

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: P332720-927

Luminaire Tested: **S124DIW-S350D470U927-4F0-1E-UDD-F1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332720-927
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-10,
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S124DIW-S350D470U927-4F0-1E-UDD-F1
Description: DEFINE 4 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 350 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
UPLIGHT 470 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2490.0 lumens
Efficiency: N/A
Efficacy: 108.3 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.17 / 1.3
Luminous Opening: Rectangular (W 0.33' x L: 4' x H: 0')
CIE Type: General Diffuse

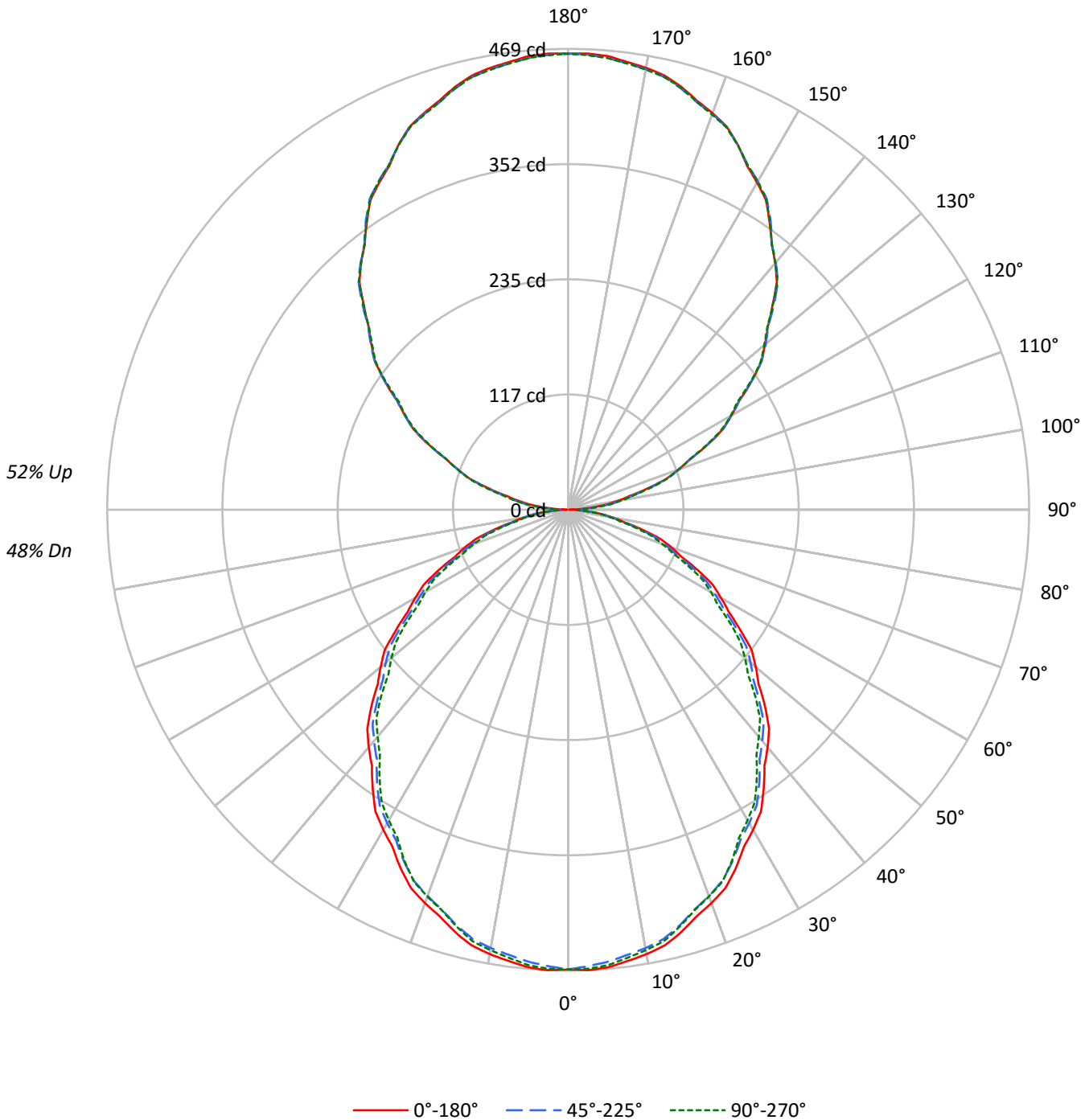
Input Watts (W): 23
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P332720-927

