

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: P332747-930

Luminaire Tested: **S124DIW-S575D470U930-4F0-1E-UDD-D**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P332747-930  
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-S575D470U930-4F0-1E-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: 3460.8 lumens  
Efficiency: N/A  
Efficacy: 114.6 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

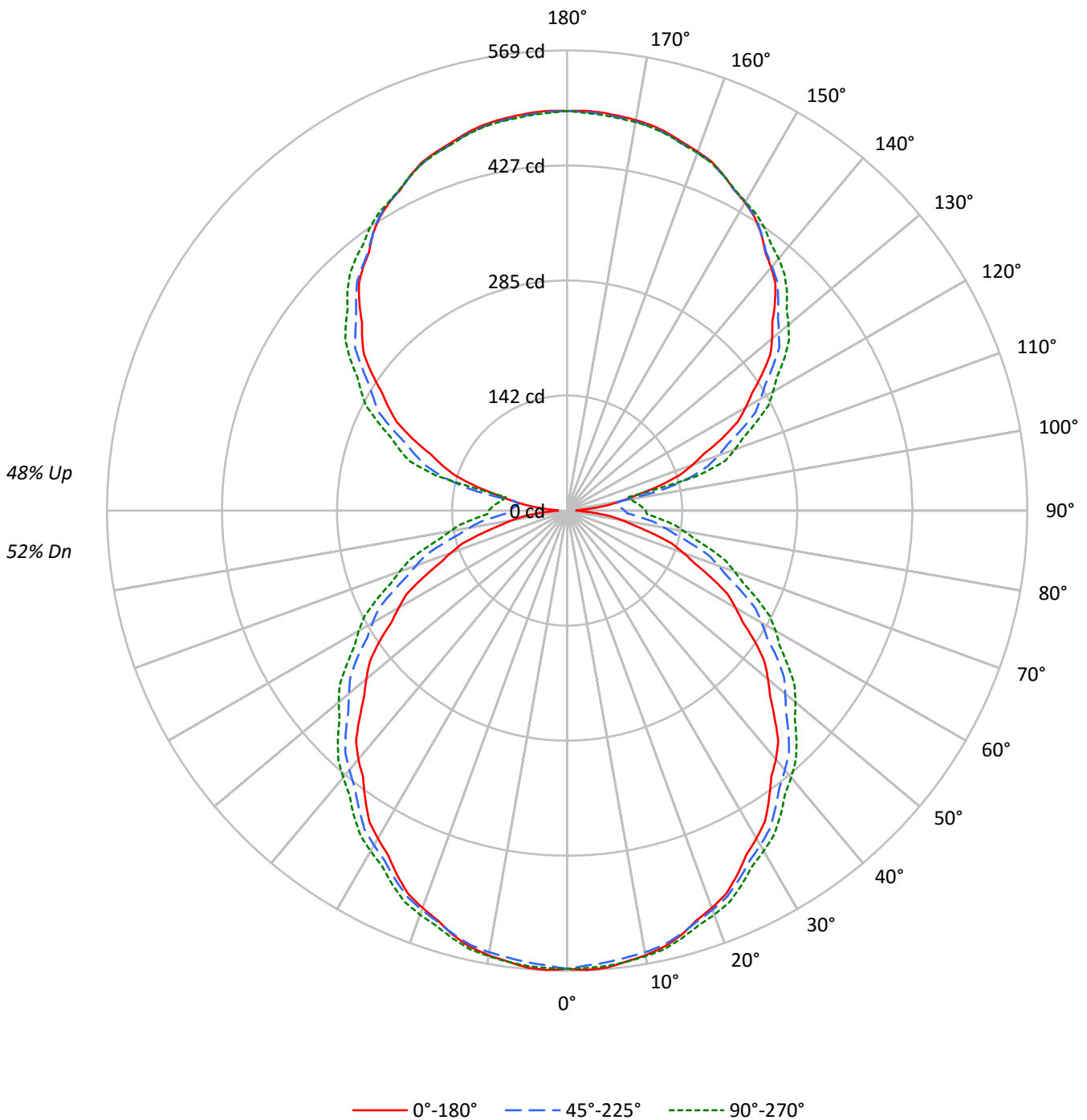
Input Watts (W): 30.2  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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### 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	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°	4574	4574	4574
5°	4588	4470	4482
10°	4560	4397	4393
15°	4519	4312	4289
20°	4458	4219	4187
25°	4388	4114	4074
30°	4313	4011	3959
35°	4227	3903	3858
40°	4160	3802	3753
45°	4059	3708	3663
50°	3973	3600	3567
55°	3884	3499	3454
60°	3746	3369	3353
65°	3597	3231	3227
70°	3414	3072	3080
75°	3157	2896	2948
80°	2873	2730	2819
85°	2514	2579	2742



