

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: P332748-830

Luminaire Tested: **S124DIW-S575D470U830-4F0-1E-UDD-D1**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P332748-830  
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-S575D470U830-4F0-1E-UDD-D1  
Description: DEFINE 4 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE  
DOWNLIGHT 575 LUMENS PER FOOT, DROP 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: 3766.5 lumens  
Efficiency: N/A  
Efficacy: 124.7 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

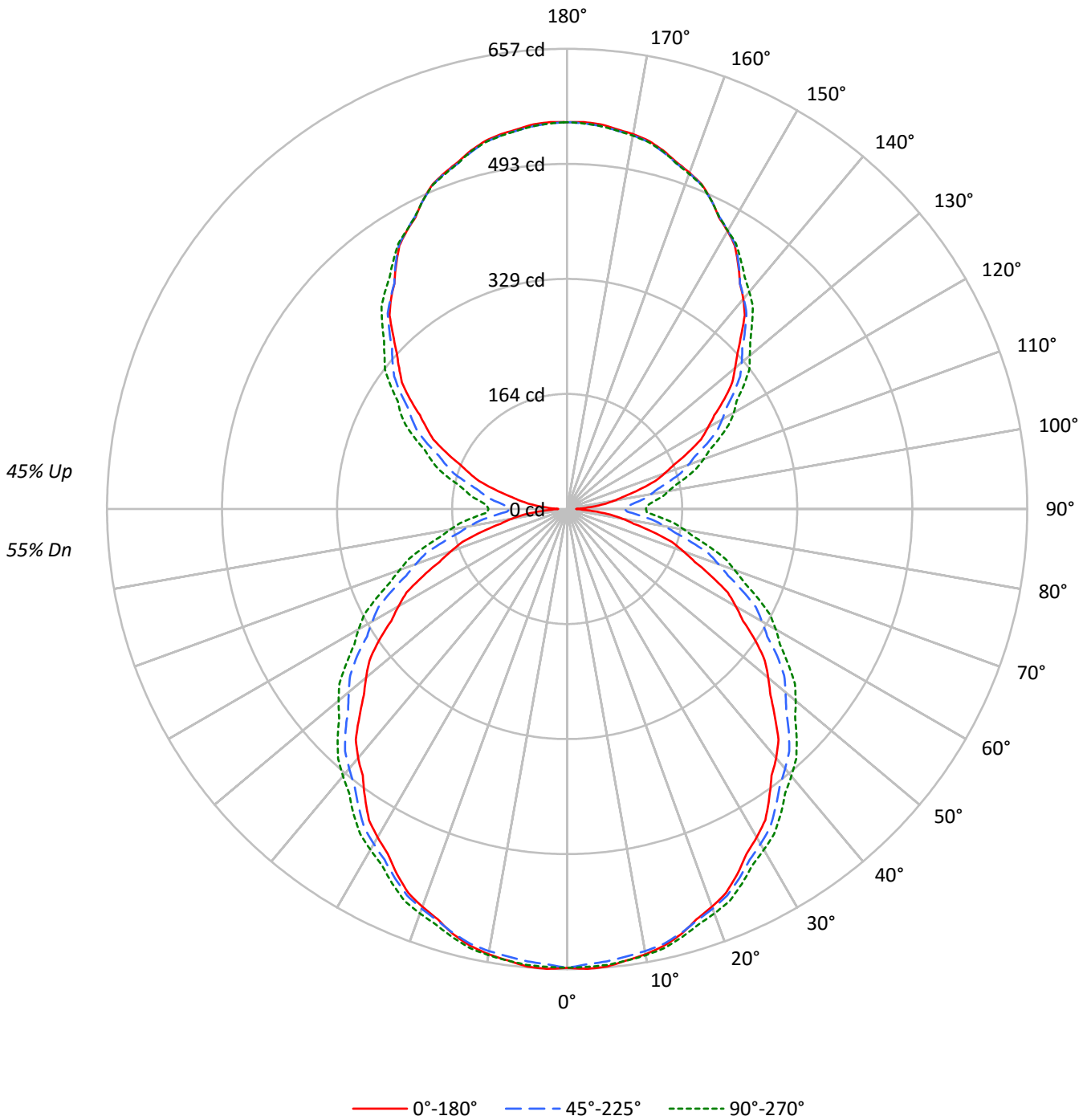
Input Watts (W): 30.2  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	101	101	101	101	86	86	86	73	73	73	61	61	61	55
1	98	93	89	85	90	86	82	79	74	71	68	62	60	58	52	50	49	44
2	89	80	74	68	82	75	69	64	64	60	56	54	51	48	45	42	40	36
3	80	70	63	56	74	65	58	53	56	51	46	47	43	40	39	36	34	30
4	73	62	54	47	68	58	50	45	50	44	39	42	38	34	35	32	29	25
5	67	55	47	40	62	51	44	38	44	38	34	38	33	29	31	28	25	22
6	62	49	41	35	57	46	38	33	40	34	29	34	29	25	28	25	22	19
7	57	44	36	30	53	42	34	29	36	30	26	31	26	22	26	22	19	17
8	53	40	32	27	49	38	30	25	33	27	23	28	23	20	24	20	17	15
9	49	37	29	24	46	34	27	23	30	24	20	26	21	18	22	18	15	13
10	46	34	26	21	43	32	25	20	28	22	18	24	19	16	20	17	14	12

