

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: P332493-840

Luminaire Tested: **S124DIP-S350D365U840-4F0-1E-UDD-D**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P332493-840  
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: S124DIP-S350D365U840-4F0-1E-UDD-D  
Description: DEFINE 4 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 350 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER  
UPLIGHT 365 LUMENS PER FOOT, NO LENS  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 2932.5 lumens  
Efficiency: N/A  
Efficacy: 144.5 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

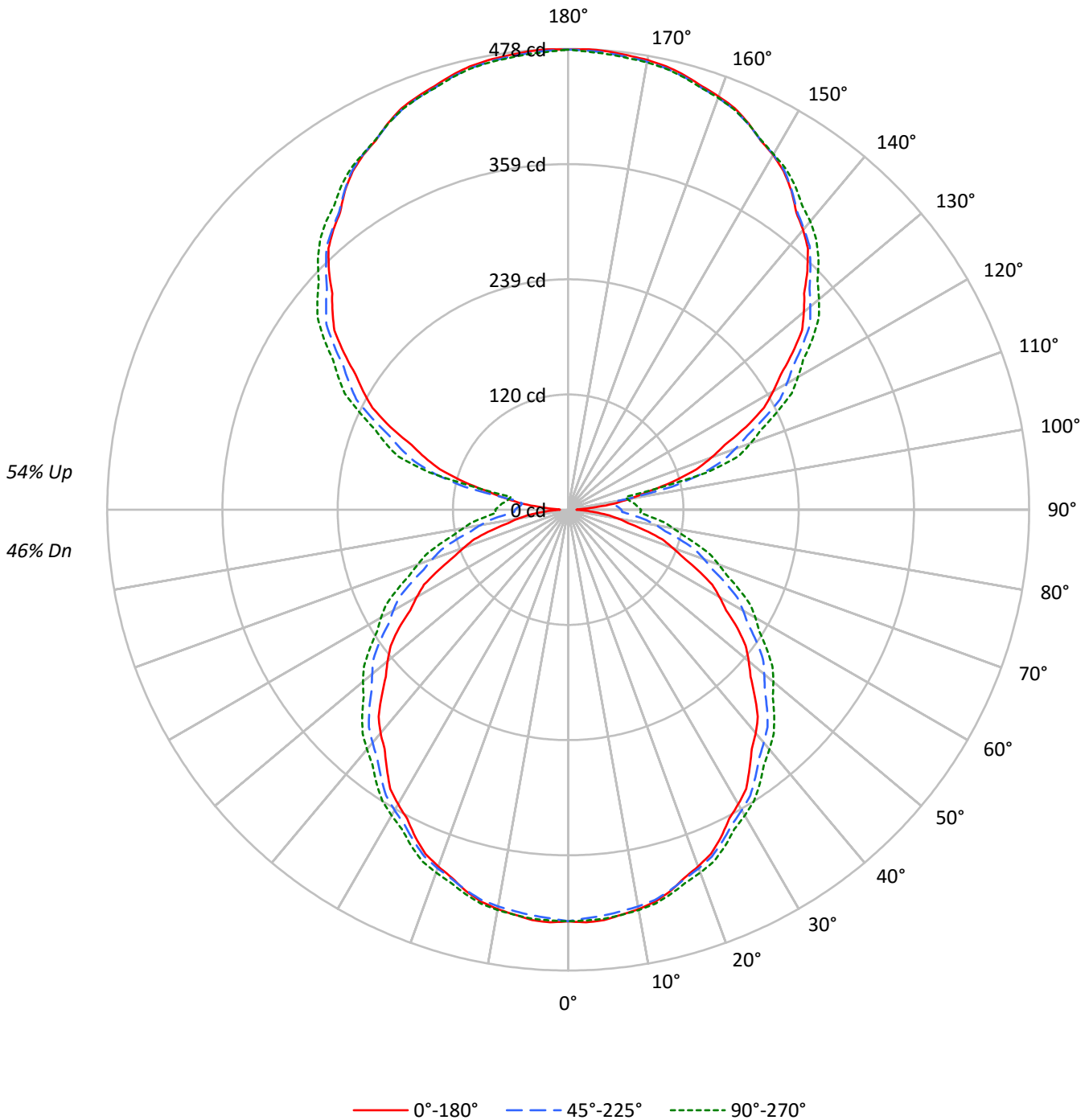
Input Watts (W): 20.3  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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### Luminous Intensity Polar Plot