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	53.6	1.6
10°-20°	153.7	4.4
20°-30°	232.4	6.7
30°-40°	281.2	8.1
40°-50°	297.3	8.6
50°-60°	279.8	8.1
60°-70°	232.1	6.7
70°-80°	163.1	4.7
80°-90°	93.6	2.7
90°-100°	71.6	2.1
100°-110°	148.3	4.3
110°-120°	233.3	6.7
120°-130°	277.0	8.0
130°-140°	286.5	8.3
140°-150°	263.1	7.6
150°-160°	211.1	6.1
160°-170°	136.1	3.9
170°-180°	46.9	1.4
0°-30°	439.8	12.7
0°-40°	721.0	20.8
0°-60°	1298.1	37.5
0°-90°	1786.9	51.6
90°-120°	453.2	13.1
90°-150°	1279.8	37.0
90°-180°	1674.0	48.4
0°-180°	3460.8	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	567	567	567	567	567	
5°	567	565	561	566	565	54
15°	544	544	542	548	548	153
25°	497	501	503	510	511	229
35°	435	443	449	458	460	272
45°	363	375	387	397	401	280
55°	284	298	317	329	333	253
65°	197	217	239	254	260	195
75°	109	133	159	176	183	116
85°	34	60	89	107	114	36
90°	11	41	71	91	97	8
95°	28	38	63	82	89	33
105°	117	132	157	175	168	123
115°	212	219	238	252	257	208
125°	294	296	310	323	328	263
135°	363	363	369	379	384	280
145°	418	419	419	423	426	261
155°	458	458	457	458	458	211
165°	483	481	481	484	481	136
175°	494	492	492	495	491	47
180°	494	494	494	494	494	



