

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: P332244-940

Luminaire Tested: **S123RDIP-S340D365U940-4F0-1E-UDD-F1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332244-940
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: S123RDIP-S340D365U940-4F0-1E-UDD-F1
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 340 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED
HOUSING
UPLIGHT 365 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2270.0 lumens
Efficiency: N/A
Efficacy: 111.8 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.06 / 1.22
Luminous Opening: Rectangular (W 0.25' x L: 4' x H: 0')
CIE Type: General Diffuse

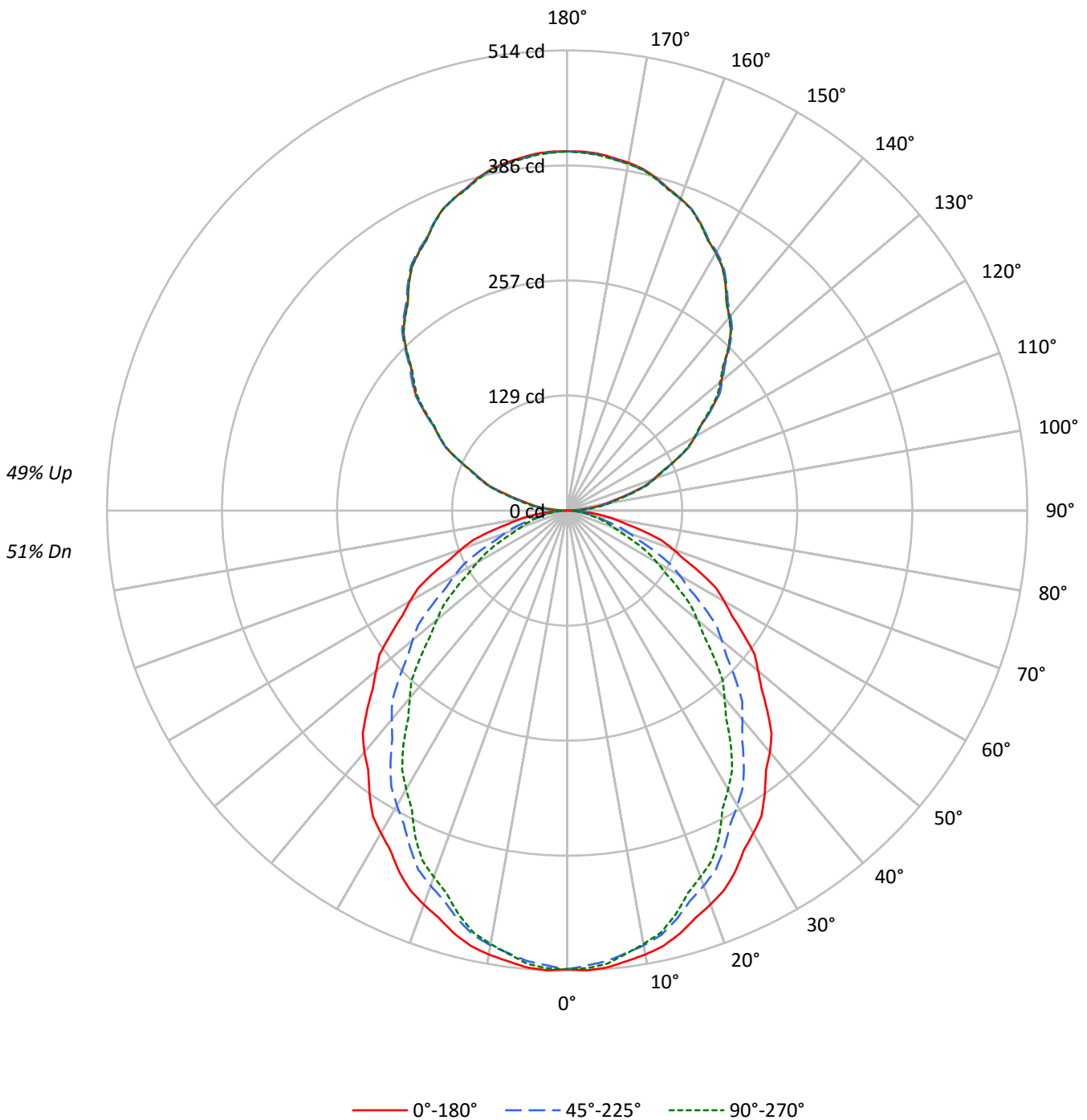
Input Watts (W): 20.3
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P332244-940