TEST NUMBER: P332493-840

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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	106	106	106	106	97	97	97	97	81	81	81	66	66	66	52	52	52	46
1	96	91	87	83	88	84	80	77	70	67	65	57	55	53	45	44	42	37
2	87	79	73	67	79	73	67	62	60	56	53	49	46	44	39	37	35	30
3	79	69	62	55	72	64	57	51	53	48	44	43	40	36	34	31	29	25
4	72	61	53	47	66	56	49	43	47	41	37	38	34	31	30	27	25	21
5	66	54	46	40	60	50	42	37	42	36	32	34	30	27	27	24	22	18
6	61	48	40	34	55	45	37	32	37	32	27	31	26	23	25	21	19	16
7	56	44	36	30	51	40	33	28	34	28	24	28	24	20	22	19	17	14
8	52	40	32	26	48	37	29	25	31	25	21	25	21	18	20	17	15	12
9	48	36	28	23	44	33	26	22	28	23	19	23	19	16	19	16	13	11
10	45	33	26	21	41	31	24	20	26	21	17	22	17	15	17	14	12	10

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

	0°	45°	90°
0°	3446	3446	3446
5°	3457	3367	3378
10°	3435	3313	3310
15°	3404	3249	3231
20°	3358	3179	3155
25°	3306	3100	3070
30°	3249	3021	2983
35°	3185	2941	2907
40°	3134	2865	2828
45°	3058	2793	2759
50°	2994	2713	2687
55°	2928	2636	2603
60°	2824	2538	2526
65°	2708	2435	2431
70°	2572	2315	2320
75°	2379	2183	2220
80°	2166	2057	2123
85°	1893	1946	2065



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	40.4	1.4
10°-20°	115.8	3.9
20°-30°	175.1	6.0
30°-40°	211.9	7.2
40°-50°	224.0	7.6
50°-60°	210.8	7.2
60°-70°	174.9	6.0
70°-80°	122.9	4.2
80°-90°	70.8	2.4
90°-100°	57.6	2.0
100°-110°	134.6	4.6
110°-120°	219.6	7.5
120°-130°	264.3	9.0
130°-140°	275.4	9.4
140°-150°	253.8	8.7
150°-160°	203.9	7.0
160°-170°	131.5	4.5
170°-180°	45.3	1.5
0°-30°	331.4	11.3
0°-40°	543.2	18.5
0°-60°	978.1	33.4
0°-90°	1346.7	45.9
90°-120°	411.7	14.0
90°-150°	1205.2	41.1
90°-180°	1586.0	54.1
0°-180°	2932.5	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	427	427	427	427	427	
5°	427	426	422	426	426	41
15°	410	410	409	413	412	115
25°	375	378	379	384	385	173
35°	328	334	338	345	347	205
45°	273	282	292	299	302	211
55°	214	224	238	248	251	191
65°	148	164	180	191	196	147
75°	82	100	120	133	138	87
85°	25	46	67	81	86	27
90°	9	32	55	71	76	6
95°	26	30	50	64	69	30
105°	112	124	143	157	149	117
115°	204	209	224	235	238	200
125°	284	285	296	306	309	253
135°	351	351	355	363	367	270
145°	404	404	404	408	410	252
155°	442	442	442	443	442	204
165°	466	465	465	467	464	132
175°	477	475	475	478	474	45
180°	477	477	477	477	477	