CATALOG NUMBER: S124DIW-S350D470U927-4F0-1E-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	50	30	10	0	
RCR																						
0	107	107	107	107	98	98	98	98	82	82	82	68	68	68	55	55	55	48				48
1	97	93	89	86	89	86	82	79	72	70	68	60	58	56	48	47	46	41				41
2	89	81	75	70	81	75	70	65	63	59	56	52	50	47	42	40	39	34				34
3	81	71	64	58	74	66	60	54	56	51	47	46	43	40	38	35	33	29				29
4	74	63	55	49	68	58	51	46	50	44	40	41	37	34	34	31	28	25				25
5	68	56	48	42	62	52	45	40	44	39	34	37	33	30	30	27	25	21				21
6	63	50	42	37	57	47	40	34	40	34	30	33	29	26	27	24	22	19				19
7	58	46	38	32	53	42	35	30	36	31	26	30	26	23	25	22	19	17				17
8	54	41	34	28	49	38	32	27	33	27	24	28	24	20	23	20	17	15				15
9	50	38	30	25	46	35	28	24	30	25	21	26	21	18	21	18	16	13				13
10	47	35	27	23	43	32	26	21	28	23	19	24	19	17	20	17	14	12				12

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	3777	3777	3777
5°	3789	3743	3771
10°	3765	3713	3731
15°	3719	3661	3670
20°	3660	3594	3598
25°	3591	3520	3510
30°	3506	3432	3402
35°	3418	3341	3297
40°	3327	3236	3177
45°	3232	3134	3075
50°	3127	3042	2948
55°	3013	2923	2829
60°	2900	2792	2706
65°	2772	2665	2558
70°	2629	2497	2398
75°	2408	2293	2233
80°	2143	2060	2004
85°	1880	1806	1769



TEST NUMBER: P332720-927

CATALOG NUMBER: S124DIW-S350D470U927-4F0-1E-UDD-F1

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	44.1	1.8
10°-20°	124.2	5.0
20°-30°	182.8	7.3
30°-40°	212.5	8.5
40°-50°	212.5	8.5
50°-60°	185.9	7.5
60°-70°	138.0	5.5
70°-80°	78.4	3.1
80°-90°	24.0	1.0
90°-100°	30.6	1.2
100°-110°	90.7	3.6
110°-120°	153.9	6.2
120°-130°	203.0	8.2
130°-140°	227.9	9.2
140°-150°	224.0	9.0
150°-160°	188.4	7.6
160°-170°	125.3	5.0
170°-180°	43.9	1.8
0°-30°	351.0	14.1
0°-40°	563.5	22.6
0°-60°	961.8	38.6
0°-90°	1202.3	48.3
90°-120°	275.2	11.1
90°-150°	930.1	37.4
90°-180°	1288.0	51.7
0°-180°	2490.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	468	468	468	468	468	
5°	468	466	462	466	465	44
15°	445	443	438	440	439	125
25°	403	400	395	396	394	185
35°	347	344	339	336	334	217
45°	283	280	274	270	269	218
55°	214	213	208	203	201	192
65°	145	143	140	136	134	144
75°	77	75	74	72	72	82
85°	20	20	20	20	19	22
90°	1	5	8	10	11	2
95°	22	25	27	28	28	24
105°	84	84	85	87	88	89
115°	156	156	156	155	155	154
125°	228	228	228	227	226	203
135°	294	296	296	295	294	227
145°	357	359	359	359	358	223
155°	409	409	409	410	409	188
165°	445	444	444	446	444	126
175°	463	462	461	464	461	44
180°	464	464	464	464	464	



