

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: P331871-930

Luminaire Tested: **S123DIP-S340D365U930-4F0-1E-UDD-F**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P331871-930
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-S340D365U930-4F0-1E-UDD-F
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 340 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: 2333.3 lumens
Efficiency: N/A
Efficacy: 114.9 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

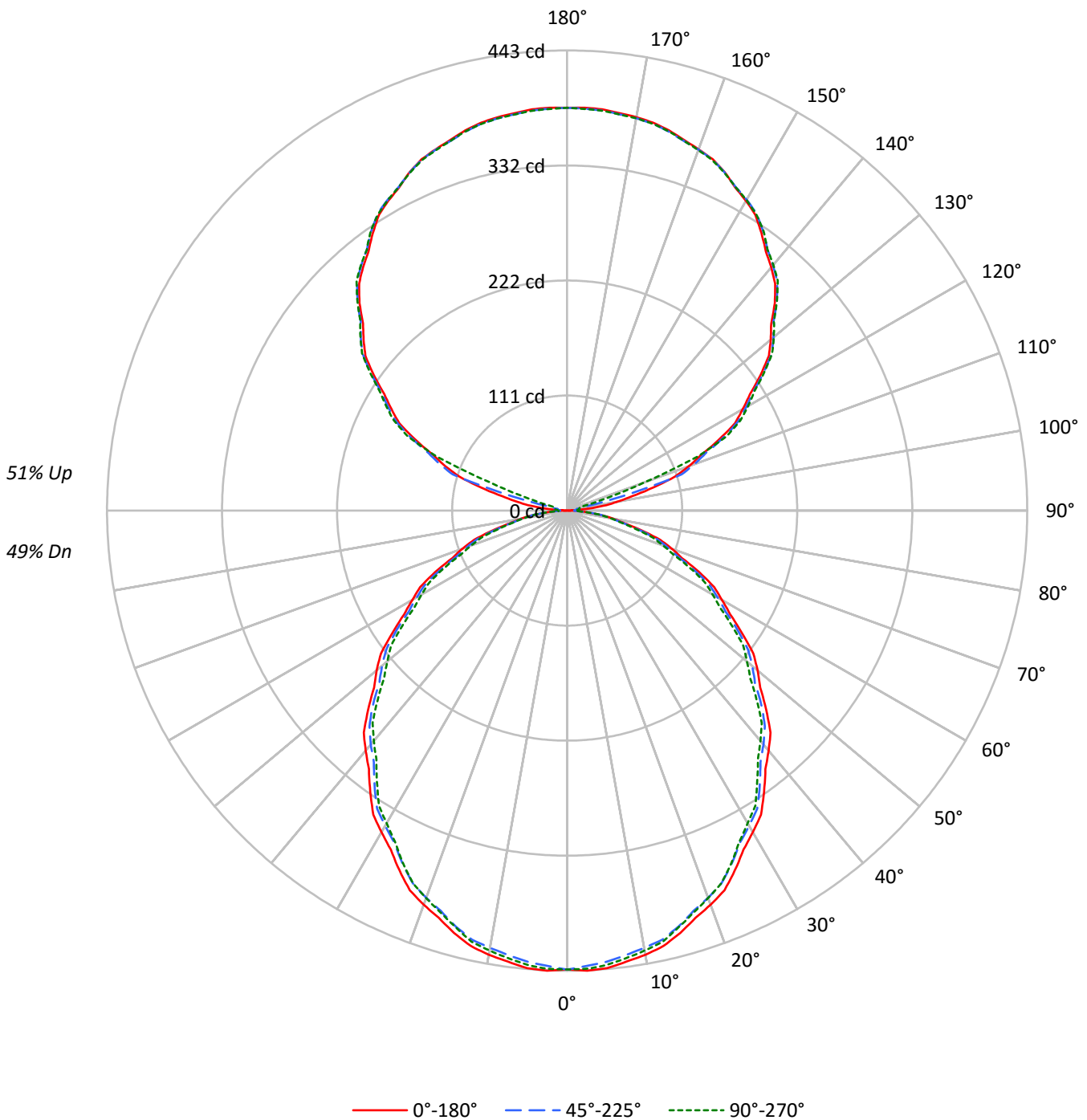
Input Watts (W): 20.3
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P331871-930

