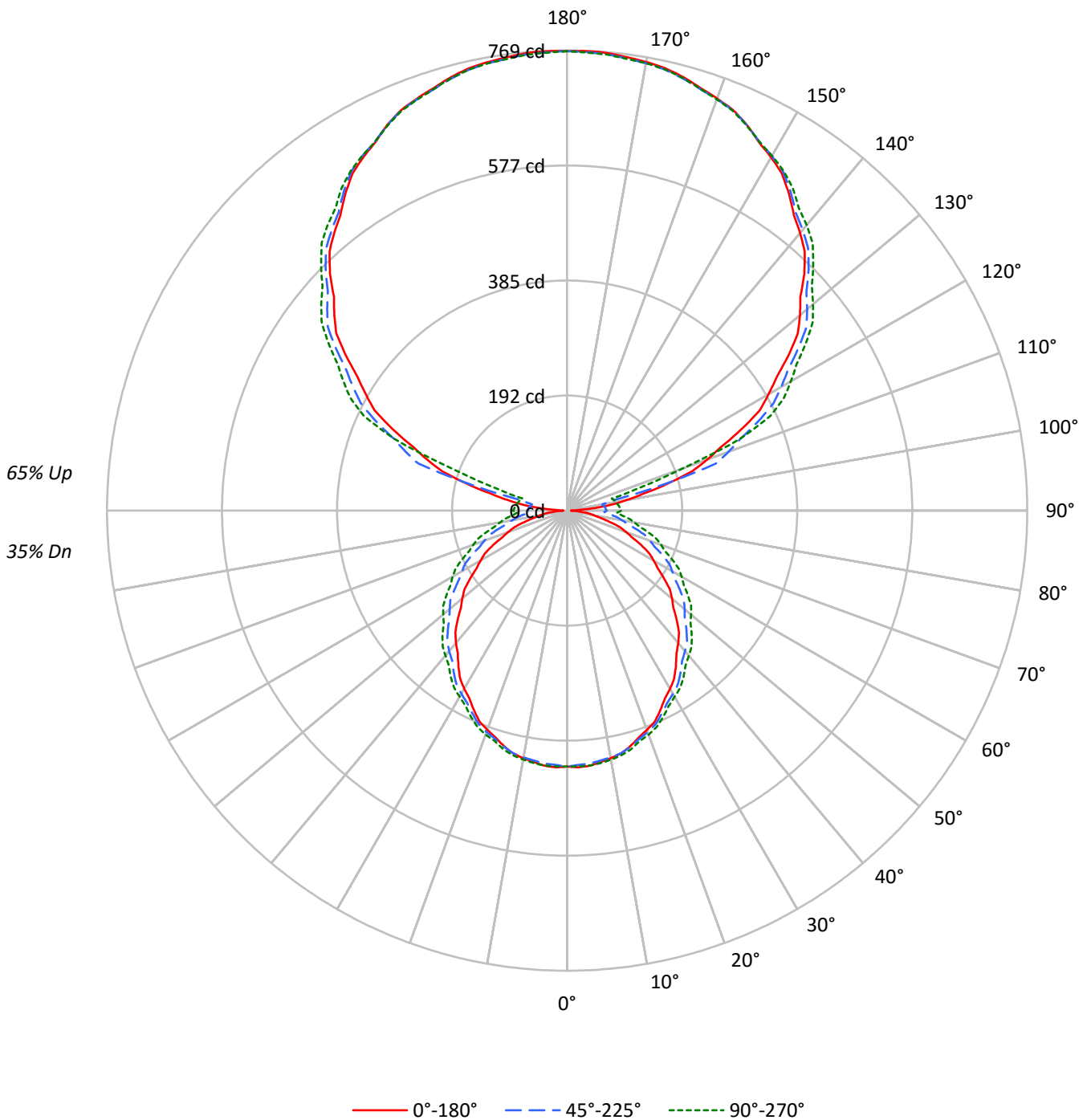
Input Watts (W): 25.6  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



TEST NUMBER: P331877

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### Luminous Intensity Polar Plot





TEST NUMBER: P331877

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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	104	104	104	104	94	94	94	94	75	75	75	58	58	58	42	42	42	35
1	94	89	85	81	84	81	77	74	64	62	60	50	48	47	36	35	34	28
2	85	77	71	66	76	70	65	60	56	52	49	43	41	38	31	30	28	23
3	77	68	60	54	69	61	55	50	49	45	41	38	35	32	28	25	24	19
4	71	60	52	46	63	54	47	42	43	38	34	34	30	27	24	22	20	16
5	65	53	45	39	58	48	41	36	39	33	29	30	26	23	22	19	17	14
6	59	47	39	33	53	43	36	31	35	29	26	27	23	20	20	17	15	12
7	55	43	35	29	49	39	32	27	31	26	22	25	21	18	18	15	13	11
8	51	39	31	26	46	35	28	24	29	23	20	22	19	16	17	14	12	9
9	47	35	28	23	42	32	25	21	26	21	17	20	17	14	15	13	11	8
10	44	32	25	20	40	29	23	19	24	19	16	19	15	13	14	12	10	8