TEST NUMBER: P332720-927

CATALOG NUMBER: S124DIW-S350D470U927-4F0-1E-UDD-F1

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	467.9	467.9	467.9	467.9	467.9	467.9	467.9	467.9	467.9	467.9	467.9
2.5°	469.1	469.0	468.7	468.6	468.3	467.9	467.1	466.4	465.7	464.9	465.6
5°	467.5	467.2	466.9	466.6	466.3	465.6	464.7	463.8	462.9	461.9	462.9
7.5°	463.3	462.9	462.6	462.2	461.9	461.2	460.2	459.2	458.2	457.2	457.9
10°	459.3	459.0	458.7	458.4	458.0	457.3	456.2	455.1	454.1	453.0	453.6
12.5°	454.2	453.9	453.6	453.2	452.9	452.2	451.0	449.9	448.7	447.6	448.3
15°	445.0	444.7	444.4	444.1	443.8	443.0	441.7	440.5	439.2	438.0	438.5
17.5°	434.0	433.6	433.2	432.8	432.4	431.6	430.4	429.2	428.0	426.8	427.1
20°	426.0	425.6	425.2	424.7	424.3	423.5	422.2	421.0	419.7	418.4	418.7
22.5°	417.2	416.7	416.1	415.6	415.0	414.2	412.9	411.7	410.4	409.2	409.6
25°	403.1	402.5	402.0	401.3	400.8	399.9	398.7	397.5	396.4	395.2	395.3
27.5°	386.9	386.3	385.7	385.1	384.5	383.7	382.5	381.5	380.4	379.3	379.1
30°	376.1	375.4	374.8	374.1	373.4	372.6	371.5	370.3	369.3	368.2	367.9
32.5°	364.7	364.1	363.5	362.9	362.3	361.4	360.3	359.1	358.0	356.8	356.4
35°	346.8	346.3	345.7	345.1	344.5	343.6	342.5	341.3	340.2	339.0	338.4
37.5°	328.0	327.5	326.9	326.5	325.9	325.0	323.8	322.5	321.2	320.0	319.3
40°	315.7	315.1	314.4	313.7	313.1	312.1	310.9	309.6	308.3	307.1	306.3
42.5°	302.5	302.1	301.7	301.3	301.0	300.0	298.7	297.2	295.9	294.5	293.5
45°	283.1	282.5	281.9	281.4	280.7	279.8	278.5	277.1	275.8	274.5	273.5
47.5°	262.8	262.4	262.0	261.6	261.2	260.4	259.1	257.9	256.7	255.4	254.4
50°	249.0	248.7	248.3	248.0	247.6	246.9	245.7	244.5	243.4	242.2	241.1
52.5°	235.5	235.0	234.6	234.2	233.9	233.1	231.8	230.6	229.3	228.1	227.1
55°	214.1	213.9	213.6	213.3	213.1	212.4	211.2	210.1	208.9	207.7	206.8
57.5°	193.7	193.5	193.1	192.9	192.6	191.9	190.7	189.6	188.4	187.3	186.3
60°	179.6	179.2	178.8	178.3	177.9	177.2	176.1	175.0	174.0	172.9	172.1
62.5°	165.8	165.5	165.1	164.8	164.4	163.7	162.5	161.4	160.2	159.1	158.4
65°	145.1	144.7	144.3	143.9	143.5	142.8	142.0	141.2	140.3	139.5	138.6
67.5°	124.3	123.9	123.5	123.1	122.7	122.2	121.4	120.6	119.8	118.9	118.1
70°	111.4	110.7	110.2	109.6	109.0	108.4	107.7	107.1	106.4	105.8	105.0
72.5°	97.6	97.0	96.4	95.9	95.2	94.7	94.1	93.6	93.1	92.5	92.0
75°	77.2	76.8	76.4	76.0	75.6	75.2	74.8	74.3	73.9	73.5	73.2
77.5°	57.8	57.7	57.4	57.3	57.1	56.8	56.5	56.1	55.7	55.4	55.2
80°	46.1	45.9	45.6	45.4	45.2	44.9	44.8	44.6	44.4	44.3	44.0
82.5°	34.7	34.6	34.5	34.4	34.2	34.1	34.1	34.1	34.1	34.1	34.0
85°	20.3	20.3	20.3	20.3	20.3	20.2	20.0	19.8	19.6	19.5	19.5
87.5°	8.0	8.2	8.2	8.3	8.5	8.6	8.6	8.6	8.7	8.8	8.9
90°	1.1	2.0	2.9	3.7	4.6	5.3	6.0	6.7	7.3	7.9	8.4
92.5°	7.7	8.7	9.7	10.7	11.7	12.4	12.9	13.3	13.8	14.2	14.5
95°	21.5	22.3	23.0	23.7	24.4	25.0	25.6	26.1	26.7	27.3	27.5
97.5°	37.6	38.2	38.7	39.4	39.9	40.6	41.2	41.8	42.5	43.2	43.4
100°	50.2	50.5	50.9	51.2	51.6	52.0	52.8	53.5	54.2	54.9	55.1
102.5°	63.5	63.6	63.7	63.8	64.0	64.4	65.0	65.7	66.3	67.0	67.2
105°	83.7	83.7	83.8	83.9	84.0	84.1	84.4	84.8	85.1	85.4	85.6
107.5°	104.8	104.9	105.0	105.1	105.2	105.3	105.4	105.4	105.4	105.4	105.7
110°	119.1	119.3	119.5	119.6	119.8	119.9	119.8	119.7	119.6	119.5	119.4