TEST NUMBER: P332493-840

CATALOG NUMBER: S124DIP-S350D365U840-4F0-1E-UDD-D

**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	426.9	426.9	426.9	426.9	426.9	426.9	426.9	426.9	426.9	426.9	426.9
2.5°	428.4	428.1	427.9	427.6	427.4	426.9	426.3	425.6	424.9	424.1	424.7
5°	427.4	427.0	426.7	426.4	426.1	425.6	424.7	424.0	423.3	422.5	423.4
7.5°	423.7	423.5	423.3	423.1	422.9	422.5	421.9	421.3	420.7	420.1	421.0
10°	420.6	420.5	420.4	420.3	420.2	419.9	419.4	418.8	418.3	417.8	418.7
12.5°	416.5	416.4	416.4	416.4	416.4	416.2	415.8	415.5	415.1	414.8	415.6
15°	409.6	409.8	409.9	410.0	410.1	410.0	409.6	409.3	409.0	408.7	409.6
17.5°	400.4	400.7	401.0	401.3	401.6	401.8	401.7	401.6	401.6	401.5	402.5
20°	393.8	394.2	394.6	394.9	395.2	395.4	395.5	395.6	395.7	395.8	396.9
22.5°	386.6	387.0	387.4	387.8	388.2	388.5	388.7	388.9	389.1	389.3	390.3
25°	374.8	375.4	376.1	376.7	377.3	377.8	378.1	378.4	378.7	379.1	380.2
27.5°	361.5	362.5	363.5	364.4	365.3	366.0	366.5	367.0	367.5	368.0	369.0
30°	352.7	353.7	354.5	355.3	356.2	357.0	357.7	358.4	359.2	359.9	361.1
32.5°	343.3	344.3	345.3	346.3	347.3	348.2	349.0	349.8	350.7	351.5	352.8
35°	327.9	329.2	330.4	331.7	333.1	334.2	335.3	336.3	337.4	338.4	339.9
37.5°	312.6	314.0	315.5	316.9	318.4	319.7	321.1	322.4	323.8	325.1	326.6
40°	302.6	304.0	305.4	306.7	308.1	309.5	311.0	312.6	314.0	315.5	317.1
42.5°	291.1	292.7	294.2	295.8	297.3	298.9	300.7	302.5	304.2	305.9	307.7
45°	273.4	275.4	277.4	279.4	281.4	283.5	285.5	287.5	289.5	291.5	293.4
47.5°	256.5	258.6	260.6	262.8	264.8	267.0	269.3	271.8	274.1	276.4	278.2
50°	244.3	246.6	248.9	251.3	253.6	255.9	258.3	260.6	263.0	265.3	267.4
52.5°	232.1	234.4	236.7	239.0	241.4	243.9	246.5	249.2	251.9	254.6	256.7
55°	214.2	216.4	218.6	220.9	223.1	225.8	228.9	232.2	235.3	238.5	240.7
57.5°	194.2	196.9	199.7	202.5	205.2	208.1	211.4	214.5	217.6	220.9	223.4
60°	181.2	183.9	186.7	189.5	192.2	195.3	198.8	202.4	205.8	209.3	211.8
62.5°	168.5	171.6	174.6	177.6	180.6	183.9	187.3	190.9	194.4	197.9	200.4
65°	148.1	151.6	155.0	158.3	161.8	165.3	168.8	172.5	176.1	179.8	182.4
67.5°	128.6	132.2	135.8	139.5	143.0	146.7	150.7	154.5	158.3	162.2	164.9
70°	115.2	118.8	122.4	126.0	129.7	133.5	137.5	141.6	145.6	149.7	152.5
72.5°	102.2	105.9	109.6	113.3	116.9	121.0	125.2	129.6	133.8	138.1	140.9
75°	82.2	86.1	90.1	94.0	98.0	102.1	106.6	111.1	115.5	120.0	123.0
77.5°	63.6	67.8	71.9	76.0	80.2	84.6	89.3	94.0	98.7	103.3	106.3
80°	52.1	56.4	60.6	64.8	69.1	73.5	78.3	82.9	87.6	92.3	95.4
82.5°	40.6	45.0	49.5	53.9	58.3	62.8	67.6	72.2	76.9	81.6	84.8
85°	25.3	29.8	34.2	38.7	43.2	47.8	52.6	57.4	62.1	67.0	70.1
87.5°	14.3	18.9	23.4	27.9	32.4	37.1	41.8	46.6	51.4	56.1	59.4
90°	8.7	13.8	19.0	24.0	29.2	34.3	39.6	44.7	50.0	55.1	58.8
92.5°	11.7	15.7	19.5	23.3	27.3	31.8	37.0	42.2	47.4	52.6	56.0
95°	25.9	26.7	27.5	28.3	29.1	31.7	36.2	40.6	45.0	49.5	52.8
97.5°	47.4	52.0	56.8	61.4	66.1	66.2	61.7	57.2	52.6	48.1	50.9
100°	63.8	68.0	72.2	76.3	80.6	79.3	72.4	65.6	58.9	52.0	53.5
102.5°	82.6	86.1	89.6	93.0	96.5	99.6	102.2	104.8	107.4	110.1	98.4
105°	111.7	114.3	116.9	119.6	122.1	125.6	130.0	134.2	138.6	142.9	146.2
107.5°	139.6	141.5	143.5	145.5	147.4	150.6	154.8	159.1	163.4	167.6	170.6
110°	158.0	159.8	161.5	163.2	164.9	167.8	172.1	176.2	180.5	184.6	187.2



