

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: P331881-927

Luminaire Tested: **S123DIP-S340D585U927-4F0-1E-UDD-F1**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P331881-927  
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: S123DIP-S340D585U927-4F0-1E-UDD-F1  
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 340 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER  
UPLIGHT 585 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 2712.4 lumens  
Efficiency: N/A  
Efficacy: 106.0 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

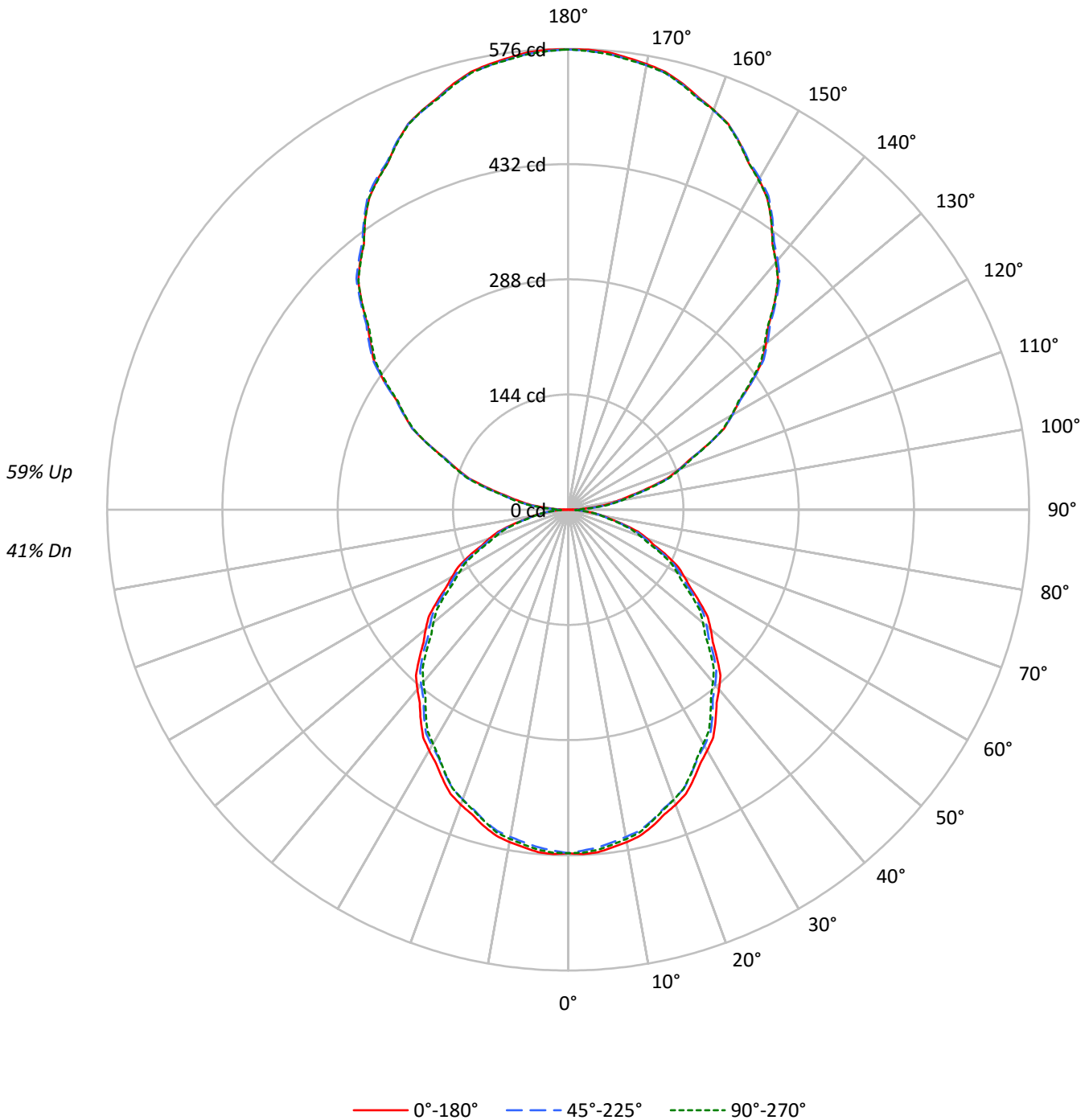
Input Watts (W): 25.6  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



