

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: P332747-830

Luminaire Tested: **S124DIW-S575D470U830-4F0-1E-UDD-D**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P332747-830  
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-6,  
Test Lab: INNOVATION CENTER  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: NEO-RAY  
Catalog Number: S124DIW-S575D470U830-4F0-1E-UDD-D  
Description: DEFINE 4 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE  
DOWNLIGHT 575 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER  
UPLIGHT 470 LUMENS PER FOOT, NO LENS  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 4000.9 lumens  
Efficiency: N/A  
Efficacy: 132.5 lumens/watt  
Spacing Criteria (0/90/45): 1.23 / 1.28 / 1.39  
Luminous Opening: Rectangular w/ Sides (W: 0.33' x L: 4' x H: 0.08')  
CIE Type: General Diffuse

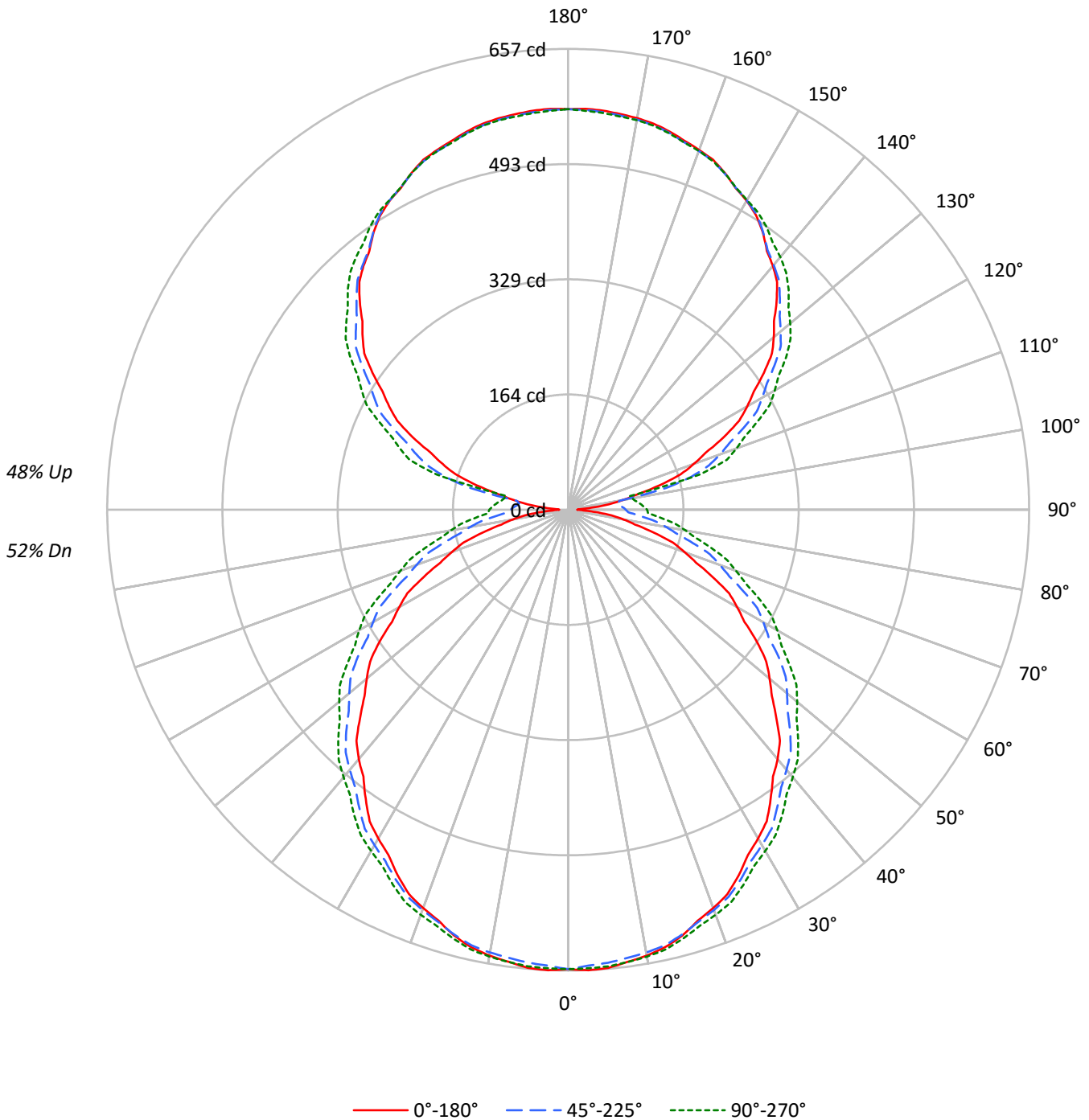
Input Watts (W): 30.2  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