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	175.9	177.6	179.4	181.2	182.9	185.6	189.5	193.2	196.9	200.8	203.1
115°	203.5	204.6	205.8	207.0	208.2	210.5	213.8	217.1	220.5	223.8	226.2
117.5°	228.7	229.5	230.5	231.4	232.3	234.4	237.7	241.1	244.4	247.7	249.9
120°	245.4	246.1	246.7	247.3	248.0	249.8	252.8	255.8	258.8	261.8	264.1
122.5°	261.5	261.7	262.0	262.2	262.5	264.1	267.1	270.1	273.2	276.2	278.4
125°	283.9	284.1	284.3	284.5	284.7	286.1	288.5	291.0	293.6	296.1	298.3
127.5°	305.5	305.5	305.4	305.4	305.4	306.6	308.9	311.3	313.8	316.2	318.0
130°	319.1	319.0	319.0	319.0	319.0	319.9	321.8	323.8	325.8	327.7	329.6
132.5°	331.9	331.9	332.0	332.0	332.0	333.0	334.6	336.3	337.9	339.5	341.4
135°	350.7	350.6	350.5	350.5	350.4	350.9	351.9	353.0	354.1	355.2	357.0
137.5°	367.8	367.7	367.6	367.6	367.5	367.8	368.5	369.2	369.9	370.6	372.3
140°	378.9	379.0	379.0	379.1	379.1	379.3	379.5	379.8	380.1	380.3	381.9
142.5°	388.5	388.8	389.1	389.3	389.6	389.7	389.8	389.8	389.8	389.8	391.2
145°	403.7	403.9	404.0	404.1	404.3	404.3	404.3	404.3	404.3	404.3	405.1
147.5°	416.0	416.4	416.7	417.0	417.4	417.5	417.4	417.3	417.2	417.2	417.3
150°	424.9	425.1	425.3	425.5	425.7	425.8	425.7	425.6	425.5	425.5	425.5
152.5°	431.9	432.1	432.3	432.5	432.8	432.8	432.7	432.5	432.4	432.3	432.4
155°	442.2	442.3	442.3	442.4	442.5	442.4	442.2	441.9	441.7	441.5	441.8
157.5°	451.0	450.9	450.9	450.8	450.8	450.6	450.4	450.1	449.8	449.6	450.0
160°	456.2	455.9	455.7	455.4	455.1	455.0	454.9	454.8	454.7	454.6	455.1
162.5°	460.7	460.4	460.1	459.8	459.5	459.3	459.2	459.1	459.1	459.0	459.5
165°	466.5	466.1	465.6	465.2	464.8	464.6	464.6	464.6	464.6	464.6	465.3
167.5°	471.0	470.6	470.2	469.8	469.4	469.2	469.1	469.1	469.0	469.0	469.7
170°	473.6	473.1	472.6	472.2	471.7	471.5	471.6	471.7	471.7	471.8	472.4
172.5°	475.3	474.8	474.3	473.9	473.4	473.2	473.3	473.4	473.4	473.5	474.1
175°	477.2	476.7	476.3	475.7	475.2	475.0	475.1	475.2	475.3	475.3	476.2
177.5°	478.1	477.6	477.2	476.7	476.3	476.1	476.3	476.4	476.5	476.6	477.2
180°	477.2	477.2	477.2	477.2	477.2	477.2	477.2	477.2	477.2	477.2	477.2