TEST NUMBER: P331881-927

CATALOG NUMBER: S123DIP-S340D585U927-4F0-1E-UDD-F1

### 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	96	96	96	96	78	78	78	63	63	63	48	48	48	41
1	96	91	88	84	87	84	80	77	69	66	64	55	53	52	42	41	40	35
2	87	80	74	69	79	73	68	63	60	56	53	48	46	43	37	36	34	29
3	79	70	63	57	72	64	58	53	53	48	45	43	39	37	33	31	29	24
4	73	62	54	48	66	57	50	45	47	42	38	38	34	31	29	27	25	21
5	67	55	47	41	60	51	44	38	42	37	33	34	30	27	27	24	22	18
6	61	49	41	36	56	45	38	33	38	32	28	31	27	24	24	21	19	16
7	57	45	37	31	52	41	34	29	34	29	25	28	24	21	22	19	17	14
8	53	40	33	27	48	37	30	26	31	26	22	25	21	19	20	17	15	13
9	49	37	29	24	45	34	27	23	29	23	20	23	19	17	19	16	14	11
10	46	34	27	22	42	31	25	20	26	21	18	22	18	15	17	14	12	10

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°
0°	4621	4621	4621
5°	4643	4578	4611
10°	4611	4539	4568
15°	4558	4488	4496
20°	4495	4415	4418
25°	4410	4327	4318
30°	4318	4230	4197
35°	4221	4127	4075
40°	4118	4014	3953
45°	4007	3911	3815
50°	3893	3783	3677
55°	3748	3652	3539
60°	3599	3496	3384
65°	3469	3326	3224
70°	3276	3138	2996
75°	2994	2886	2766
80°	2703	2585	2566
85°	2371	2285	2186



TEST NUMBER: P331881-927

CATALOG NUMBER: S123DIP-S340D585U927-4F0-1E-UDD-F1

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	40.4	1.5
10°-20°	114.2	4.2
20°-30°	168.7	6.2
30°-40°	197.0	7.3
40°-50°	198.1	7.3
50°-60°	174.0	6.4
60°-70°	129.6	4.8
70°-80°	73.8	2.7
80°-90°	22.9	0.8
90°-100°	37.5	1.4
100°-110°	112.2	4.1
110°-120°	190.8	7.0
120°-130°	250.9	9.3
130°-140°	282.0	10.4
140°-150°	277.2	10.2
150°-160°	233.4	8.6
160°-170°	155.4	5.7
170°-180°	54.4	2.0
0°-30°	323.3	11.9
0°-40°	520.3	19.2
0°-60°	892.4	32.9
0°-90°	1118.7	41.2
90°-120°	340.4	12.5
90°-150°	1150.6	42.4
90°-180°	1594.0	58.8
0°-180°	2712.4	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	429	429	429	429	429	
5°	430	428	424	427	427	41
15°	409	407	403	405	404	115
25°	371	369	364	365	364	171
35°	321	319	314	312	310	201
45°	263	262	257	253	251	203
55°	200	199	195	191	189	179
65°	136	134	131	128	127	134
75°	72	70	69	68	66	77
85°	19	18	18	18	18	21
90°	0	5	11	13	14	3
95°	27	30	33	35	35	30
105°	102	103	107	107	108	109
115°	192	193	192	193	192	190
125°	281	282	282	280	278	251
135°	365	367	367	365	364	281
145°	442	443	445	444	442	276
155°	506	507	507	508	506	233
165°	552	550	550	553	550	155
175°	574	572	572	574	572	54
180°	575	575	575	575	575	