CATALOG NUMBER: S123RDIP-S340D365U940-4F0-1E-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	107	107	107	107	99	99	99	99	84	84	84	70	70	70	57	57	57	51
1	98	94	90	87	91	87	84	81	74	72	70	62	60	59	51	50	49	44
2	90	83	77	72	83	77	71	67	65	61	58	55	52	50	45	43	42	37
3	82	73	66	60	76	68	61	56	58	53	49	49	45	42	40	38	36	32
4	75	65	57	51	69	60	53	48	52	46	42	44	40	37	36	33	31	28
5	69	58	50	44	64	54	47	41	46	41	37	39	35	32	33	30	27	24
6	64	52	44	38	59	48	41	36	42	36	32	36	31	28	30	27	24	21
7	59	47	39	34	55	44	37	32	38	32	28	33	28	25	27	24	22	19
8	55	43	35	30	51	40	33	28	35	29	25	30	25	22	25	22	19	17
9	51	39	32	27	47	37	30	25	32	27	23	27	23	20	23	20	18	15
10	48	36	29	24	44	34	27	23	29	24	21	25	21	18	22	18	16	14

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	5514	5514	5514
5°	5535	5459	5491
10°	5503	5391	5372
15°	5446	5264	5209
20°	5363	5108	4987
25°	5280	4930	4772
30°	5169	4724	4467
35°	5056	4520	4188
40°	4950	4279	3842
45°	4813	4042	3529
50°	4662	3771	3178
55°	4506	3462	2852
60°	4366	3130	2495
65°	4182	2774	2137
70°	3950	2326	1725
75°	3614	1834	1626
80°	3217	1624	1494
85°	2717	1433	1334



TEST NUMBER: P332244-940

CATALOG NUMBER: S123RDIP-S340D365U940-4F0-1E-UDD-F1

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	48.1	2.1
10°-20°	133.9	5.9
20°-30°	192.7	8.5
30°-40°	217.1	9.6
40°-50°	207.7	9.1
50°-60°	170.1	7.5
60°-70°	114.8	5.1
70°-80°	57.7	2.5
80°-90°	16.5	0.7
90°-100°	26.1	1.2
100°-110°	78.2	3.4
110°-120°	133.0	5.9
120°-130°	175.0	7.7
130°-140°	196.7	8.7
140°-150°	193.3	8.5
150°-160°	162.8	7.2
160°-170°	108.3	4.8
170°-180°	37.9	1.7
0°-30°	374.7	16.5
0°-40°	591.8	26.1
0°-60°	969.6	42.7
0°-90°	1158.5	51.0
90°-120°	237.4	10.5
90°-150°	802.4	35.3
90°-180°	1111.0	48.9
0°-180°	2270.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	512	512	512	512	512	
5°	512	510	505	509	508	49
15°	489	484	472	470	467	138
25°	445	434	415	407	402	204
35°	385	369	344	327	319	241
45°	316	297	266	243	232	244
55°	240	219	184	161	152	215
65°	164	141	109	89	84	162
75°	87	67	44	40	39	93
85°	22	13	12	11	11	25
90°	0	4	8	9	10	2
95°	19	21	23	24	25	21
105°	71	72	74	74	75	76
115°	134	135	134	135	134	132
125°	196	197	196	195	194	175
135°	254	256	256	255	254	196
145°	308	309	310	310	308	193
155°	353	353	354	355	353	163
165°	385	384	384	386	384	108
175°	400	399	399	401	399	38
180°	401	401	401	401	401	