TEST NUMBER: P332747-930

CATALOG NUMBER: S124DIW-S575D470U930-4F0-1E-UDD-D

**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	566.6	566.6	566.6	566.6	566.6	566.6	566.6	566.6	566.6	566.6	566.6
2.5°	568.6	568.3	567.9	567.5	567.2	566.6	565.7	564.8	563.9	563.0	563.8
5°	567.2	566.8	566.3	565.9	565.5	564.8	563.8	562.8	561.8	560.8	562.0
7.5°	562.4	562.1	561.8	561.6	561.3	560.8	560.0	559.2	558.3	557.5	558.8
10°	558.3	558.2	558.0	557.9	557.7	557.3	556.6	555.9	555.2	554.5	555.8
12.5°	552.7	552.7	552.7	552.6	552.6	552.4	551.9	551.4	550.9	550.4	551.5
15°	543.7	543.9	544.0	544.1	544.3	544.1	543.7	543.3	542.8	542.4	543.7
17.5°	531.4	531.8	532.2	532.6	533.1	533.3	533.2	533.1	533.0	533.0	534.2
20°	522.8	523.2	523.6	524.1	524.5	524.7	524.9	525.1	525.1	525.3	526.7
22.5°	513.1	513.6	514.2	514.7	515.3	515.7	515.9	516.2	516.4	516.7	518.1
25°	497.4	498.2	499.1	499.9	500.8	501.4	501.8	502.2	502.7	503.1	504.7
27.5°	479.9	481.1	482.3	483.6	484.9	485.8	486.4	487.1	487.7	488.4	489.8
30°	468.2	469.4	470.4	471.6	472.7	473.8	474.7	475.7	476.7	477.8	479.3
32.5°	455.5	456.9	458.2	459.6	461.0	462.2	463.3	464.4	465.5	466.6	468.3
35°	435.2	436.9	438.6	440.3	442.0	443.5	444.9	446.4	447.8	449.1	451.2
37.5°	414.8	416.7	418.7	420.6	422.6	424.4	426.2	428.0	429.7	431.4	433.4
40°	401.6	403.4	405.3	407.1	409.0	410.8	412.8	414.7	416.8	418.7	420.9
42.5°	386.4	388.4	390.4	392.6	394.6	396.8	399.1	401.4	403.7	406.0	408.4
45°	362.9	365.6	368.3	371.0	373.6	376.3	379.0	381.6	384.3	387.0	389.4
47.5°	340.5	343.2	345.9	348.7	351.5	354.4	357.5	360.6	363.7	366.8	369.3
50°	324.2	327.3	330.4	333.5	336.6	339.7	342.8	345.9	349.0	352.1	354.9
52.5°	307.9	311.0	314.1	317.2	320.3	323.7	327.3	330.8	334.4	337.9	340.7
55°	284.2	287.1	290.2	293.1	296.0	299.6	303.9	308.1	312.3	316.6	319.4
57.5°	257.7	261.4	265.1	268.7	272.4	276.3	280.5	284.7	288.9	293.1	296.4
60°	240.4	244.1	247.8	251.4	255.1	259.3	263.9	268.6	273.2	277.9	281.1
62.5°	223.7	227.7	231.7	235.7	239.7	244.0	248.7	253.3	258.0	262.7	265.9
65°	196.7	201.2	205.7	210.2	214.7	219.4	224.1	228.9	233.7	238.6	242.1
67.5°	170.6	175.5	180.3	185.1	189.8	194.8	199.9	205.0	210.2	215.3	218.9
70°	152.9	157.7	162.5	167.3	172.1	177.2	182.5	187.8	193.2	198.6	202.4
72.5°	135.7	140.6	145.4	150.3	155.2	160.5	166.2	171.9	177.7	183.4	187.0
75°	109.1	114.3	119.5	124.7	130.0	135.6	141.5	147.4	153.4	159.2	163.2
77.5°	84.4	89.9	95.5	100.9	106.5	112.3	118.5	124.7	130.9	137.1	141.1
80°	69.1	74.8	80.5	86.1	91.7	97.6	103.9	110.1	116.3	122.5	126.7
82.5°	53.9	59.8	65.6	71.5	77.4	83.4	89.6	95.8	102.0	108.3	112.6
85°	33.6	39.5	45.5	51.4	57.3	63.4	69.8	76.1	82.5	88.8	93.0
87.5°	19.0	24.9	30.9	36.8	42.7	48.8	55.2	61.5	67.8	74.1	78.3
90°	11.3	17.8	24.4	30.9	37.4	44.0	50.8	57.5	64.2	70.9	75.5
92.5°	14.3	19.4	24.5	29.7	34.8	40.7	47.5	54.1	60.9	67.6	72.1
95°	28.5	30.4	32.3	34.2	36.0	39.9	45.7	51.6	57.5	63.3	67.6
97.5°	50.6	56.4	62.1	67.9	73.6	74.8	71.3	67.9	64.5	61.0	64.7
100°	67.6	72.7	77.9	83.0	88.1	87.8	81.9	76.1	70.3	64.5	66.9
102.5°	87.1	91.4	95.7	100.0	104.3	108.4	112.3	116.2	120.1	124.0	112.7
105°	116.9	120.3	123.5	126.9	130.2	134.7	140.3	145.9	151.6	157.2	161.4
107.5°	145.7	148.2	150.8	153.4	156.0	160.0	165.4	171.0	176.4	181.9	185.7
110°	164.7	166.9	169.2	171.4	173.6	177.4	182.8	188.3	193.7	199.1	202.5