TEST NUMBER: P332720-927

CATALOG NUMBER: S124DIW-S350D470U927-4F0-1E-UDD-F1

CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	134.1	134.1	134.2	134.2	134.3	134.2	134.0	133.9	133.7	133.6	133.6
115°	156.5	156.5	156.5	156.5	156.5	156.5	156.3	156.1	156.0	155.8	155.7
117.5°	177.6	177.7	177.8	177.8	177.8	177.8	177.8	177.6	177.5	177.4	177.1
120°	191.7	192.0	192.3	192.7	193.0	193.0	192.7	192.5	192.3	192.0	191.6
122.5°	206.4	206.4	206.6	206.7	206.8	206.8	206.8	206.6	206.5	206.4	206.1
125°	227.9	227.9	227.9	227.9	227.9	227.9	227.8	227.8	227.7	227.6	227.4
127.5°	247.6	247.8	248.0	248.3	248.5	248.6	248.4	248.3	248.2	248.0	247.9
130°	261.3	261.6	261.8	262.1	262.3	262.4	262.4	262.4	262.4	262.4	262.2
132.5°	275.4	275.6	275.8	275.9	276.1	276.2	276.1	276.0	276.0	275.9	275.8
135°	294.0	294.5	294.9	295.4	295.9	296.1	296.1	296.1	296.1	296.1	296.0
137.5°	314.3	314.5	314.7	314.9	315.1	315.3	315.4	315.6	315.7	315.8	315.6
140°	327.7	327.9	328.0	328.2	328.4	328.4	328.4	328.4	328.4	328.4	328.4
142.5°	340.1	340.2	340.4	340.6	340.7	340.8	340.7	340.6	340.6	340.5	340.5
145°	357.2	357.5	357.8	358.1	358.5	358.6	358.7	358.8	358.9	358.9	358.9
147.5°	374.1	374.5	374.9	375.3	375.7	375.8	375.7	375.7	375.7	375.6	375.5
150°	384.4	384.8	385.1	385.4	385.7	385.9	385.9	385.9	385.9	385.9	385.9
152.5°	394.2	394.4	394.6	394.8	395.0	395.1	395.1	395.2	395.3	395.4	395.5
155°	409.2	409.2	409.2	409.2	409.2	409.2	409.1	409.0	408.9	408.8	409.2
157.5°	421.8	421.7	421.6	421.4	421.3	421.2	421.2	421.2	421.1	421.1	421.4
160°	429.4	429.3	429.2	429.1	429.0	429.0	428.9	428.8	428.7	428.6	428.9
162.5°	436.3	436.0	435.8	435.6	435.4	435.2	435.1	435.1	435.0	434.9	435.4
165°	445.4	445.2	445.0	444.7	444.5	444.3	444.2	444.0	443.9	443.7	444.2
167.5°	452.6	452.3	451.9	451.6	451.2	451.1	451.1	451.1	451.1	451.1	451.6
170°	456.6	456.2	455.8	455.4	455.0	454.9	455.0	455.0	455.1	455.2	455.7
172.5°	459.5	459.1	458.8	458.5	458.1	458.0	458.0	458.0	458.0	458.0	458.6
175°	463.4	463.0	462.6	462.2	461.8	461.6	461.5	461.4	461.4	461.3	461.8
177.5°	464.7	464.4	464.1	463.7	463.4	463.3	463.3	463.3	463.3	463.3	463.7
180°	464.1	464.1	464.1	464.1	464.1	464.1	464.1	464.1	464.1	464.1	464.1



