

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: P332512-927

Luminaire Tested: **S124DIP-S350D810U927-4F0-1E-UDD-D1**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P332512-927  
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: S124DIP-S350D810U927-4F0-1E-UDD-D1  
Description: DEFINE 4 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 350 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER  
UPLIGHT 810 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 3365.6 lumens  
Efficiency: N/A  
Efficacy: 107.9 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: Semi-Indirect

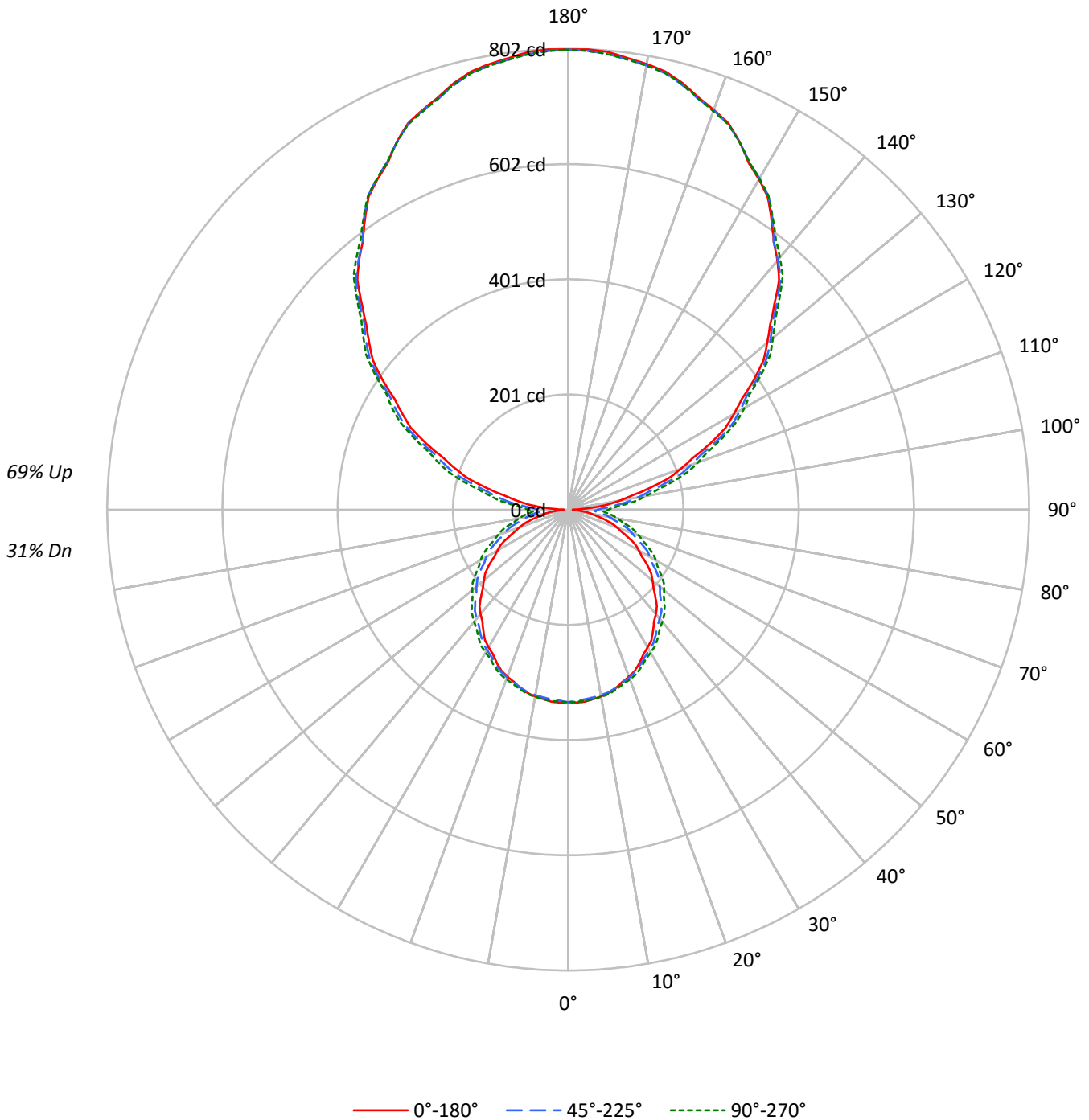
Input Watts (W): 31.2  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	103	103	103	103	92	92	92	92	73	73	73	55	55	55	39	39	39	31
1	93	88	84	81	83	80	76	73	63	61	58	48	46	45	33	33	32	25
2	84	77	71	65	75	69	64	59	55	51	48	41	39	37	29	27	26	21
3	77	67	60	54	69	61	54	49	48	43	40	36	33	31	25	24	22	17
4	70	59	51	45	63	53	47	41	42	38	34	32	29	26	23	20	19	14
5	64	53	45	39	57	47	40	35	38	33	29	29	25	22	20	18	16	12
6	59	47	39	33	53	42	35	30	34	29	25	26	22	19	18	16	14	11
7	54	42	34	29	49	38	31	26	31	25	22	23	20	17	17	14	12	10
8	50	38	31	25	45	35	28	23	28	23	19	21	18	15	15	13	11	8
9	47	35	27	22	42	31	25	21	25	20	17	20	16	13	14	12	10	8
10	44	32	25	20	39	29	23	18	23	18	15	18	14	12	13	11	9	7