CATALOG NUMBER: S123DIP-S340D365U930-4F0-1E-UDD-F

Luminous Intensity Polar Plot





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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	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	50	30	10	50	30	10	0														
RCR																																						
0	107	107	107	107	99	99	99	99	83	83	83	69	69	69	55	55	55	49																				
1	98	93	89	86	90	86	83	80	73	70	68	60	59	57	49	48	47	41																				
2	89	81	75	70	82	75	70	65	64	60	56	53	50	48	43	41	39	35																				
3	81	71	64	58	74	66	60	55	56	51	47	47	43	40	38	36	33	29																				
4	74	63	55	49	68	59	52	46	50	44	40	42	38	34	34	31	29	25																				
5	68	56	48	42	62	52	45	40	45	39	35	37	33	30	31	28	25	22																				
6	63	51	42	37	57	47	40	34	40	34	30	34	29	26	28	25	22	19																				
7	58	46	38	32	53	42	35	30	36	31	27	31	26	23	25	22	20	17																				
8	54	41	34	28	49	39	32	27	33	28	24	28	24	21	23	20	18	15																				
9	50	38	30	25	46	35	28	24	30	25	21	26	22	18	22	18	16	14																				
10	47	35	27	23	43	32	26	21	28	23	19	24	20	17	20	17	14	12																				

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	4755	4755	4755
5°	4778	4712	4744
10°	4746	4671	4701
15°	4690	4619	4627
20°	4625	4543	4548
25°	4538	4454	4444
30°	4443	4354	4320
35°	4343	4248	4193
40°	4239	4131	4068
45°	4122	4025	3927
50°	4007	3893	3785
55°	3856	3757	3643
60°	3705	3597	3483
65°	3568	3423	3319
70°	3371	3229	3084
75°	3082	2969	2845
80°	2777	2665	2641
85°	2433	2347	2260



TEST NUMBER: P331871-930

CATALOG NUMBER: S123DIP-S340D365U930-4F0-1E-UDD-F

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	41.6	1.8
10°-20°	117.5	5.0
20°-30°	173.6	7.4
30°-40°	202.8	8.7
40°-50°	203.9	8.7
50°-60°	179.1	7.7
60°-70°	133.4	5.7
70°-80°	76.0	3.3
80°-90°	22.9	1.0
90°-100°	14.1	0.6
100°-110°	67.2	2.9
110°-120°	161.4	6.9
120°-130°	205.5	8.8
130°-140°	219.6	9.4
140°-150°	205.4	8.8
150°-160°	165.6	7.1
160°-170°	106.9	4.6
170°-180°	36.8	1.6
0°-30°	332.7	14.3
0°-40°	535.5	22.9
0°-60°	918.4	39.4
0°-90°	1150.7	49.3
90°-120°	242.7	10.4
90°-150°	873.2	37.4
90°-180°	1183.0	50.7
0°-180°	2333.3	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	442	442	442	442	442	
5°	442	440	436	440	439	42
15°	421	419	414	417	415	119
25°	382	380	375	375	374	176
35°	330	328	323	321	319	207
45°	271	269	264	260	258	209
55°	206	205	200	196	194	184
65°	140	138	134	132	130	138
75°	74	73	71	70	68	79
85°	20	19	19	18	18	22
90°	0	3	7	8	9	2
95°	18	7	9	11	11	22
105°	86	87	63	15	13	91
115°	161	163	165	168	169	159
125°	227	229	230	231	232	203
135°	283	284	286	286	286	217
145°	326	328	329	329	329	204
155°	359	359	359	360	359	165
165°	379	378	378	380	378	107
175°	388	386	387	388	386	37
180°	388	388	388	388	388	