TEST NUMBER: P332244-940

CATALOG NUMBER: S123RDIP-S340D365U940-4F0-1E-UDD-F1

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	512.3	512.3	512.3	512.3	512.3	512.3	512.3	512.3	512.3	512.3	512.3
2.5°	514.0	513.6	513.4	513.1	512.8	512.2	511.3	510.4	509.5	508.6	509.4
5°	512.3	511.8	511.4	511.0	510.4	509.7	508.5	507.5	506.3	505.2	506.0
7.5°	507.6	507.0	506.6	506.0	505.6	504.6	503.2	501.8	500.2	498.8	499.3
10°	503.5	502.9	502.3	501.7	501.0	499.8	498.2	496.5	494.8	493.2	493.3
12.5°	497.9	497.2	496.5	495.8	495.1	493.7	491.6	489.6	487.6	485.5	485.4
15°	488.7	487.6	486.6	485.5	484.6	482.8	480.2	477.6	475.0	472.4	472.0
17.5°	476.9	475.7	474.6	473.3	472.2	469.9	466.6	463.3	460.1	456.8	455.8
20°	468.2	466.8	465.3	463.9	462.4	459.9	456.4	452.8	449.3	445.9	444.6
22.5°	458.6	456.9	455.2	453.5	451.8	449.2	445.4	441.7	437.9	434.2	432.7
25°	444.6	442.3	440.0	437.7	435.3	432.0	427.8	423.6	419.3	415.1	413.1
27.5°	427.6	425.0	422.4	419.9	417.3	413.8	409.0	404.2	399.5	394.8	392.1
30°	415.9	413.1	410.4	407.6	404.8	400.8	395.7	390.5	385.3	380.1	377.0
32.5°	404.3	401.1	398.0	394.8	391.7	387.4	381.9	376.5	371.0	365.5	362.1
35°	384.8	381.4	378.1	374.8	371.5	366.9	361.2	355.4	349.7	344.0	340.1
37.5°	365.0	361.2	357.6	353.9	350.2	345.3	339.2	333.1	327.0	320.8	316.4
40°	352.3	348.3	344.2	340.2	336.1	330.7	324.2	317.6	311.1	304.5	299.8
42.5°	338.0	333.9	329.9	325.8	321.8	316.4	309.6	302.8	296.0	289.3	284.0
45°	316.2	312.0	307.9	303.7	299.5	293.9	286.9	279.7	272.6	265.5	260.2
47.5°	294.4	289.8	285.2	280.6	276.1	270.3	263.1	256.0	249.0	241.8	236.1
50°	278.4	274.0	269.7	265.4	261.0	255.1	247.6	240.1	232.6	225.2	219.5
52.5°	264.1	259.4	254.7	249.9	245.2	239.2	231.8	224.4	217.0	209.6	203.7
55°	240.1	235.6	231.1	226.6	222.0	215.9	208.0	200.2	192.3	184.5	179.1
57.5°	218.0	213.1	208.2	203.2	198.3	191.9	184.0	176.1	168.3	160.4	155.3
60°	202.8	197.7	192.6	187.5	182.4	176.1	168.4	160.8	153.1	145.4	140.4
62.5°	187.4	182.4	177.3	172.3	167.2	160.8	153.1	145.4	137.8	130.1	125.5
65°	164.2	159.1	154.0	148.9	143.8	137.7	130.5	123.2	116.1	108.9	104.3
67.5°	140.8	135.6	130.5	125.4	120.2	114.2	107.3	100.4	93.5	86.6	83.2
70°	125.5	120.5	115.5	110.5	105.6	99.8	93.4	86.9	80.4	73.9	70.7
72.5°	110.2	105.3	100.4	95.4	90.5	85.2	79.3	73.4	67.5	61.6	59.0
75°	86.9	82.4	77.9	73.6	69.1	64.4	59.3	54.2	49.1	44.1	43.2
77.5°	65.5	61.5	57.5	53.5	49.6	45.9	42.6	39.3	36.1	32.8	32.4
80°	51.9	48.2	44.4	40.6	36.8	34.0	32.0	30.1	28.1	26.2	25.9
82.5°	39.0	35.7	32.5	29.2	25.9	23.8	22.9	22.0	21.1	20.2	19.9
85°	22.0	20.0	17.9	16.0	13.9	12.8	12.5	12.2	11.9	11.6	11.4
87.5°	8.0	7.4	6.7	6.1	5.4	5.1	5.3	5.4	5.6	5.8	5.8
90°	0.4	1.0	1.7	2.4	3.1	3.9	4.8	5.7	6.7	7.6	7.8
92.5°	7.7	8.1	8.6	9.1	9.5	10.0	10.5	11.1	11.6	12.1	12.3
95°	18.6	19.1	19.5	20.1	20.5	21.0	21.7	22.2	22.7	23.4	23.6
97.5°	33.0	33.3	33.8	34.2	34.5	34.9	35.3	35.7	36.1	36.5	36.8
100°	42.9	43.2	43.7	44.1	44.5	44.9	45.3	45.7	46.0	46.3	46.5
102.5°	54.2	54.5	54.7	54.9	55.2	55.6	56.0	56.5	57.0	57.4	57.6
105°	70.9	71.1	71.2	71.3	71.4	71.9	72.5	73.1	73.7	74.4	74.4
107.5°	90.3	90.4	90.5	90.6	90.7	90.8	91.0	91.3	91.6	91.8	92.0
110°	102.5	102.5	102.7	102.8	103.0	103.1	103.3	103.4	103.5	103.7	104.0