**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	4.7
20°-30°	268.7	7.1
30°-40°	325.1	8.6
40°-50°	343.7	9.1
50°-60°	323.5	8.6
60°-70°	268.4	7.1
70°-80°	188.5	5.0
80°-90°	108.2	2.9
90°-100°	99.7	2.6
100°-110°	154.7	4.1
110°-120°	214.6	5.7
120°-130°	259.2	6.9
130°-140°	278.9	7.4
140°-150°	268.1	7.1
150°-160°	224.2	6.0
160°-170°	149.1	4.0
170°-180°	52.2	1.4
0°-30°	508.4	13.5
0°-40°	833.5	22.1
0°-60°	1500.7	39.8
0°-90°	2065.8	54.8
90°-120°	469.0	12.5
90°-150°	1275.2	33.9
90°-180°	1701.0	45.2
0°-180°	3766.5	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°	35	64	96	117	124	36
105°	106	122	150	169	177	113
115°	191	198	220	235	240	188
125°	274	274	291	304	308	244
135°	351	354	359	369	373	272
145°	426	427	427	431	433	266
155°	487	487	486	488	486	224
165°	530	529	528	530	529	149
175°	551	549	549	552	549	52
180°	552	552	552	552	552	



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**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°	20.3	27.3	34.4	41.5	48.5	55.8	63.3	70.9	78.4	86.0	91.0
95°	35.2	41.4	47.6	53.8	60.1	66.9	74.3	81.5	88.9	96.2	100.9
97.5°	53.4	58.7	64.0	69.4	74.6	81.1	88.4	95.8	103.2	110.6	115.2
100°	67.9	72.5	77.1	81.7	86.3	92.3	99.4	106.7	113.9	121.1	125.6
102.5°	83.6	87.5	91.3	95.2	99.1	104.5	111.5	118.5	125.5	132.5	137.0
105°	106.1	109.4	112.8	116.2	119.5	124.4	130.8	137.2	143.6	150.1	154.4
107.5°	131.2	133.9	136.8	139.5	142.3	146.6	152.3	158.2	163.9	169.7	173.9
110°	147.7	150.1	152.6	155.0	157.6	161.6	167.2	172.8	178.4	184.1	187.6



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	164.9	166.9	169.0	171.0	173.1	176.7	182.0	187.3	192.6	197.8	201.4
115°	190.6	192.1	193.6	195.0	196.5	199.7	204.7	209.8	214.8	219.8	223.3
117.5°	215.6	216.5	217.5	218.5	219.4	222.3	227.0	231.7	236.4	241.1	244.2
120°	231.8	232.6	233.5	234.3	235.3	237.9	242.3	246.8	251.2	255.6	258.4
122.5°	249.2	249.4	249.7	250.0	250.2	252.4	256.7	261.1	265.4	269.8	272.8
125°	274.2	274.0	273.8	273.6	273.5	275.4	279.4	283.3	287.4	291.3	294.3
127.5°	297.3	297.5	297.6	297.7	297.8	299.4	302.4	305.3	308.3	311.2	314.1
130°	313.1	313.3	313.4	313.5	313.6	315.0	317.6	320.2	322.8	325.5	328.2
132.5°	329.9	329.9	330.0	330.0	330.1	331.1	333.1	335.1	337.1	339.1	341.8
135°	351.3	351.9	352.4	353.0	353.5	354.4	355.5	356.7	357.8	358.9	361.4
137.5°	375.3	375.4	375.6	375.7	375.8	376.2	376.9	377.6	378.2	379.0	381.2
140°	391.4	391.4	391.4	391.5	391.5	391.6	391.8	391.9	392.1	392.3	394.3
142.5°	405.5	405.7	405.9	406.0	406.1	406.1	406.0	405.8	405.6	405.5	407.3
145°	425.7	425.9	426.1	426.3	426.6	426.7	426.8	426.9	427.0	427.1	428.0
147.5°	445.8	446.2	446.5	446.8	447.0	447.1	447.0	447.0	447.0	446.9	446.9
150°	458.2	458.4	458.6	458.8	459.0	459.1	459.1	459.1	459.1	459.1	459.1
152.5°	469.2	469.4	469.6	469.8	470.0	470.1	470.1	470.2	470.3	470.4	470.6
155°	486.9	486.9	486.9	486.9	486.9	486.8	486.7	486.6	486.5	486.4	486.8
157.5°	501.9	501.7	501.6	501.4	501.2	501.1	501.1	501.1	501.1	501.1	501.3
160°	510.9	510.8	510.7	510.6	510.5	510.4	510.3	510.2	510.1	510.0	510.3
162.5°	519.1	518.8	518.5	518.3	518.0	517.8	517.7	517.6	517.6	517.5	518.0
165°	530.0	529.7	529.4	529.1	528.9	528.7	528.5	528.3	528.1	527.9	528.5
167.5°	538.5	538.1	537.7	537.3	536.9	536.7	536.7	536.8	536.8	536.8	537.3
170°	543.3	542.8	542.3	541.9	541.4	541.2	541.3	541.4	541.5	541.6	542.2
172.5°	546.7	546.3	545.9	545.5	545.1	544.9	544.9	545.0	545.0	545.0	545.6
175°	551.4	550.9	550.4	550.0	549.5	549.2	549.1	549.0	548.9	548.8	549.5
177.5°	552.9	552.5	552.1	551.8	551.4	551.2	551.2	551.2	551.2	551.2	551.8
180°	552.2	552.2	552.2	552.2	552.2	552.2	552.2	552.2	552.2	552.2	552.2