TEST NUMBER: P332747-830

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### Luminous Intensity Polar Plot





TEST NUMBER: P332747-830

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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	108	108	108	108	99	99	99	99	84	84	84	70	70	70	58	58	58	52
1	97	92	88	84	89	85	82	78	72	70	67	60	58	56	49	48	47	41
2	88	80	73	68	81	74	68	63	63	58	55	52	49	46	43	40	38	34
3	80	70	62	56	73	65	58	52	55	50	45	46	42	39	37	35	32	28
4	73	62	53	47	67	57	50	44	49	43	38	41	36	33	33	30	27	24
5	67	55	46	40	61	51	43	38	43	37	33	36	32	28	30	26	24	20
6	62	49	41	35	57	46	38	33	39	33	29	33	28	25	27	23	21	18
7	57	44	36	30	52	41	34	28	35	29	25	30	25	22	25	21	18	16
8	53	40	32	27	49	37	30	25	32	26	22	27	23	19	23	19	16	14
9	49	36	29	24	45	34	27	22	29	24	20	25	20	17	21	17	15	12
10	46	33	26	21	42	31	25	20	27	22	18	23	19	15	19	16	13	11

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

	0°	45°	90°
0°	5288	5288	5288
5°	5304	5168	5182
10°	5272	5083	5079
15°	5225	4985	4958
20°	5153	4877	4840
25°	5073	4756	4710
30°	4986	4636	4576
35°	4887	4512	4460
40°	4809	4395	4338
45°	4692	4287	4233
50°	4593	4163	4123
55°	4491	4045	3993
60°	4332	3894	3876
65°	4156	3735	3731
70°	3945	3551	3561
75°	3649	3349	3408
80°	3322	3156	3259
85°	2903	2980	3172



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	62.0	1.6
10°-20°	177.7	4.4
20°-30°	268.7	6.7
30°-40°	325.1	8.1
40°-50°	343.7	8.6
50°-60°	323.5	8.1
60°-70°	268.4	6.7
70°-80°	188.5	4.7
80°-90°	108.2	2.7
90°-100°	82.8	2.1
100°-110°	171.4	4.3
110°-120°	269.7	6.7
120°-130°	320.2	8.0
130°-140°	331.3	8.3
140°-150°	304.2	7.6
150°-160°	244.0	6.1
160°-170°	157.4	3.9
170°-180°	54.2	1.4
0°-30°	508.4	12.7
0°-40°	833.5	20.8
0°-60°	1500.7	37.5
0°-90°	2065.8	51.6
90°-120°	523.9	13.1
90°-150°	1479.5	37.0
90°-180°	1935.0	48.4
0°-180°	4000.9	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	655	655	655	655	655	
5°	656	653	648	654	654	62
15°	629	629	627	633	633	177
25°	575	579	582	589	590	265
35°	503	512	519	529	532	315
45°	420	433	447	459	464	324
55°	329	344	366	380	385	293
65°	227	251	276	293	300	225
75°	126	153	184	204	211	134
85°	39	70	103	124	132	41
90°	13	47	82	105	112	9
95°	33	44	73	95	103	38
105°	135	153	182	202	194	142
115°	244	253	275	292	298	241
125°	340	342	359	374	379	304
135°	420	420	426	439	444	324
145°	483	484	484	489	493	302
155°	529	530	528	530	529	244
165°	558	556	556	559	556	158
175°	571	569	569	572	568	54
180°	571	571	571	571	571	