TEST NUMBER: P331881-927

CATALOG NUMBER: S123DIP-S340D585U927-4F0-1E-UDD-F1

**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	429.3	429.3	429.3	429.3	429.3	429.3	429.3	429.3	429.3	429.3	429.3
2.5°	430.8	430.5	430.2	430.0	429.7	429.2	428.5	427.8	427.1	426.4	427.0
5°	429.7	429.2	428.8	428.4	428.0	427.4	426.4	425.6	424.6	423.7	424.5
7.5°	425.5	425.0	424.6	424.2	423.8	423.1	422.2	421.3	420.3	419.4	420.1
10°	421.9	421.5	421.0	420.6	420.3	419.5	418.4	417.4	416.3	415.3	416.0
12.5°	417.2	416.8	416.5	416.1	415.8	415.1	414.2	413.1	412.1	411.1	411.7
15°	409.0	408.7	408.3	408.0	407.7	406.9	405.9	404.8	403.8	402.7	403.4
17.5°	399.4	399.0	398.6	398.2	397.8	397.0	395.9	394.9	393.8	392.8	393.2
20°	392.4	391.9	391.4	390.9	390.4	389.6	388.6	387.5	386.4	385.4	385.7
22.5°	384.4	383.9	383.4	382.9	382.5	381.7	380.6	379.5	378.4	377.4	377.6
25°	371.3	370.8	370.3	369.9	369.4	368.6	367.5	366.5	365.4	364.3	364.4
27.5°	357.4	356.9	356.4	355.9	355.5	354.7	353.6	352.4	351.3	350.1	350.1
30°	347.4	346.9	346.5	346.1	345.7	344.9	343.8	342.6	341.5	340.3	340.3
32.5°	337.3	336.8	336.2	335.6	335.2	334.4	333.5	332.6	331.8	330.9	330.4
35°	321.2	320.7	320.1	319.6	319.2	318.4	317.3	316.2	315.2	314.1	313.6
37.5°	304.6	304.0	303.3	302.7	302.1	301.3	300.2	299.0	298.0	296.9	296.4
40°	293.1	292.6	292.1	291.6	291.1	290.3	289.1	288.0	286.8	285.7	285.0
42.5°	281.5	281.0	280.4	279.9	279.3	278.5	277.3	276.2	275.0	273.9	273.2
45°	263.2	262.8	262.5	262.2	261.9	261.2	260.1	259.0	257.9	256.9	256.0
47.5°	244.9	244.5	244.0	243.5	243.0	242.3	241.3	240.3	239.3	238.3	237.3
50°	232.5	232.1	231.7	231.3	230.9	230.1	229.1	228.1	227.0	225.9	225.0
52.5°	219.5	219.3	219.0	218.7	218.4	217.7	216.6	215.5	214.4	213.2	212.5
55°	199.7	199.6	199.6	199.5	199.4	198.8	197.7	196.6	195.6	194.6	193.6
57.5°	180.8	180.5	180.2	180.0	179.7	179.1	178.2	177.4	176.6	175.7	174.9
60°	167.2	167.2	167.1	167.0	166.9	166.4	165.3	164.4	163.4	162.4	161.7
62.5°	155.1	154.9	154.7	154.5	154.2	153.7	152.7	151.7	150.7	149.7	149.0
65°	136.2	135.8	135.4	135.0	134.6	134.0	133.2	132.3	131.5	130.6	130.0
67.5°	116.2	115.8	115.5	115.1	114.8	114.2	113.7	113.0	112.4	111.8	111.2
70°	104.1	103.6	103.1	102.6	102.1	101.6	101.2	100.6	100.1	99.7	99.1
72.5°	91.4	91.0	90.7	90.3	89.9	89.5	89.0	88.4	87.9	87.3	86.7
75°	72.0	71.6	71.3	71.0	70.7	70.3	70.1	69.9	69.6	69.4	69.0
77.5°	54.7	54.6	54.4	54.3	54.0	53.8	53.6	53.2	52.9	52.6	52.4
80°	43.6	43.3	43.1	42.9	42.5	42.4	42.2	42.1	41.9	41.7	41.6
82.5°	32.6	32.6	32.6	32.5	32.4	32.4	32.3	32.3	32.3	32.2	32.1
85°	19.2	19.0	18.9	18.7	18.5	18.5	18.5	18.5	18.5	18.5	18.3
87.5°	7.8	7.8	7.8	7.8	7.8	7.9	8.1	8.2	8.5	8.6	8.7
90°	0.5	1.4	2.5	3.5	4.4	5.6	6.9	8.2	9.5	10.9	11.2
92.5°	10.9	11.6	12.3	13.0	13.7	14.4	15.1	15.8	16.6	17.3	17.7
95°	26.7	27.3	28.0	28.8	29.5	30.3	31.1	31.8	32.6	33.4	33.8
97.5°	47.4	47.8	48.4	49.0	49.4	50.0	50.5	51.2	51.7	52.4	52.8
100°	61.5	62.0	62.7	63.3	63.8	64.4	64.9	65.4	65.9	66.4	66.7
102.5°	77.7	78.1	78.4	78.8	79.1	79.7	80.3	81.0	81.7	82.3	82.6
105°	101.6	101.9	102.0	102.3	102.5	103.0	103.9	104.8	105.8	106.6	106.6
107.5°	129.5	129.6	129.8	129.8	130.0	130.2	130.6	130.9	131.3	131.7	132.0
110°	146.9	147.0	147.3	147.4	147.7	147.8	148.1	148.3	148.5	148.7	149.1