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	426.9	426.9	426.9	426.9	426.9	426.9	426.9	426.9
2.5°	425.4	426.0	426.6	426.8	426.8	426.7	426.6	426.5
5°	424.2	425.1	426.0	426.4	426.3	426.1	426.0	425.9
7.5°	422.0	422.9	423.9	424.3	424.2	424.1	424.0	423.9
10°	419.7	420.6	421.6	422.0	421.9	421.8	421.7	421.6
12.5°	416.5	417.4	418.2	418.6	418.6	418.6	418.6	418.5
15°	410.6	411.5	412.5	412.9	412.8	412.7	412.6	412.5
17.5°	403.4	404.5	405.5	405.9	405.8	405.7	405.7	405.6
20°	397.9	399.0	400.0	400.6	400.6	400.6	400.6	400.6
22.5°	391.4	392.4	393.5	394.2	394.4	394.5	394.7	394.9
25°	381.4	382.5	383.7	384.4	384.5	384.6	384.7	384.8
27.5°	370.1	371.2	372.3	372.9	373.0	373.1	373.2	373.4
30°	362.2	363.5	364.6	365.3	365.5	365.8	366.0	366.2
32.5°	354.2	355.6	356.9	357.7	357.9	358.1	358.3	358.5
35°	341.4	342.8	344.4	345.3	345.6	345.9	346.3	346.6
37.5°	328.1	329.5	331.0	332.0	332.3	332.6	333.1	333.4
40°	318.7	320.2	321.8	322.9	323.3	323.8	324.2	324.6
42.5°	309.4	311.2	313.0	314.1	314.4	314.7	315.1	315.4
45°	295.2	297.0	298.8	299.9	300.5	301.0	301.5	302.1
47.5°	280.1	282.0	283.9	285.1	285.8	286.4	287.0	287.7
50°	269.5	271.7	273.8	275.2	275.8	276.4	277.1	277.7
52.5°	258.8	260.9	263.1	264.5	265.1	265.7	266.4	267.0
55°	242.8	244.9	247.0	248.4	249.0	249.6	250.3	251.0
57.5°	225.9	228.4	231.0	232.5	233.1	233.7	234.3	234.9
60°	214.3	216.7	219.1	220.8	221.7	222.5	223.4	224.2
62.5°	202.8	205.2	207.6	209.3	210.2	211.0	211.9	212.7
65°	185.0	187.7	190.4	192.1	193.0	193.8	194.7	195.5
67.5°	167.6	170.4	173.0	174.8	175.6	176.4	177.2	178.1
70°	155.3	158.2	161.1	162.9	163.6	164.4	165.1	165.8
72.5°	143.7	146.5	149.3	151.1	151.9	152.7	153.6	154.4
75°	125.9	128.9	131.9	133.8	134.8	135.7	136.7	137.6
77.5°	109.4	112.4	115.4	117.4	118.5	119.5	120.5	121.5
80°	98.7	101.8	105.0	107.0	107.9	108.8	109.6	110.4
82.5°	88.1	91.4	94.6	96.7	97.7	98.6	99.6	100.5
85°	73.3	76.4	79.7	81.8	82.8	83.9	84.9	86.0
87.5°	62.5	65.6	68.9	70.9	71.9	72.9	73.8	74.8
90°	62.3	65.8	69.4	71.7	72.7	73.7	74.7	75.7
92.5°	59.6	63.0	66.4	68.7	69.6	70.4	71.3	72.2
95°	56.1	59.5	62.8	65.0	66.0	67.1	68.1	69.2
97.5°	53.7	56.6	59.4	61.3	62.3	63.2	64.2	65.2
100°	55.0	56.6	58.1	59.3	60.1	60.9	61.7	62.6
102.5°	86.5	74.8	63.0	57.6	58.4	59.3	60.1	61.0
105°	149.7	153.0	156.4	157.0	155.0	153.1	151.1	149.1
107.5°	173.5	176.5	179.5	181.5	182.6	183.6	184.7	185.7
110°	189.9	192.5	195.0	196.9	197.9	199.0	200.2	201.3