TEST NUMBER: P332720-927

CATALOG NUMBER: S124DIW-S350D470U927-4F0-1E-UDD-F1

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	467.9	467.9	467.9	467.9	467.9	467.9	467.9	467.9
2.5°	466.3	467.0	467.6	467.9	467.9	467.8	467.7	467.6
5°	463.8	464.7	465.6	466.0	465.8	465.6	465.5	465.3
7.5°	458.6	459.4	460.1	460.4	460.3	460.2	460.1	460.0
10°	454.3	455.0	455.7	455.9	455.7	455.5	455.3	455.2
12.5°	449.0	449.7	450.5	450.8	450.5	450.3	450.0	449.8
15°	438.9	439.4	440.0	440.1	439.8	439.6	439.3	439.1
17.5°	427.5	427.8	428.1	428.2	428.0	427.9	427.7	427.5
20°	419.0	419.2	419.5	419.5	419.3	419.1	419.0	418.8
22.5°	410.0	410.5	411.0	411.1	410.7	410.4	410.1	409.9
25°	395.4	395.5	395.5	395.5	395.1	394.7	394.4	394.1
27.5°	378.9	378.7	378.5	378.2	377.8	377.4	376.9	376.5
30°	367.6	367.3	366.9	366.5	366.1	365.7	365.3	364.9
32.5°	356.0	355.6	355.2	354.8	354.4	353.9	353.6	353.2
35°	337.8	337.2	336.6	336.1	335.7	335.3	334.9	334.5
37.5°	318.7	318.1	317.4	316.9	316.3	315.8	315.2	314.7
40°	305.5	304.6	303.8	303.2	302.7	302.3	301.9	301.5
42.5°	292.6	291.6	290.7	290.0	289.7	289.5	289.1	288.9
45°	272.7	271.7	270.8	270.2	270.0	269.7	269.5	269.3
47.5°	253.3	252.3	251.3	250.5	249.9	249.2	248.6	248.0
50°	239.9	238.8	237.6	236.7	236.2	235.8	235.2	234.7
52.5°	226.1	225.1	224.0	223.2	222.5	221.9	221.3	220.6
55°	205.7	204.7	203.7	203.0	202.5	202.0	201.5	201.0
57.5°	185.4	184.4	183.5	182.8	182.3	181.8	181.3	180.8
60°	171.3	170.6	169.8	169.3	168.9	168.4	168.0	167.6
62.5°	157.7	157.0	156.3	155.7	155.3	155.0	154.6	154.1
65°	137.8	137.0	136.2	135.5	135.1	134.7	134.3	133.9
67.5°	117.3	116.5	115.7	115.3	115.2	115.0	114.9	114.8
70°	104.4	103.8	103.1	102.6	102.3	102.1	101.9	101.6
72.5°	91.5	90.9	90.4	90.0	89.8	89.5	89.3	89.0
75°	72.8	72.5	72.2	71.9	71.9	71.8	71.7	71.6
77.5°	55.1	55.1	55.0	54.8	54.6	54.3	54.1	53.9
80°	43.9	43.7	43.6	43.5	43.3	43.3	43.2	43.1
82.5°	33.8	33.7	33.7	33.6	33.5	33.4	33.3	33.2
85°	19.5	19.5	19.5	19.5	19.4	19.3	19.2	19.1
87.5°	9.0	9.0	9.2	9.2	9.3	9.3	9.3	9.3
90°	8.9	9.3	9.8	10.1	10.3	10.5	10.6	10.8
92.5°	14.8	15.1	15.4	15.5	15.7	15.8	15.8	15.9
95°	27.7	28.0	28.2	28.4	28.4	28.4	28.4	28.4
97.5°	43.7	44.0	44.3	44.4	44.4	44.4	44.4	44.4
100°	55.2	55.4	55.5	55.6	55.6	55.6	55.6	55.6
102.5°	67.4	67.7	67.9	68.0	68.0	68.1	68.2	68.3
105°	86.0	86.2	86.4	86.7	86.9	87.1	87.4	87.6
107.5°	105.9	106.2	106.4	106.5	106.5	106.5	106.4	106.4
110°	119.2	119.1	118.9	118.9	119.1	119.4	119.6	119.9