**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	1.1
10°-20°	115.6	3.1
20°-30°	172.9	4.6
30°-40°	206.5	5.5
40°-50°	216.0	5.7
50°-60°	202.7	5.4
60°-70°	169.3	4.5
70°-80°	121.1	3.2
80°-90°	74.4	2.0
90°-100°	73.2	1.9
100°-110°	166.3	4.4
110°-120°	341.8	9.0
120°-130°	419.6	11.1
130°-140°	440.4	11.7
140°-150°	407.8	10.8
150°-160°	327.9	8.7
160°-170°	211.6	5.6
170°-180°	72.9	1.9
0°-30°	329.0	8.7
0°-40°	535.5	14.2
0°-60°	954.2	25.2
0°-90°	1319.0	34.9
90°-120°	581.3	15.4
90°-150°	1849.1	48.9
90°-180°	2462.0	65.1
0°-180°	3780.7	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°	7	35	66	84	90	6
95°	40	37	64	82	87	47
105°	174	188	160	77	77	184
115°	321	331	352	368	375	317
125°	451	456	471	482	486	403
135°	560	564	571	580	582	431
145°	646	650	651	656	658	404
155°	711	710	711	713	710	328
165°	750	748	748	752	748	212
175°	768	765	765	769	765	73
180°	768	768	768	768	768	



TEST NUMBER: P331877

CATALOG NUMBER: S123DIP-S340D585U835-4F0-1E-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	17.9	23.3	28.7	34.1	39.7	45.3	50.9	56.5	62.1	65.7
90°	6.6	13.0	19.3	25.7	32.0	38.6	45.6	52.5	59.4	66.3	70.4
92.5°	16.3	20.5	24.7	29.0	33.2	38.5	45.0	51.4	57.8	64.3	68.5
95°	39.9	38.8	37.6	36.4	35.3	37.9	44.4	50.9	57.3	63.8	67.9
97.5°	74.5	75.8	77.1	78.4	79.7	78.3	74.0	69.7	65.4	61.1	65.2
100°	100.6	106.4	112.3	118.1	124.0	119.4	104.4	89.4	74.4	59.4	63.4
102.5°	130.3	135.1	139.9	144.7	149.6	143.5	126.6	109.7	92.7	75.8	75.6
105°	173.7	177.6	181.5	185.3	189.2	187.7	180.7	173.8	166.8	159.9	140.3
107.5°	219.0	222.2	225.4	228.7	231.9	236.5	242.6	248.6	254.6	260.6	246.9
110°	249.2	252.1	254.9	257.8	260.7	264.9	270.4	276.0	281.5	287.1	285.6



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	278.4	280.8	283.3	285.7	288.2	292.1	297.4	302.8	308.2	313.6	316.2
115°	321.2	323.2	325.2	327.2	329.2	332.6	337.5	342.3	347.2	352.1	355.8
117.5°	362.9	364.6	366.3	368.0	369.7	372.6	376.7	380.8	384.9	389.0	392.4
120°	388.6	390.2	391.9	393.5	395.2	397.9	401.7	405.5	409.3	413.1	416.5
122.5°	415.0	416.2	417.4	418.7	419.9	422.3	426.1	429.8	433.5	437.3	440.3
125°	450.8	451.9	452.9	453.9	454.9	457.2	460.7	464.2	467.7	471.2	473.6
127.5°	486.0	486.9	487.8	488.7	489.6	491.6	494.7	497.8	500.9	504.0	506.4
130°	507.9	508.8	509.7	510.6	511.5	513.3	515.8	518.4	521.0	523.6	526.0
132.5°	528.5	529.5	530.5	531.5	532.5	534.0	536.1	538.1	540.2	542.2	544.6
135°	560.5	561.1	561.8	562.4	563.1	564.2	565.9	567.5	569.2	570.8	573.1
137.5°	587.7	588.6	589.5	590.4	591.3	592.2	593.1	594.0	594.9	595.8	598.1
140°	605.6	606.4	607.1	607.9	608.7	609.4	610.1	610.8	611.5	612.1	614.2
142.5°	622.5	623.2	623.9	624.5	625.2	625.8	626.2	626.7	627.1	627.5	629.3
145°	646.1	646.9	647.7	648.5	649.2	649.8	650.0	650.3	650.5	650.8	651.9
147.5°	667.9	668.5	669.1	669.6	670.2	670.6	670.9	671.1	671.4	671.7	672.2
150°	681.6	682.0	682.3	682.7	683.1	683.4	683.7	683.9	684.2	684.4	684.7
152.5°	693.9	694.1	694.2	694.4	694.6	694.8	694.9	695.1	695.2	695.4	695.8
155°	711.2	711.0	710.7	710.5	710.2	710.2	710.3	710.4	710.5	710.7	711.3
157.5°	724.7	724.7	724.6	724.6	724.6	724.5	724.4	724.3	724.1	724.0	724.8
160°	732.9	732.8	732.7	732.5	732.4	732.3	732.1	732.0	731.9	731.8	732.5
162.5°	740.7	740.3	740.0	739.7	739.3	739.1	739.0	738.9	738.7	738.6	739.5
165°	750.0	749.6	749.3	748.9	748.5	748.2	748.1	748.0	747.9	747.7	748.8
167.5°	757.3	756.8	756.3	755.8	755.3	755.0	755.0	755.0	755.0	755.0	756.1
170°	761.4	760.9	760.4	759.9	759.4	759.1	759.1	759.1	759.1	759.1	760.2
172.5°	764.2	763.6	762.9	762.3	761.7	761.5	761.6	761.7	761.8	761.9	762.9
175°	767.7	767.1	766.4	765.8	765.2	764.9	765.0	765.2	765.3	765.4	766.3
177.5°	768.6	768.1	767.6	767.1	766.6	766.4	766.5	766.6	766.7	766.8	767.6
180°	767.7	767.7	767.7	767.7	767.7	767.7	767.7	767.7	767.7	767.7	767.7