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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°	95.9	100.9	105.8	109.0	110.4	111.8	113.2	114.6
95°	105.7	110.4	115.0	118.1	119.5	121.0	122.5	123.9
97.5°	119.8	124.4	129.0	132.1	133.5	134.9	136.3	137.7
100°	130.3	134.9	139.5	142.3	143.5	144.6	145.7	146.8
102.5°	141.6	146.1	150.6	153.6	155.0	156.3	157.6	159.0
105°	158.8	163.2	167.5	170.5	172.0	173.6	175.2	176.8
107.5°	178.1	182.5	186.7	189.5	190.6	191.8	192.9	194.1
110°	191.1	194.7	198.3	200.9	202.5	204.1	205.6	207.2





TEST NUMBER: P332748-830

CATALOG NUMBER: S124DIW-S575D470U830-4F0-1E-UDD-D1

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	205.0	208.6	212.2	214.6	216.0	217.4	218.7	220.1
115°	226.8	230.3	233.8	236.1	237.1	238.2	239.2	240.3
117.5°	247.3	250.3	253.4	255.5	256.7	257.7	258.8	260.0
120°	261.2	264.0	266.7	268.9	270.4	271.9	273.4	274.9
122.5°	275.7	278.6	281.5	283.4	284.3	285.1	285.9	286.7
125°	297.1	300.0	302.9	304.8	305.6	306.3	307.2	307.9
127.5°	316.8	319.5	322.3	324.0	325.1	326.0	327.0	327.9
130°	330.9	333.7	336.4	338.1	338.7	339.2	339.9	340.4
132.5°	344.3	346.9	349.6	351.3	352.1	353.0	353.7	354.6
135°	363.8	366.2	368.6	370.2	370.9	371.6	372.3	373.0
137.5°	383.2	385.4	387.5	389.0	389.9	390.8	391.6	392.5
140°	396.3	398.3	400.4	401.7	402.5	403.2	403.9	404.6
142.5°	409.2	410.9	412.8	414.1	414.7	415.4	416.0	416.7
145°	428.9	429.8	430.6	431.3	431.6	432.0	432.3	432.7
147.5°	447.0	447.0	447.0	447.3	447.7	448.2	448.6	449.0
150°	459.1	459.1	459.1	459.1	459.0	458.9	458.8	458.7
152.5°	470.9	471.1	471.4	471.3	471.1	470.8	470.6	470.3
155°	487.2	487.6	488.0	488.0	487.6	487.2	486.8	486.4
157.5°	501.6	501.9	502.2	502.2	501.9	501.5	501.2	500.9
160°	510.6	510.9	511.1	511.0	510.6	510.1	509.5	509.1
162.5°	518.5	519.1	519.5	519.5	519.1	518.6	518.1	517.6
165°	529.0	529.6	530.2	530.3	529.9	529.5	529.1	528.8
167.5°	537.9	538.5	539.0	539.0	538.5	537.9	537.2	536.7
170°	542.7	543.3	543.8	543.8	543.1	542.4	541.8	541.1
172.5°	546.3	547.0	547.5	547.5	546.9	546.2	545.5	544.9
175°	550.2	550.8	551.5	551.5	550.8	550.2	549.5	548.8
177.5°	552.3	552.8	553.4	553.3	552.7	552.1	551.5	550.9
180°	552.2	552.2	552.2	552.2	552.2	552.2	552.2	552.2

(END OF REPORT)