TEST NUMBER: P331871-930

CATALOG NUMBER: S123DIP-S340D365U930-4F0-1E-UDD-F

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	441.8	441.8	441.8	441.8	441.8	441.8	441.8	441.8	441.8	441.8	441.8
2.5°	443.4	443.0	442.8	442.5	442.2	441.7	441.0	440.3	439.5	438.8	439.4
5°	442.2	441.7	441.3	440.9	440.5	439.9	438.9	438.0	437.0	436.1	436.9
7.5°	437.9	437.4	437.0	436.6	436.2	435.5	434.6	433.6	432.6	431.6	432.4
10°	434.2	433.8	433.3	432.9	432.5	431.8	430.6	429.6	428.4	427.4	428.1
12.5°	429.3	429.0	428.6	428.3	428.0	427.2	426.2	425.2	424.1	423.1	423.7
15°	420.9	420.6	420.2	419.9	419.6	418.8	417.8	416.6	415.6	414.5	415.2
17.5°	411.1	410.7	410.3	409.8	409.4	408.6	407.5	406.4	405.3	404.2	404.6
20°	403.8	403.3	402.8	402.3	401.8	401.0	399.9	398.8	397.7	396.6	397.0
22.5°	395.6	395.1	394.6	394.1	393.6	392.8	391.7	390.6	389.5	388.4	388.7
25°	382.1	381.6	381.2	380.7	380.2	379.4	378.2	377.2	376.0	375.0	375.0
27.5°	367.8	367.3	366.8	366.3	365.8	365.0	363.9	362.6	361.5	360.3	360.4
30°	357.5	357.0	356.6	356.2	355.8	355.0	353.8	352.6	351.5	350.3	350.3
32.5°	347.2	346.6	346.0	345.4	345.0	344.1	343.2	342.3	341.4	340.6	340.1
35°	330.5	330.0	329.5	329.0	328.5	327.7	326.6	325.5	324.4	323.3	322.8
37.5°	313.5	312.8	312.2	311.5	311.0	310.1	308.9	307.8	306.7	305.6	305.0
40°	301.7	301.1	300.6	300.1	299.6	298.7	297.6	296.4	295.2	294.0	293.3
42.5°	289.8	289.2	288.6	288.0	287.5	286.6	285.4	284.2	283.1	281.8	281.2
45°	270.8	270.5	270.2	269.9	269.5	268.8	267.7	266.6	265.5	264.4	263.4
47.5°	252.1	251.6	251.1	250.6	250.1	249.4	248.3	247.3	246.3	245.2	244.3
50°	239.3	238.9	238.5	238.1	237.7	236.8	235.8	234.7	233.6	232.5	231.5
52.5°	225.9	225.7	225.3	225.1	224.8	224.0	222.9	221.8	220.6	219.4	218.7
55°	205.5	205.5	205.4	205.3	205.2	204.6	203.5	202.4	201.3	200.2	199.3
57.5°	186.1	185.8	185.5	185.2	184.9	184.3	183.4	182.5	181.7	180.8	180.0
60°	172.1	172.0	171.9	171.9	171.8	171.2	170.2	169.2	168.2	167.1	166.4
62.5°	159.6	159.4	159.2	159.0	158.7	158.2	157.1	156.1	155.1	154.1	153.4
65°	140.1	139.7	139.3	138.9	138.5	137.9	137.1	136.2	135.3	134.4	133.8
67.5°	119.6	119.2	118.9	118.5	118.1	117.6	117.0	116.3	115.7	115.0	114.5
70°	107.1	106.6	106.2	105.6	105.1	104.6	104.1	103.5	103.1	102.6	102.0
72.5°	94.1	93.7	93.4	92.9	92.5	92.1	91.6	91.0	90.4	89.8	89.3
75°	74.1	73.7	73.4	73.1	72.7	72.4	72.2	71.9	71.7	71.4	71.0
77.5°	56.3	56.2	56.0	55.8	55.6	55.4	55.1	54.8	54.5	54.1	53.9
80°	44.8	44.6	44.4	44.1	43.8	43.6	43.5	43.3	43.1	43.0	42.8
82.5°	33.6	33.5	33.5	33.4	33.3	33.3	33.3	33.3	33.3	33.2	33.0
85°	19.7	19.6	19.4	19.2	19.1	19.0	19.0	19.0	19.0	19.0	18.8
87.5°	8.0	7.9	7.8	7.7	7.7	7.7	7.7	7.9	8.0	8.1	8.1
90°	0.3	0.9	1.5	2.2	2.9	3.6	4.4	5.2	6.1	6.9	7.2
92.5°	5.4	5.2	5.0	4.8	4.6	4.9	5.5	6.1	6.8	7.3	7.7
95°	17.6	14.9	12.3	9.7	7.1	6.1	6.8	7.5	8.2	9.0	9.4
97.5°	35.3	34.2	32.9	31.8	30.6	27.7	23.1	18.5	13.9	9.3	9.8
100°	48.7	50.0	51.3	52.5	53.8	49.5	39.5	29.5	19.5	9.5	10.0
102.5°	63.9	64.8	65.7	66.7	67.6	62.6	51.7	40.8	29.8	19.0	17.4
105°	85.9	86.6	87.2	88.0	88.7	86.2	80.4	74.6	68.9	63.1	51.8
107.5°	109.0	109.6	110.1	110.7	111.3	112.0	112.9	113.8	114.7	115.6	107.3
110°	124.5	125.0	125.5	126.0	126.5	127.1	127.8	128.5	129.2	130.0	127.8