TEST NUMBER: P332747-830

CATALOG NUMBER: S124DIW-S575D470U830-4F0-1E-UDD-D

**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	655.0	655.0	655.0	655.0	655.0	655.0	655.0	655.0	655.0	655.0	655.0
2.5°	657.3	657.0	656.6	656.1	655.7	655.1	654.0	653.0	651.9	650.8	651.8
5°	655.7	655.3	654.7	654.2	653.7	652.9	651.8	650.6	649.5	648.4	649.7
7.5°	650.2	649.8	649.5	649.2	648.9	648.4	647.4	646.5	645.5	644.5	646.0
10°	645.5	645.3	645.1	645.0	644.8	644.3	643.5	642.6	641.9	641.0	642.5
12.5°	638.9	638.9	638.9	638.9	638.9	638.6	638.0	637.4	636.9	636.3	637.6
15°	628.6	628.8	628.9	629.1	629.2	629.1	628.6	628.1	627.5	627.1	628.6
17.5°	614.3	614.8	615.3	615.8	616.3	616.5	616.4	616.3	616.2	616.1	617.6
20°	604.4	604.8	605.3	605.9	606.3	606.6	606.8	607.0	607.1	607.3	608.9
22.5°	593.2	593.8	594.5	595.0	595.7	596.2	596.4	596.7	597.0	597.3	599.0
25°	575.0	576.0	577.0	578.0	578.9	579.7	580.1	580.6	581.2	581.6	583.4
27.5°	554.8	556.2	557.6	559.1	560.5	561.6	562.3	563.1	563.8	564.6	566.3
30°	541.3	542.6	543.8	545.2	546.5	547.7	548.8	550.0	551.1	552.3	554.1
32.5°	526.6	528.2	529.7	531.3	532.9	534.3	535.6	536.9	538.1	539.4	541.4
35°	503.1	505.1	507.1	509.0	511.0	512.7	514.3	516.0	517.6	519.2	521.6
37.5°	479.6	481.7	484.0	486.3	488.5	490.7	492.7	494.7	496.7	498.7	501.1
40°	464.3	466.4	468.5	470.6	472.8	474.9	477.2	479.5	481.8	484.1	486.5
42.5°	446.7	449.0	451.4	453.8	456.2	458.7	461.4	464.0	466.7	469.4	472.1
45°	419.5	422.6	425.7	428.9	431.9	435.0	438.1	441.2	444.3	447.4	450.2
47.5°	393.6	396.7	399.9	403.1	406.3	409.7	413.3	416.9	420.5	424.0	427.0
50°	374.8	378.3	381.9	385.6	389.2	392.8	396.3	399.9	403.5	407.1	410.3
52.5°	356.0	359.6	363.2	366.7	370.3	374.2	378.3	382.4	386.5	390.6	393.9
55°	328.6	332.0	335.5	338.8	342.2	346.4	351.3	356.2	361.1	366.0	369.3
57.5°	297.9	302.2	306.4	310.7	314.9	319.4	324.2	329.1	334.0	338.8	342.7
60°	278.0	282.2	286.4	290.7	294.9	299.7	305.1	310.5	315.8	321.2	325.0
62.5°	258.6	263.3	267.9	272.5	277.1	282.1	287.5	292.8	298.3	303.7	307.4
65°	227.3	232.6	237.8	243.0	248.3	253.6	259.1	264.7	270.2	275.8	279.8
67.5°	197.3	202.8	208.4	214.0	219.4	225.2	231.1	237.0	243.0	248.9	253.1
70°	176.7	182.3	187.8	193.4	199.0	204.8	210.9	217.2	223.4	229.6	233.9
72.5°	156.8	162.5	168.1	173.8	179.5	185.6	192.2	198.8	205.4	212.0	216.2
75°	126.1	132.1	138.2	144.2	150.2	156.7	163.5	170.4	177.3	184.1	188.7
77.5°	97.6	104.0	110.4	116.7	123.1	129.9	137.0	144.2	151.4	158.5	163.2
80°	79.9	86.4	93.0	99.5	106.0	112.8	120.1	127.2	134.4	141.6	146.5
82.5°	62.3	69.1	75.9	82.7	89.4	96.4	103.6	110.7	117.9	125.2	130.2
85°	38.8	45.7	52.6	59.4	66.3	73.3	80.7	88.0	95.4	102.6	107.5
87.5°	22.0	28.8	35.7	42.5	49.4	56.5	63.8	71.1	78.3	85.7	90.5
90°	13.0	20.5	28.2	35.7	43.3	50.9	58.7	66.4	74.3	82.0	87.3
92.5°	16.5	22.4	28.4	34.3	40.2	47.0	54.9	62.6	70.4	78.1	83.3
95°	33.0	35.2	37.3	39.5	41.7	46.1	52.9	59.7	66.4	73.2	78.1
97.5°	58.5	65.2	71.8	78.5	85.1	86.4	82.5	78.5	74.6	70.5	74.8
100°	78.1	84.1	90.0	96.0	101.9	101.5	94.7	88.0	81.2	74.6	77.3
102.5°	100.7	105.7	110.7	115.6	120.6	125.3	129.8	134.3	138.8	143.4	130.3
105°	135.2	139.0	142.8	146.7	150.5	155.7	162.2	168.7	175.2	181.7	186.6
107.5°	168.4	171.4	174.4	177.3	180.3	184.9	191.2	197.7	204.0	210.3	214.7
110°	190.4	192.9	195.6	198.1	200.7	205.1	211.3	217.6	223.9	230.2	234.1