TEST NUMBER: P331881-927

CATALOG NUMBER: S123DIP-S340D585U927-4F0-1E-UDD-F1

**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	164.9	165.0	165.2	165.2	165.4	165.5	165.6	165.6	165.6	165.6	166.1
115°	192.0	192.3	192.7	193.0	193.2	193.3	193.1	192.9	192.7	192.5	192.6
117.5°	219.4	219.5	219.8	219.9	220.1	220.1	219.8	219.6	219.4	219.0	219.0
120°	236.3	236.9	237.5	238.1	238.8	238.8	238.3	237.8	237.3	236.8	236.7
122.5°	254.1	254.4	254.9	255.3	255.8	255.9	255.6	255.4	255.1	254.8	254.6
125°	281.1	281.4	281.6	281.9	282.3	282.3	282.1	281.9	281.7	281.5	281.1
127.5°	306.0	306.7	307.3	307.9	308.6	308.8	308.6	308.3	308.1	307.9	307.4
130°	322.7	323.4	324.2	325.0	325.8	326.1	325.8	325.5	325.2	324.9	324.5
132.5°	339.2	340.1	340.9	341.7	342.5	342.8	342.5	342.3	342.1	341.9	341.4
135°	364.6	365.3	365.8	366.5	367.0	367.3	367.2	367.1	367.0	366.9	366.5
137.5°	388.2	388.6	389.1	389.7	390.1	390.5	390.8	391.0	391.3	391.6	391.2
140°	404.4	404.9	405.4	405.9	406.4	406.7	406.8	406.9	407.0	407.1	407.0
142.5°	419.2	419.7	420.3	420.7	421.2	421.6	421.8	421.9	422.2	422.3	422.2
145°	442.4	442.6	442.8	443.0	443.1	443.4	443.7	444.0	444.3	444.7	444.5
147.5°	462.6	463.0	463.3	463.7	464.1	464.4	464.7	464.9	465.2	465.5	465.5
150°	476.7	476.9	477.1	477.3	477.5	477.7	477.9	478.1	478.3	478.5	478.5
152.5°	488.3	488.5	488.9	489.1	489.4	489.6	489.7	489.8	490.0	490.0	490.2
155°	506.5	506.5	506.5	506.5	506.5	506.6	506.7	506.8	506.9	507.0	507.4
157.5°	522.0	522.0	521.8	521.7	521.6	521.6	521.7	521.7	521.8	521.9	522.3
160°	531.8	531.6	531.4	531.2	531.0	530.9	530.9	530.9	530.9	530.9	531.4
162.5°	540.5	540.2	540.0	539.6	539.4	539.3	539.4	539.5	539.6	539.6	540.1
165°	551.7	551.4	551.1	550.8	550.5	550.3	550.3	550.3	550.3	550.3	551.0
167.5°	560.6	560.2	559.8	559.4	559.0	558.9	559.0	559.0	559.1	559.2	559.8
170°	565.7	565.3	564.9	564.5	564.1	563.9	563.9	563.9	563.9	563.9	564.6
172.5°	569.7	569.3	568.9	568.5	568.1	567.9	567.9	567.9	567.9	567.9	568.5
175°	573.9	573.5	573.1	572.7	572.3	572.0	572.0	572.0	572.0	572.0	572.7
177.5°	575.6	575.3	575.0	574.6	574.3	574.1	574.1	574.1	574.1	574.1	574.6
180°	575.2	575.2	575.2	575.2	575.2	575.2	575.2	575.2	575.2	575.2	575.2