TEST NUMBER: P331871-930

CATALOG NUMBER: S123DIP-S340D365U930-4F0-1E-UDD-F

CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	139.2	139.7	140.1	140.6	141.0	141.6	142.4	143.1	143.7	144.5	144.5
115°	161.0	161.4	161.8	162.2	162.6	163.1	163.6	164.2	164.8	165.3	166.0
117.5°	182.2	182.7	183.1	183.6	184.1	184.5	184.7	185.1	185.4	185.6	186.1
120°	195.3	195.9	196.5	197.1	197.6	198.0	198.2	198.4	198.6	198.8	199.3
122.5°	208.7	209.2	209.6	210.1	210.6	210.9	211.2	211.4	211.7	211.9	212.3
125°	227.1	227.6	228.0	228.5	229.1	229.4	229.8	230.0	230.2	230.5	230.6
127.5°	244.8	245.3	245.8	246.3	246.8	247.2	247.5	247.9	248.2	248.4	248.7
130°	255.8	256.3	256.8	257.4	257.9	258.3	258.5	258.8	259.0	259.3	259.5
132.5°	266.4	266.9	267.5	268.0	268.5	268.8	269.0	269.3	269.5	269.7	269.9
135°	282.7	283.0	283.4	283.8	284.1	284.5	284.7	285.0	285.3	285.5	285.7
137.5°	296.4	296.9	297.4	297.9	298.4	298.7	298.9	299.0	299.1	299.3	299.6
140°	305.7	306.1	306.5	306.8	307.2	307.5	307.7	307.9	308.1	308.3	308.5
142.5°	314.2	314.6	315.0	315.4	315.8	316.0	316.3	316.4	316.6	316.8	317.0
145°	326.1	326.6	327.0	327.5	327.9	328.2	328.3	328.5	328.6	328.7	328.9
147.5°	337.4	337.7	337.9	338.3	338.5	338.8	338.9	339.0	339.2	339.2	339.4
150°	344.3	344.5	344.6	344.9	345.0	345.2	345.4	345.4	345.6	345.7	345.8
152.5°	350.5	350.6	350.7	350.7	350.8	351.0	351.0	351.1	351.1	351.2	351.5
155°	359.3	359.1	359.0	358.9	358.7	358.7	358.8	358.8	358.9	359.0	359.3
157.5°	366.1	366.1	366.1	366.0	366.0	366.0	365.9	365.8	365.7	365.7	366.1
160°	370.2	370.1	370.1	370.0	370.0	369.9	369.8	369.7	369.7	369.7	370.0
162.5°	374.1	374.0	373.8	373.7	373.5	373.3	373.2	373.2	373.2	373.1	373.5
165°	378.9	378.6	378.5	378.3	378.1	378.0	377.9	377.8	377.7	377.7	378.2
167.5°	382.5	382.3	382.0	381.8	381.5	381.4	381.4	381.4	381.4	381.4	381.9
170°	384.6	384.3	384.1	383.8	383.6	383.4	383.4	383.4	383.4	383.4	384.0
172.5°	386.0	385.7	385.4	385.1	384.7	384.7	384.7	384.7	384.8	384.8	385.4
175°	387.8	387.4	387.1	386.9	386.5	386.4	386.5	386.5	386.5	386.6	387.1
177.5°	388.2	388.0	387.8	387.5	387.2	387.1	387.2	387.2	387.3	387.3	387.8
180°	387.8	387.8	387.8	387.8	387.8	387.8	387.8	387.8	387.8	387.8	387.8