TEST NUMBER: P332244-940

CATALOG NUMBER: S123RDIP-S340D365U940-4F0-1E-UDD-F1

CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	115.0	115.1	115.2	115.3	115.4	115.4	115.5	115.5	115.5	115.6	115.8
115°	133.9	134.1	134.4	134.6	134.7	134.8	134.6	134.6	134.4	134.2	134.3
117.5°	152.9	153.1	153.3	153.4	153.6	153.5	153.3	153.1	152.9	152.8	152.8
120°	164.8	165.2	165.7	166.0	166.5	166.5	166.2	165.9	165.5	165.1	165.1
122.5°	177.2	177.5	177.8	178.1	178.4	178.4	178.3	178.1	177.9	177.7	177.5
125°	196.0	196.2	196.4	196.6	196.9	196.9	196.7	196.6	196.4	196.4	196.0
127.5°	213.4	213.8	214.3	214.7	215.2	215.3	215.2	215.0	214.9	214.7	214.4
130°	225.0	225.5	226.1	226.7	227.2	227.4	227.2	227.0	226.8	226.6	226.3
132.5°	236.6	237.2	237.7	238.3	238.8	239.1	238.9	238.7	238.5	238.4	238.1
135°	254.3	254.8	255.1	255.6	256.0	256.2	256.1	256.0	255.9	255.9	255.6
137.5°	270.7	271.1	271.3	271.7	272.1	272.3	272.5	272.7	272.9	273.0	272.8
140°	282.0	282.4	282.8	283.1	283.5	283.7	283.7	283.7	283.8	283.9	283.8
142.5°	292.4	292.7	293.1	293.5	293.7	294.0	294.2	294.3	294.4	294.5	294.4
145°	308.5	308.6	308.8	308.9	309.1	309.2	309.4	309.7	309.9	310.0	310.0
147.5°	322.6	322.9	323.2	323.4	323.6	323.9	324.0	324.2	324.4	324.7	324.7
150°	332.4	332.6	332.7	332.9	333.1	333.1	333.3	333.4	333.6	333.7	333.7
152.5°	340.5	340.7	340.9	341.1	341.3	341.4	341.5	341.6	341.7	341.8	341.9
155°	353.3	353.3	353.3	353.3	353.3	353.3	353.4	353.4	353.5	353.6	353.8
157.5°	364.1	364.0	363.9	363.8	363.7	363.7	363.8	363.8	363.9	364.0	364.3
160°	370.9	370.8	370.6	370.5	370.3	370.2	370.2	370.2	370.2	370.2	370.6
162.5°	376.9	376.7	376.6	376.4	376.1	376.1	376.1	376.2	376.3	376.3	376.7
165°	384.8	384.6	384.3	384.1	383.9	383.8	383.8	383.8	383.8	383.8	384.2
167.5°	391.0	390.7	390.5	390.1	389.9	389.8	389.9	389.9	389.9	390.0	390.4
170°	394.5	394.2	394.0	393.7	393.4	393.2	393.2	393.2	393.2	393.2	393.8
172.5°	397.3	397.0	396.7	396.5	396.2	396.0	396.0	396.0	396.0	396.0	396.5
175°	400.2	399.9	399.7	399.4	399.1	399.0	399.0	399.0	399.0	399.0	399.4
177.5°	401.4	401.2	400.9	400.7	400.5	400.4	400.4	400.4	400.4	400.4	400.7
180°	401.2	401.2	401.2	401.2	401.2	401.2	401.2	401.2	401.2	401.2	401.2