TEST NUMBER: P331881-927

CATALOG NUMBER: S123DIP-S340D585U927-4F0-1E-UDD-F1

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	429.3	429.3	429.3	429.3	429.3	429.3	429.3	429.3
2.5°	427.6	428.3	429.0	429.3	429.2	429.1	429.0	429.0
5°	425.4	426.2	427.1	427.4	427.2	427.1	426.8	426.7
7.5°	420.9	421.6	422.3	422.6	422.6	422.5	422.4	422.2
10°	416.8	417.5	418.2	418.5	418.4	418.2	418.0	417.9
12.5°	412.2	412.7	413.3	413.5	413.4	413.3	413.2	413.1
15°	404.0	404.6	405.4	405.4	404.9	404.4	403.9	403.5
17.5°	393.6	394.1	394.6	394.7	394.5	394.3	394.2	394.0
20°	386.0	386.3	386.7	386.7	386.4	386.2	386.0	385.7
22.5°	377.9	378.2	378.4	378.4	378.1	377.8	377.5	377.2
25°	364.5	364.6	364.6	364.6	364.3	364.1	363.8	363.6
27.5°	350.2	350.3	350.3	350.2	349.9	349.6	349.3	349.0
30°	340.3	340.3	340.3	340.0	339.5	338.9	338.3	337.7
32.5°	329.9	329.5	329.1	328.7	328.4	328.0	327.7	327.4
35°	313.1	312.7	312.1	311.7	311.3	310.9	310.5	310.1
37.5°	295.7	295.2	294.5	294.1	293.9	293.6	293.3	293.1
40°	284.4	283.8	283.0	282.6	282.3	281.9	281.6	281.3
42.5°	272.6	271.9	271.2	270.8	270.5	270.1	269.8	269.4
45°	254.9	254.0	252.9	252.3	251.8	251.4	251.0	250.6
47.5°	236.4	235.4	234.4	233.8	233.4	233.1	232.7	232.3
50°	224.1	223.2	222.3	221.6	221.1	220.6	220.1	219.6
52.5°	211.7	210.9	210.1	209.5	209.0	208.5	208.0	207.6
55°	192.7	191.8	190.9	190.3	189.9	189.4	189.0	188.6
57.5°	174.1	173.3	172.5	171.8	171.3	170.9	170.4	169.9
60°	161.0	160.2	159.5	158.9	158.4	158.0	157.6	157.2
62.5°	148.2	147.5	146.8	146.2	146.0	145.7	145.4	145.1
65°	129.4	128.7	128.0	127.6	127.4	127.1	126.8	126.6
67.5°	110.6	110.0	109.5	109.0	108.7	108.3	108.0	107.7
70°	98.5	97.9	97.4	96.9	96.5	96.1	95.6	95.2
72.5°	86.3	85.7	85.2	84.8	84.7	84.4	84.2	84.0
75°	68.6	68.1	67.7	67.4	67.2	66.9	66.7	66.5
77.5°	52.0	51.8	51.5	51.4	51.4	51.4	51.4	51.4
80°	41.5	41.4	41.4	41.4	41.4	41.4	41.4	41.4
82.5°	32.0	31.8	31.7	31.5	31.5	31.4	31.4	31.3
85°	18.1	18.0	17.8	17.7	17.7	17.7	17.7	17.7
87.5°	8.7	8.7	8.7	8.7	8.8	8.8	8.9	9.0
90°	11.6	12.0	12.4	12.8	13.0	13.2	13.4	13.5
92.5°	18.0	18.3	18.6	18.8	18.6	18.5	18.4	18.2
95°	34.2	34.6	35.0	35.3	35.3	35.3	35.3	35.3
97.5°	53.2	53.7	54.2	54.3	54.3	54.3	54.3	54.2
100°	67.0	67.3	67.7	67.9	68.0	68.3	68.4	68.7
102.5°	82.9	83.3	83.5	83.7	83.7	83.6	83.6	83.5
105°	106.6	106.6	106.6	106.7	106.9	107.1	107.3	107.6
107.5°	132.3	132.6	132.9	133.1	132.9	132.8	132.7	132.6
110°	149.5	149.9	150.3	150.4	150.2	150.0	149.8	149.6