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	183.1	185.3	187.5	189.7	191.8	195.4	200.4	205.3	210.3	215.2	218.3
115°	211.5	213.0	214.5	216.0	217.5	220.5	224.9	229.3	233.7	238.2	241.5
117.5°	237.6	238.6	239.8	240.8	241.9	244.7	249.1	253.4	257.8	262.2	265.1
120°	254.8	255.5	256.3	257.1	257.8	260.2	264.2	268.2	272.2	276.2	279.2
122.5°	271.3	271.7	271.9	272.2	272.5	274.6	278.6	282.6	286.6	290.5	293.4
125°	294.4	294.6	294.8	295.0	295.2	296.9	300.4	303.7	307.0	310.4	313.3
127.5°	316.7	316.7	316.7	316.6	316.6	318.0	321.1	324.2	327.3	330.4	332.9
130°	330.8	330.7	330.6	330.6	330.5	331.7	334.3	336.7	339.2	341.8	344.4
132.5°	344.1	344.1	344.1	344.1	344.1	345.1	347.2	349.4	351.5	353.6	356.1
135°	363.4	363.3	363.2	363.1	363.1	363.6	365.0	366.3	367.6	368.9	371.4
137.5°	381.1	380.9	380.8	380.7	380.6	381.0	381.8	382.6	383.5	384.3	386.5
140°	392.6	392.6	392.6	392.6	392.6	392.8	393.1	393.5	393.7	394.0	396.2
142.5°	402.4	402.7	402.9	403.2	403.5	403.6	403.7	403.7	403.7	403.7	405.4
145°	418.2	418.2	418.4	418.5	418.6	418.7	418.7	418.7	418.7	418.7	419.6
147.5°	430.8	431.1	431.5	431.8	432.1	432.2	432.1	432.0	431.9	431.9	432.0
150°	439.9	440.2	440.3	440.5	440.8	440.8	440.7	440.6	440.5	440.4	440.4
152.5°	447.1	447.4	447.6	447.8	448.1	448.1	448.0	447.8	447.7	447.5	447.7
155°	457.8	457.9	458.0	458.0	458.1	458.0	457.8	457.5	457.3	457.1	457.4
157.5°	466.9	466.8	466.8	466.8	466.7	466.5	466.3	465.9	465.7	465.5	465.9
160°	472.2	472.0	471.7	471.5	471.2	471.1	471.0	470.9	470.8	470.8	471.2
162.5°	477.0	476.6	476.3	476.0	475.7	475.5	475.4	475.3	475.2	475.2	475.6
165°	482.9	482.5	482.1	481.7	481.3	481.1	481.1	481.1	481.1	481.1	481.8
167.5°	487.6	487.2	486.8	486.4	485.9	485.7	485.7	485.6	485.6	485.5	486.2
170°	490.3	489.8	489.3	488.9	488.4	488.1	488.2	488.3	488.4	488.4	489.1
172.5°	492.1	491.6	491.1	490.6	490.2	489.9	490.0	490.1	490.2	490.2	490.9
175°	494.0	493.5	493.0	492.5	492.0	491.9	492.0	492.0	492.1	492.2	492.9
177.5°	494.9	494.5	494.0	493.5	493.1	492.9	493.0	493.2	493.3	493.4	493.9
180°	494.0	494.0	494.0	494.0	494.0	494.0	494.0	494.0	494.0	494.0	494.0



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	566.6	566.6	566.6	566.6	566.6	566.6	566.6	566.6
2.5°	564.6	565.3	566.1	566.5	566.4	566.2	566.1	566.1
5°	563.1	564.2	565.3	565.8	565.7	565.6	565.4	565.2
7.5°	560.1	561.3	562.6	563.2	563.0	562.9	562.7	562.6
10°	557.0	558.3	559.5	560.1	560.0	559.9	559.7	559.5
12.5°	552.8	553.9	555.1	555.6	555.6	555.5	555.5	555.5
15°	544.9	546.3	547.5	548.0	548.0	547.8	547.6	547.5
17.5°	535.5	536.8	538.1	538.7	538.6	538.5	538.3	538.3
20°	528.2	529.5	530.9	531.7	531.7	531.7	531.7	531.7
22.5°	519.5	520.9	522.3	523.2	523.3	523.6	523.8	524.1
25°	506.2	507.8	509.3	510.1	510.3	510.5	510.5	510.7
27.5°	491.3	492.7	494.2	495.0	495.1	495.3	495.5	495.6
30°	480.9	482.4	484.0	484.9	485.1	485.4	485.7	486.0
32.5°	470.1	471.9	473.7	474.7	475.0	475.2	475.6	475.8
35°	453.1	455.1	457.1	458.3	458.7	459.1	459.5	460.0
37.5°	435.5	437.4	439.4	440.7	441.1	441.6	442.0	442.5
40°	423.0	425.1	427.2	428.5	429.1	429.7	430.2	430.8
42.5°	410.7	413.0	415.4	416.8	417.3	417.7	418.2	418.6
45°	391.8	394.2	396.6	398.1	398.8	399.6	400.2	401.0
47.5°	371.8	374.3	376.7	378.4	379.3	380.1	381.0	381.8
50°	357.8	360.6	363.4	365.3	366.1	366.9	367.8	368.6
52.5°	343.6	346.3	349.2	351.0	351.9	352.7	353.5	354.4
55°	322.2	325.1	327.8	329.7	330.5	331.4	332.2	333.0
57.5°	299.8	303.2	306.6	308.6	309.4	310.1	311.0	311.8
60°	284.4	287.6	290.8	293.0	294.2	295.3	296.4	297.6
62.5°	269.1	272.4	275.7	277.8	278.9	280.1	281.2	282.3
65°	245.6	249.2	252.7	254.9	256.1	257.2	258.4	259.5
67.5°	222.5	226.1	229.7	232.0	233.1	234.2	235.3	236.4
70°	206.2	210.0	213.8	216.2	217.2	218.2	219.2	220.1
72.5°	190.7	194.4	198.1	200.5	201.6	202.7	203.8	204.9
75°	167.1	171.0	175.0	177.7	178.9	180.2	181.5	182.7
77.5°	145.2	149.2	153.2	155.9	157.2	158.6	159.9	161.3
80°	130.9	135.1	139.3	142.0	143.2	144.3	145.4	146.6
82.5°	116.9	121.2	125.6	128.4	129.6	130.9	132.1	133.4
85°	97.3	101.5	105.7	108.6	110.0	111.4	112.8	114.2
87.5°	82.4	86.7	90.8	93.6	94.8	96.1	97.3	98.7
90°	80.1	84.7	89.3	92.2	93.5	94.8	96.0	97.3
92.5°	76.6	81.0	85.4	88.3	89.4	90.6	91.8	92.9
95°	71.9	76.2	80.6	83.3	84.7	86.0	87.4	88.8
97.5°	68.5	72.2	76.0	78.5	79.8	81.1	82.4	83.6
100°	69.3	71.7	74.1	75.8	77.0	78.0	79.1	80.1
102.5°	101.3	89.9	78.5	73.5	74.5	75.7	76.8	77.9
105°	165.7	169.9	174.2	175.5	173.6	171.8	169.9	168.1
107.5°	189.6	193.4	197.2	199.8	201.1	202.4	203.8	205.1
110°	205.9	209.4	212.7	215.2	216.5	217.8	219.2	220.6