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	211.7	214.2	216.8	219.3	221.8	225.9	231.7	237.3	243.1	248.7	252.3
115°	244.5	246.2	248.0	249.7	251.5	254.9	260.0	265.1	270.2	275.4	279.2
117.5°	274.7	275.9	277.2	278.4	279.7	282.9	287.9	292.9	298.0	303.1	306.4
120°	294.5	295.4	296.3	297.2	298.0	300.8	305.4	310.1	314.7	319.3	322.7
122.5°	313.7	314.1	314.3	314.7	315.0	317.4	322.1	326.7	331.3	335.8	339.2
125°	340.4	340.6	340.8	341.0	341.3	343.3	347.2	351.1	355.0	358.8	362.2
127.5°	366.2	366.2	366.1	366.0	366.0	367.7	371.3	374.8	378.4	381.9	384.8
130°	382.4	382.3	382.2	382.2	382.1	383.5	386.4	389.3	392.2	395.1	398.1
132.5°	397.8	397.8	397.8	397.8	397.8	399.0	401.4	403.9	406.3	408.8	411.7
135°	420.1	420.0	419.9	419.8	419.7	420.4	422.0	423.5	425.0	426.5	429.3
137.5°	440.5	440.4	440.3	440.2	440.0	440.5	441.4	442.3	443.4	444.3	446.9
140°	453.8	453.8	453.9	453.9	453.9	454.1	454.5	454.9	455.2	455.5	458.0
142.5°	465.2	465.5	465.8	466.1	466.5	466.6	466.7	466.7	466.7	466.7	468.7
145°	483.4	483.5	483.7	483.8	483.9	484.0	484.0	484.0	484.0	484.0	485.0
147.5°	498.0	498.4	498.8	499.2	499.5	499.6	499.5	499.5	499.4	499.3	499.5
150°	508.6	508.9	509.1	509.3	509.5	509.5	509.4	509.3	509.3	509.2	509.2
152.5°	516.9	517.2	517.5	517.7	518.0	518.0	517.9	517.7	517.6	517.4	517.6
155°	529.2	529.3	529.4	529.5	529.6	529.5	529.2	529.0	528.7	528.4	528.8
157.5°	539.8	539.7	539.6	539.6	539.5	539.3	539.0	538.7	538.4	538.1	538.6
160°	545.9	545.6	545.4	545.1	544.8	544.6	544.5	544.4	544.3	544.2	544.8
162.5°	551.4	551.0	550.6	550.3	550.0	549.7	549.6	549.5	549.4	549.3	549.9
165°	558.3	557.8	557.3	556.9	556.4	556.2	556.2	556.2	556.2	556.2	556.9
167.5°	563.7	563.3	562.8	562.3	561.8	561.5	561.5	561.4	561.4	561.3	562.1
170°	566.8	566.3	565.7	565.1	564.6	564.3	564.4	564.5	564.6	564.7	565.4
172.5°	568.9	568.4	567.8	567.2	566.7	566.4	566.5	566.6	566.7	566.8	567.5
175°	571.1	570.5	570.0	569.4	568.8	568.6	568.7	568.8	568.9	569.0	569.9
177.5°	572.1	571.7	571.1	570.5	570.0	569.9	570.0	570.1	570.2	570.4	571.0
180°	571.1	571.1	571.1	571.1	571.1	571.1	571.1	571.1	571.1	571.1	571.1