TEST NUMBER: P331881-927

CATALOG NUMBER: S123DIP-S340D585U927-4F0-1E-UDD-F1

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	166.6	167.1	167.5	167.8	167.8	167.7	167.7	167.6
115°	192.7	192.8	192.9	192.9	192.8	192.7	192.6	192.5
117.5°	219.0	219.0	219.0	218.8	218.6	218.2	218.0	217.7
120°	236.5	236.5	236.4	236.2	236.0	235.8	235.6	235.4
122.5°	254.3	254.1	253.8	253.5	253.3	252.9	252.7	252.4
125°	280.7	280.3	279.9	279.5	279.1	278.7	278.3	277.9
127.5°	306.7	306.2	305.6	305.1	304.7	304.2	303.7	303.2
130°	324.1	323.7	323.3	322.7	322.0	321.3	320.6	319.9
132.5°	340.9	340.4	339.9	339.5	338.9	338.3	337.8	337.2
135°	366.1	365.7	365.3	365.0	364.8	364.6	364.4	364.2
137.5°	390.7	390.3	389.9	389.5	389.1	388.7	388.3	387.9
140°	406.9	406.8	406.7	406.3	405.6	404.9	404.2	403.5
142.5°	422.1	422.0	421.9	421.6	421.0	420.5	419.9	419.4
145°	444.4	444.3	444.3	443.9	443.5	443.1	442.8	442.4
147.5°	465.5	465.5	465.5	465.2	464.6	464.0	463.4	462.8
150°	478.5	478.5	478.5	478.2	477.6	477.0	476.4	475.8
152.5°	490.4	490.6	490.8	490.5	490.0	489.5	489.0	488.5
155°	507.8	508.2	508.6	508.4	507.7	507.0	506.4	505.6
157.5°	522.8	523.2	523.6	523.5	522.9	522.4	521.8	521.3
160°	532.0	532.4	532.9	533.0	532.6	532.2	531.8	531.4
162.5°	540.6	541.1	541.6	541.5	540.9	540.3	539.6	539.0
165°	551.6	552.2	552.8	552.7	552.0	551.3	550.6	549.9
167.5°	560.5	561.1	561.7	561.7	561.1	560.5	559.8	559.2
170°	565.3	566.0	566.7	566.7	566.0	565.3	564.6	563.9
172.5°	569.1	569.7	570.4	570.4	569.7	568.9	568.2	567.5
175°	573.2	573.9	574.5	574.4	573.7	573.0	572.3	571.6
177.5°	575.1	575.6	576.1	576.0	575.4	574.9	574.3	573.8
180°	575.2	575.2	575.2	575.2	575.2	575.2	575.2	575.2

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