TEST NUMBER: P332747-930

CATALOG NUMBER: S124DIW-S575D470U930-4F0-1E-UDD-D

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	221.4	224.5	227.6	229.8	231.3	232.8	234.2	235.6
115°	244.8	248.0	251.3	253.4	254.4	255.4	256.3	257.4
117.5°	268.0	270.9	273.8	275.8	276.9	278.0	279.1	280.1
120°	282.2	285.2	288.1	290.1	291.1	292.0	293.0	294.0
122.5°	296.4	299.3	302.2	304.1	304.9	305.8	306.6	307.4
125°	316.3	319.2	322.1	324.0	325.0	325.9	326.9	327.8
127.5°	335.3	337.9	340.3	342.0	342.9	343.8	344.7	345.6
130°	347.0	349.6	352.2	353.9	354.8	355.6	356.5	357.3
132.5°	358.7	361.1	363.6	365.3	366.1	366.8	367.6	368.4
135°	373.7	376.2	378.6	380.3	381.3	382.4	383.4	384.3
137.5°	388.8	391.0	393.3	394.8	395.4	396.1	396.7	397.4
140°	398.2	400.3	402.4	403.8	404.6	405.4	406.2	406.9
142.5°	407.2	409.0	410.8	412.1	412.6	413.3	413.8	414.4
145°	420.5	421.4	422.3	423.1	423.9	424.6	425.3	426.1
147.5°	432.2	432.4	432.6	432.9	433.5	434.0	434.6	435.0
150°	440.4	440.4	440.4	440.5	440.6	440.7	440.8	440.8
152.5°	447.8	447.9	448.1	448.1	448.1	448.0	447.9	447.9
155°	457.7	458.0	458.4	458.4	458.2	458.0	457.7	457.5
157.5°	466.3	466.7	467.1	467.1	466.7	466.3	465.9	465.5
160°	471.7	472.2	472.7	472.7	472.2	471.7	471.2	470.8
162.5°	476.1	476.6	477.1	477.1	476.5	476.0	475.4	474.9
165°	482.4	483.1	483.7	483.6	482.9	482.2	481.4	480.7
167.5°	487.0	487.7	488.4	488.4	487.5	486.7	485.9	485.1
170°	489.8	490.4	491.1	491.1	490.2	489.3	488.5	487.7
172.5°	491.5	492.2	492.8	492.8	491.9	491.0	490.1	489.2
175°	493.7	494.4	495.1	495.0	494.0	493.0	492.0	491.1
177.5°	494.5	495.0	495.5	495.4	494.6	493.8	493.0	492.3
180°	494.0	494.0	494.0	494.0	494.0	494.0	494.0	494.0

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