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	655.0	655.0	655.0	655.0	655.0	655.0	655.0	655.0
2.5°	652.7	653.6	654.5	654.9	654.8	654.6	654.5	654.4
5°	651.0	652.2	653.6	654.1	654.0	653.8	653.7	653.5
7.5°	647.5	648.9	650.4	651.1	650.9	650.7	650.5	650.4
10°	643.9	645.5	646.9	647.5	647.4	647.2	647.1	646.9
12.5°	639.0	640.4	641.7	642.3	642.3	642.2	642.2	642.2
15°	630.0	631.5	632.9	633.6	633.5	633.3	633.1	632.9
17.5°	619.1	620.6	622.1	622.7	622.6	622.5	622.4	622.3
20°	610.6	612.2	613.8	614.6	614.6	614.6	614.6	614.6
22.5°	600.6	602.2	603.8	604.8	605.0	605.3	605.6	605.9
25°	585.2	587.0	588.8	589.7	589.9	590.1	590.2	590.4
27.5°	568.0	569.6	571.3	572.2	572.4	572.6	572.8	573.0
30°	555.9	557.7	559.5	560.5	560.8	561.2	561.5	561.8
32.5°	543.5	545.5	547.6	548.7	549.1	549.4	549.8	550.1
35°	523.9	526.1	528.4	529.8	530.3	530.7	531.2	531.8
37.5°	503.4	505.7	508.0	509.4	509.9	510.5	511.0	511.5
40°	489.0	491.4	493.9	495.4	496.1	496.7	497.4	498.0
42.5°	474.9	477.5	480.2	481.8	482.4	482.9	483.4	483.9
45°	453.0	455.7	458.5	460.2	461.1	461.9	462.7	463.5
47.5°	429.8	432.7	435.5	437.4	438.5	439.4	440.5	441.4
50°	413.6	416.9	420.1	422.3	423.2	424.1	425.2	426.1
52.5°	397.2	400.4	403.7	405.8	406.8	407.7	408.7	409.7
55°	372.5	375.8	379.0	381.2	382.1	383.1	384.1	385.0
57.5°	346.6	350.5	354.4	356.8	357.7	358.5	359.5	360.4
60°	328.8	332.5	336.2	338.7	340.1	341.4	342.7	344.0
62.5°	311.1	314.9	318.7	321.1	322.4	323.8	325.1	326.4
65°	283.9	288.0	292.1	294.7	296.1	297.4	298.7	300.0
67.5°	257.2	261.4	265.5	268.2	269.5	270.7	272.0	273.2
70°	238.4	242.8	247.1	250.0	251.1	252.2	253.4	254.5
72.5°	220.5	224.8	229.0	231.8	233.1	234.3	235.6	236.9
75°	193.2	197.7	202.4	205.4	206.8	208.3	209.8	211.2
77.5°	167.9	172.5	177.1	180.2	181.7	183.3	184.8	186.4
80°	151.4	156.2	161.1	164.2	165.5	166.8	168.1	169.5
82.5°	135.2	140.2	145.2	148.5	149.9	151.3	152.7	154.2
85°	112.4	117.3	122.2	125.5	127.1	128.8	130.4	132.1
87.5°	95.3	100.2	105.0	108.2	109.6	111.1	112.5	114.0
90°	92.6	97.9	103.2	106.6	108.1	109.6	111.0	112.5
92.5°	88.5	93.7	98.8	102.1	103.4	104.7	106.1	107.4
95°	83.1	88.1	93.1	96.3	97.9	99.4	101.0	102.6
97.5°	79.2	83.5	87.8	90.8	92.3	93.8	95.3	96.7
100°	80.1	82.9	85.7	87.7	89.0	90.2	91.4	92.7
102.5°	117.1	104.0	90.8	84.9	86.1	87.5	88.8	90.0
105°	191.5	196.4	201.4	202.8	200.7	198.6	196.4	194.4
107.5°	219.1	223.6	228.0	231.0	232.5	234.0	235.6	237.1
110°	238.1	242.0	245.9	248.7	250.2	251.8	253.4	255.1