TEST NUMBER: P331871-930

CATALOG NUMBER: S123DIP-S340D365U930-4F0-1E-UDD-F

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	441.8	441.8	441.8	441.8	441.8	441.8	441.8	441.8
2.5°	440.1	440.8	441.5	441.8	441.7	441.6	441.6	441.5
5°	437.8	438.6	439.5	439.9	439.7	439.5	439.3	439.1
7.5°	433.2	433.9	434.6	435.0	434.9	434.8	434.7	434.6
10°	428.9	429.7	430.4	430.7	430.6	430.4	430.2	430.1
12.5°	424.2	424.8	425.3	425.6	425.5	425.3	425.3	425.2
15°	415.8	416.5	417.2	417.3	416.7	416.2	415.7	415.2
17.5°	405.1	405.6	406.1	406.3	406.0	405.9	405.7	405.5
20°	397.3	397.6	397.9	398.0	397.7	397.5	397.2	397.0
22.5°	388.9	389.2	389.5	389.5	389.1	388.8	388.5	388.2
25°	375.1	375.2	375.3	375.2	375.0	374.7	374.5	374.2
27.5°	360.4	360.5	360.5	360.4	360.1	359.8	359.5	359.1
30°	350.3	350.3	350.3	349.9	349.4	348.8	348.2	347.6
32.5°	339.6	339.1	338.7	338.3	337.9	337.6	337.3	337.0
35°	322.3	321.8	321.2	320.8	320.4	319.9	319.5	319.1
37.5°	304.4	303.8	303.1	302.7	302.5	302.1	301.9	301.7
40°	292.7	292.0	291.3	290.8	290.5	290.2	289.8	289.5
42.5°	280.5	279.8	279.2	278.7	278.3	278.0	277.7	277.3
45°	262.4	261.4	260.3	259.7	259.2	258.8	258.4	258.0
47.5°	243.3	242.3	241.2	240.6	240.2	239.9	239.5	239.1
50°	230.6	229.7	228.8	228.0	227.6	227.1	226.6	226.0
52.5°	217.8	217.0	216.2	215.6	215.1	214.6	214.1	213.6
55°	198.4	197.4	196.5	195.8	195.4	194.9	194.5	194.1
57.5°	179.2	178.3	177.5	176.8	176.3	175.9	175.4	174.9
60°	165.7	164.9	164.1	163.5	163.1	162.7	162.2	161.8
62.5°	152.5	151.8	151.1	150.5	150.3	149.9	149.7	149.4
65°	133.1	132.5	131.8	131.3	131.1	130.8	130.5	130.3
67.5°	113.8	113.2	112.7	112.2	111.9	111.5	111.1	110.8
70°	101.4	100.8	100.2	99.7	99.3	98.9	98.4	98.0
72.5°	88.8	88.2	87.7	87.3	87.2	86.9	86.7	86.4
75°	70.6	70.1	69.7	69.4	69.1	68.9	68.6	68.4
77.5°	53.6	53.3	53.0	52.9	52.9	52.9	52.9	52.9
80°	42.7	42.6	42.6	42.6	42.6	42.6	42.6	42.6
82.5°	32.9	32.8	32.6	32.4	32.4	32.4	32.3	32.2
85°	18.7	18.5	18.3	18.3	18.3	18.3	18.3	18.3
87.5°	8.1	8.0	8.0	8.0	8.1	8.1	8.1	8.1
90°	7.4	7.7	7.9	8.2	8.2	8.4	8.5	8.6
92.5°	8.2	8.6	9.0	9.3	9.3	9.4	9.5	9.5
95°	9.9	10.3	10.8	10.9	10.9	10.9	10.9	10.9
97.5°	10.3	10.8	11.3	11.6	11.7	11.7	11.8	11.9
100°	10.5	11.0	11.6	11.8	11.9	12.0	12.1	12.1
102.5°	15.8	14.2	12.6	11.9	12.0	12.1	12.2	12.3
105°	40.4	29.1	17.8	12.1	12.3	12.4	12.6	12.6
107.5°	99.1	90.7	82.4	73.9	65.5	56.9	48.3	39.8
110°	125.7	123.6	121.5	115.9	106.7	97.5	88.4	79.2