TEST NUMBER: P332244-940

CATALOG NUMBER: S123RDIP-S340D365U940-4F0-1E-UDD-F1

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	512.3	512.3	512.3	512.3	512.3	512.3	512.3	512.3
2.5°	510.2	511.0	511.9	512.2	512.1	511.9	511.8	511.7
5°	506.9	507.7	508.5	508.9	508.7	508.5	508.4	508.2
7.5°	499.8	500.2	500.7	500.8	500.4	500.2	499.8	499.5
10°	493.4	493.5	493.6	493.4	492.9	492.5	492.0	491.5
12.5°	485.4	485.4	485.4	485.0	484.5	483.9	483.4	482.9
15°	471.4	471.0	470.6	470.0	469.4	468.7	468.1	467.4
17.5°	454.9	453.9	452.9	451.9	450.9	450.0	449.1	448.1
20°	443.4	442.2	441.0	439.9	438.7	437.7	436.6	435.4
22.5°	431.2	429.7	428.2	427.0	425.9	424.9	423.8	422.8
25°	411.2	409.3	407.3	405.8	404.8	403.9	402.8	401.8
27.5°	389.4	386.7	384.1	381.9	380.3	378.8	377.3	375.7
30°	373.9	370.8	367.7	365.3	363.8	362.4	360.9	359.4
32.5°	358.6	355.3	351.8	349.3	347.8	346.3	344.6	343.1
35°	336.1	332.1	328.1	325.3	323.7	322.0	320.3	318.7
37.5°	311.8	307.3	302.8	299.5	297.5	295.4	293.4	291.3
40°	295.0	290.2	285.3	281.9	279.7	277.7	275.5	273.4
42.5°	278.7	273.6	268.3	264.7	262.8	260.9	259.0	257.1
45°	254.9	249.7	244.4	240.7	238.5	236.3	234.1	231.8
47.5°	230.3	224.6	218.9	215.1	213.1	211.2	209.1	207.1
50°	213.7	208.0	202.3	198.4	196.3	194.1	192.0	189.8
52.5°	197.7	191.7	185.8	181.9	179.9	178.1	176.2	174.2
55°	173.8	168.4	163.1	159.4	157.7	155.8	153.9	152.0
57.5°	150.3	145.2	140.2	136.8	135.3	133.7	132.2	130.5
60°	135.5	130.5	125.5	122.2	120.6	119.0	117.5	115.9
62.5°	120.7	116.1	111.4	108.2	106.6	105.0	103.3	101.7
65°	99.8	95.3	90.8	88.0	86.9	86.0	85.0	83.9
67.5°	79.8	76.4	73.0	70.8	69.7	68.7	67.6	66.5
70°	67.5	64.3	61.0	58.9	57.9	56.9	55.8	54.8
72.5°	56.4	53.8	51.1	49.6	49.1	48.7	48.3	47.9
75°	42.2	41.3	40.3	39.8	39.6	39.4	39.2	39.1
77.5°	31.8	31.3	30.9	30.5	30.3	30.1	30.0	29.8
80°	25.6	25.3	25.1	24.9	24.6	24.4	24.3	24.1
82.5°	19.6	19.4	19.1	18.9	18.9	18.8	18.8	18.8
85°	11.2	11.1	10.9	10.8	10.8	10.8	10.8	10.8
87.5°	5.8	5.8	5.8	5.7	5.7	5.6	5.6	5.5
90°	8.1	8.4	8.6	8.9	9.0	9.2	9.3	9.5
92.5°	12.6	12.8	13.0	13.1	13.0	12.9	12.8	12.8
95°	23.9	24.2	24.4	24.6	24.6	24.6	24.6	24.6
97.5°	37.1	37.5	37.8	37.9	37.9	37.9	37.8	37.8
100°	46.7	47.0	47.2	47.3	47.4	47.6	47.8	47.9
102.5°	57.9	58.1	58.2	58.3	58.3	58.3	58.2	58.2
105°	74.4	74.4	74.4	74.5	74.5	74.7	74.9	75.0
107.5°	92.3	92.5	92.7	92.8	92.7	92.6	92.6	92.5
110°	104.2	104.5	104.8	104.9	104.7	104.6	104.4	104.3