TEST NUMBER: P332720-927

CATALOG NUMBER: S124DIW-S350D470U927-4F0-1E-UDD-F1

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	133.6	133.5	133.5	133.5	133.6	133.6	133.6	133.6
115°	155.7	155.6	155.5	155.4	155.3	155.3	155.2	155.1
117.5°	176.9	176.6	176.3	176.1	175.9	175.8	175.6	175.5
120°	191.2	190.8	190.4	190.4	190.5	190.7	190.8	191.0
122.5°	205.9	205.6	205.3	205.0	204.8	204.5	204.1	203.9
125°	227.3	227.1	227.0	226.8	226.6	226.5	226.3	226.2
127.5°	247.7	247.6	247.4	247.2	247.2	247.0	246.9	246.8
130°	262.1	261.9	261.7	261.5	261.2	260.9	260.5	260.2
132.5°	275.6	275.4	275.3	275.1	275.0	274.9	274.7	274.6
135°	295.8	295.6	295.5	295.3	295.1	294.9	294.6	294.4
137.5°	315.4	315.2	315.0	314.9	315.0	315.0	315.1	315.1
140°	328.3	328.2	328.1	328.0	328.0	327.9	327.8	327.7
142.5°	340.5	340.5	340.5	340.4	340.4	340.4	340.4	340.4
145°	358.8	358.7	358.6	358.5	358.2	358.0	357.7	357.5
147.5°	375.4	375.3	375.3	375.3	375.2	375.1	375.0	374.9
150°	385.9	385.9	385.9	385.9	385.8	385.7	385.6	385.6
152.5°	395.8	395.9	396.2	396.1	395.9	395.7	395.5	395.3
155°	409.5	409.8	410.1	410.1	409.8	409.5	409.2	408.8
157.5°	421.6	421.8	422.1	422.1	421.8	421.5	421.3	421.0
160°	429.1	429.4	429.6	429.5	429.1	428.7	428.3	427.9
162.5°	435.8	436.3	436.7	436.7	436.3	435.9	435.5	435.1
165°	444.7	445.1	445.6	445.7	445.4	445.0	444.7	444.4
167.5°	452.1	452.6	453.0	453.0	452.6	452.1	451.5	451.1
170°	456.1	456.6	457.1	457.0	456.5	455.9	455.3	454.8
172.5°	459.1	459.7	460.2	460.2	459.6	459.1	458.5	458.0
175°	462.4	463.0	463.5	463.5	463.0	462.4	461.8	461.3
177.5°	464.2	464.6	465.1	465.0	464.5	464.1	463.5	463.0
180°	464.1	464.1	464.1	464.1	464.1	464.1	464.1	464.1

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