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**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°	69.3	73.0	76.6	78.9	80.0	81.1	82.2	83.3
90°	74.4	78.4	82.5	85.1	86.4	87.7	89.0	90.3
92.5°	72.8	77.0	81.3	83.9	85.0	86.2	87.3	88.4
95°	72.0	76.1	80.2	82.8	83.8	84.8	85.9	86.9
97.5°	69.3	73.4	77.5	80.2	81.3	82.5	83.7	84.8
100°	67.4	71.4	75.4	78.0	79.2	80.3	81.5	82.7
102.5°	75.4	75.2	74.9	75.5	76.7	78.0	79.2	80.5
105°	120.8	101.2	81.7	72.5	73.7	74.9	76.1	77.3
107.5°	233.3	219.6	205.9	191.1	175.1	159.1	143.1	127.1
110°	284.1	282.6	281.1	271.7	254.4	237.1	219.8	202.5





TEST NUMBER: P331877

CATALOG NUMBER: S123DIP-S340D585U835-4F0-1E-UDD-D

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	318.9	321.6	324.3	324.2	321.3	318.4	315.4	312.5
115°	359.6	363.3	367.1	369.6	371.0	372.3	373.6	375.0
117.5°	395.9	399.4	402.9	405.1	406.0	406.9	407.8	408.7
120°	419.9	423.3	426.7	428.8	429.5	430.2	430.9	431.7
122.5°	443.3	446.3	449.3	451.2	452.0	452.9	453.7	454.5
125°	476.1	478.5	480.9	482.6	483.6	484.6	485.5	486.5
127.5°	508.9	511.4	513.8	515.3	515.7	516.2	516.6	517.1
130°	528.5	531.0	533.5	534.9	535.3	535.6	536.0	536.4
132.5°	547.0	549.4	551.8	553.2	553.5	553.9	554.2	554.6
135°	575.3	577.5	579.8	581.0	581.1	581.3	581.4	581.5
137.5°	600.3	602.6	604.8	606.1	606.3	606.6	606.9	607.1
140°	616.3	618.3	620.4	621.5	621.8	622.1	622.3	622.6
142.5°	631.1	632.9	634.7	635.7	635.8	636.0	636.2	636.3
145°	652.9	654.0	655.1	655.9	656.3	656.7	657.1	657.5
147.5°	672.7	673.2	673.7	673.8	673.6	673.4	673.2	673.0
150°	684.9	685.2	685.4	685.5	685.3	685.1	685.0	684.8
152.5°	696.3	696.7	697.2	697.2	696.6	696.1	695.5	695.0
155°	711.9	712.6	713.2	713.1	712.4	711.6	710.9	710.1
157.5°	725.5	726.3	727.1	726.9	725.9	725.0	724.0	723.0
160°	733.3	734.0	734.8	734.7	733.9	733.0	732.1	731.2
162.5°	740.3	741.2	742.1	742.1	741.3	740.5	739.7	739.0
165°	749.8	750.8	751.8	751.9	751.0	750.1	749.2	748.3
167.5°	757.1	758.1	759.1	759.1	758.1	757.1	756.1	755.0
170°	761.2	762.2	763.2	763.2	762.2	761.2	760.2	759.1
172.5°	763.9	764.9	765.9	765.9	764.8	763.7	762.5	761.4
175°	767.2	768.1	769.0	768.9	767.9	766.9	765.9	764.8
177.5°	768.4	769.2	770.0	769.9	768.9	767.9	766.9	765.9
180°	767.7	767.7	767.7	767.7	767.7	767.7	767.7	767.7

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