TEST NUMBER: P332244-940

CATALOG NUMBER: S123RDIP-S340D365U940-4F0-1E-UDD-F1

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	116.2	116.5	116.9	117.0	117.0	117.0	116.9	116.9
115°	134.4	134.5	134.6	134.6	134.5	134.4	134.3	134.2
117.5°	152.8	152.8	152.8	152.6	152.4	152.2	152.0	151.9
120°	165.0	164.9	164.9	164.7	164.6	164.4	164.3	164.2
122.5°	177.4	177.2	177.0	176.8	176.6	176.4	176.2	176.0
125°	195.7	195.5	195.2	194.9	194.7	194.4	194.0	193.8
127.5°	213.9	213.6	213.1	212.8	212.5	212.1	211.9	211.5
130°	226.0	225.7	225.4	225.1	224.6	224.1	223.6	223.1
132.5°	237.7	237.4	237.1	236.7	236.3	235.9	235.6	235.2
135°	255.3	255.0	254.8	254.6	254.4	254.2	254.1	254.0
137.5°	272.5	272.2	271.9	271.6	271.3	271.1	270.8	270.5
140°	283.7	283.7	283.7	283.4	282.9	282.4	281.9	281.4
142.5°	294.4	294.3	294.3	294.0	293.6	293.3	292.8	292.5
145°	310.0	309.9	309.8	309.6	309.3	309.1	308.8	308.5
147.5°	324.7	324.7	324.7	324.4	324.0	323.6	323.2	322.7
150°	333.7	333.7	333.7	333.5	333.1	332.7	332.3	331.8
152.5°	342.0	342.1	342.2	342.1	341.7	341.3	341.0	340.6
155°	354.1	354.4	354.7	354.5	354.1	353.6	353.1	352.6
157.5°	364.5	364.9	365.2	365.1	364.7	364.4	363.9	363.6
160°	371.0	371.3	371.7	371.7	371.4	371.1	370.9	370.6
162.5°	377.0	377.4	377.7	377.6	377.2	376.7	376.3	375.9
165°	384.7	385.0	385.5	385.5	385.0	384.5	384.0	383.5
167.5°	390.8	391.3	391.7	391.7	391.3	390.8	390.4	390.0
170°	394.2	394.8	395.2	395.2	394.8	394.2	393.8	393.2
172.5°	396.9	397.3	397.8	397.8	397.3	396.8	396.3	395.8
175°	399.8	400.2	400.6	400.6	400.1	399.6	399.1	398.6
177.5°	401.1	401.4	401.7	401.7	401.4	400.9	400.6	400.1
180°	401.2	401.2	401.2	401.2	401.2	401.2	401.2	401.2

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