TEST NUMBER: P332493-840

CATALOG NUMBER: S124DIP-S350D365U840-4F0-1E-UDD-D

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	205.4	207.7	210.1	211.8	212.9	214.1	215.2	216.3
115°	228.7	231.3	233.8	235.4	236.1	236.8	237.6	238.3
117.5°	252.1	254.3	256.4	257.9	258.7	259.5	260.3	261.3
120°	266.4	268.6	270.9	272.5	273.1	273.8	274.5	275.2
122.5°	280.6	282.9	285.1	286.5	287.1	287.7	288.3	288.9
125°	300.5	302.9	305.1	306.6	307.3	308.0	308.7	309.4
127.5°	319.9	321.7	323.7	324.9	325.6	326.2	326.9	327.5
130°	331.6	333.7	335.7	337.0	337.6	338.2	338.9	339.5
132.5°	343.4	345.3	347.2	348.4	349.0	349.6	350.1	350.7
135°	358.8	360.7	362.5	363.9	364.7	365.5	366.3	367.1
137.5°	374.1	375.8	377.6	378.6	379.1	379.6	380.1	380.6
140°	383.5	385.2	386.8	387.9	388.5	389.1	389.8	390.4
142.5°	392.6	394.0	395.4	396.3	396.8	397.3	397.7	398.2
145°	405.8	406.5	407.3	407.9	408.5	409.1	409.6	410.2
147.5°	417.5	417.6	417.8	418.0	418.5	418.9	419.3	419.7
150°	425.5	425.5	425.5	425.5	425.6	425.7	425.7	425.8
152.5°	432.5	432.6	432.8	432.8	432.7	432.7	432.7	432.6
155°	442.1	442.4	442.7	442.8	442.5	442.3	442.1	441.8
157.5°	450.4	450.8	451.2	451.2	450.8	450.4	450.0	449.6
160°	455.7	456.2	456.6	456.6	456.2	455.7	455.1	454.6
162.5°	459.9	460.4	460.9	460.8	460.3	459.8	459.2	458.7
165°	466.0	466.6	467.3	467.2	466.5	465.7	465.0	464.3
167.5°	470.4	471.1	471.7	471.7	470.9	470.1	469.3	468.6
170°	473.1	473.7	474.3	474.2	473.5	472.7	471.9	471.1
172.5°	474.8	475.4	476.1	475.9	475.1	474.2	473.4	472.5
175°	476.9	477.6	478.3	478.2	477.2	476.3	475.2	474.3
177.5°	477.7	478.2	478.7	478.5	477.8	477.0	476.3	475.4
180°	477.2	477.2	477.2	477.2	477.2	477.2	477.2	477.2

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