TEST NUMBER: P332747-830

CATALOG NUMBER: S124DIW-S575D470U830-4F0-1E-UDD-D

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	255.9	259.5	263.1	265.7	267.4	269.1	270.7	272.4
115°	283.0	286.7	290.5	292.9	294.1	295.2	296.3	297.6
117.5°	309.8	313.2	316.5	318.9	320.1	321.4	322.6	323.9
120°	326.2	329.7	333.1	335.4	336.5	337.6	338.7	339.9
122.5°	342.6	346.0	349.4	351.6	352.5	353.5	354.5	355.4
125°	365.6	369.0	372.4	374.6	375.7	376.7	377.9	378.9
127.5°	387.7	390.6	393.4	395.4	396.4	397.5	398.5	399.5
130°	401.1	404.2	407.2	409.2	410.2	411.1	412.2	413.1
132.5°	414.6	417.5	420.4	422.3	423.2	424.0	425.0	425.9
135°	432.1	434.9	437.7	439.7	440.8	442.1	443.2	444.3
137.5°	449.5	452.0	454.7	456.4	457.1	457.9	458.6	459.4
140°	460.3	462.8	465.1	466.8	467.7	468.6	469.6	470.4
142.5°	470.8	472.9	474.9	476.4	477.0	477.8	478.4	479.1
145°	486.2	487.2	488.2	489.2	490.0	490.9	491.7	492.6
147.5°	499.6	499.9	500.1	500.5	501.1	501.7	502.4	502.9
150°	509.2	509.2	509.2	509.3	509.3	509.4	509.5	509.6
152.5°	517.6	517.8	518.0	518.0	518.0	517.9	517.8	517.8
155°	529.1	529.5	529.9	530.0	529.7	529.4	529.1	528.9
157.5°	539.0	539.5	540.0	540.0	539.5	539.0	538.6	538.1
160°	545.4	545.9	546.5	546.5	545.9	545.4	544.8	544.2
162.5°	550.4	551.0	551.6	551.6	550.9	550.3	549.6	549.0
165°	557.7	558.5	559.2	559.1	558.3	557.4	556.6	555.7
167.5°	563.0	563.8	564.7	564.6	563.6	562.7	561.8	560.8
170°	566.2	566.9	567.8	567.7	566.7	565.7	564.8	563.8
172.5°	568.3	569.0	569.8	569.7	568.6	567.6	566.6	565.5
175°	570.7	571.6	572.4	572.2	571.1	570.0	568.8	567.7
177.5°	571.7	572.2	572.9	572.7	571.8	570.9	570.0	569.1
180°	571.1	571.1	571.1	571.1	571.1	571.1	571.1	571.1

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