TEST NUMBER: P331871-930

CATALOG NUMBER: S123DIP-S340D365U930-4F0-1E-UDD-F

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	144.6	144.6	144.6	143.7	141.7	139.8	137.9	135.9
115°	166.6	167.3	168.0	168.4	168.6	168.9	169.2	169.4
117.5°	186.7	187.2	187.7	188.0	188.0	188.1	188.2	188.2
120°	199.8	200.3	200.8	201.1	201.1	201.1	201.1	201.1
122.5°	212.6	213.0	213.4	213.5	213.6	213.7	213.7	213.8
125°	230.7	230.9	231.0	231.1	231.2	231.4	231.5	231.6
127.5°	248.8	249.1	249.3	249.3	249.2	249.1	248.9	248.8
130°	259.8	260.1	260.3	260.4	260.2	260.2	260.0	259.8
132.5°	270.2	270.4	270.7	270.8	270.5	270.4	270.2	270.0
135°	285.9	286.1	286.3	286.3	286.1	285.9	285.7	285.5
137.5°	299.9	300.2	300.5	300.6	300.4	300.4	300.2	300.1
140°	308.8	309.0	309.3	309.3	309.2	309.1	309.0	308.8
142.5°	317.2	317.4	317.6	317.6	317.5	317.2	317.1	316.9
145°	329.0	329.1	329.2	329.3	329.3	329.3	329.3	329.3
147.5°	339.5	339.7	339.8	339.7	339.4	339.1	338.8	338.5
150°	346.0	346.1	346.3	346.2	346.0	345.8	345.6	345.4
152.5°	351.7	352.0	352.2	352.1	351.9	351.6	351.2	351.0
155°	359.6	360.0	360.3	360.2	359.9	359.5	359.1	358.7
157.5°	366.5	366.9	367.3	367.2	366.7	366.2	365.7	365.2
160°	370.4	370.8	371.2	371.1	370.7	370.2	369.8	369.3
162.5°	374.0	374.4	374.8	374.9	374.5	374.1	373.7	373.2
165°	378.7	379.3	379.8	379.8	379.4	378.9	378.5	378.0
167.5°	382.4	382.9	383.4	383.4	382.9	382.4	381.9	381.4
170°	384.5	385.0	385.5	385.5	385.0	384.5	384.0	383.4
172.5°	385.9	386.4	386.9	386.9	386.3	385.7	385.1	384.6
175°	387.5	388.0	388.4	388.4	387.9	387.3	386.9	386.4
177.5°	388.2	388.6	389.0	388.9	388.4	387.9	387.3	386.9
180°	387.8	387.8	387.8	387.8	387.8	387.8	387.8	387.8

(END OF REPORT)