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

	0°	45°	90°
0°	2704	2704	2704
5°	2712	2641	2650
10°	2694	2599	2596
15°	2670	2549	2535
20°	2635	2494	2475
25°	2594	2432	2408
30°	2549	2370	2340
35°	2498	2307	2280
40°	2458	2247	2218
45°	2398	2191	2164
50°	2348	2128	2108
55°	2296	2068	2042
60°	2214	1991	1982
65°	2125	1909	1908
70°	2018	1816	1820
75°	1867	1712	1743
80°	1701	1613	1665
85°	1489	1525	1621



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	31.7	0.9
10°-20°	90.8	2.7
20°-30°	137.4	4.1
30°-40°	166.2	4.9
40°-50°	175.7	5.2
50°-60°	165.4	4.9
60°-70°	137.2	4.1
70°-80°	96.4	2.9
80°-90°	56.9	1.7
90°-100°	85.2	2.5
100°-110°	180.4	5.4
110°-120°	281.6	8.4
120°-130°	359.2	10.7
130°-140°	397.2	11.8
140°-150°	387.2	11.5
150°-160°	325.0	9.7
160°-170°	216.2	6.4
170°-180°	75.7	2.2
0°-30°	259.9	7.7
0°-40°	426.1	12.7
0°-60°	767.2	22.8
0°-90°	1057.7	31.4
90°-120°	547.2	16.3
90°-150°	1690.9	50.2
90°-180°	2308.0	68.6
0°-180°	3365.6	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	335	335	335	335	335	
5°	335	334	331	334	334	32
15°	321	322	321	324	324	90
25°	294	296	297	301	302	135
35°	257	262	266	270	272	161
45°	214	222	229	235	237	166
55°	168	176	187	194	197	150
65°	116	128	141	150	153	115
75°	64	78	94	104	108	69
85°	20	36	52	63	68	21
90°	8	30	51	65	70	6
95°	42	60	80	91	95	45
105°	148	156	172	183	188	157
115°	272	276	286	294	296	269
125°	395	395	403	409	410	352
135°	508	512	514	519	519	393
145°	617	619	619	621	621	386
155°	706	706	705	708	705	325
165°	769	767	766	769	767	217
175°	800	797	796	800	796	76
180°	801	801	801	801	801	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	334.9	334.9	334.9	334.9	334.9	334.9	334.9	334.9	334.9	334.9	334.9
2.5°	336.0	335.8	335.6	335.4	335.3	334.9	334.4	333.8	333.3	332.7	333.2
5°	335.3	334.9	334.7	334.5	334.2	333.8	333.2	332.6	332.1	331.4	332.2
7.5°	332.4	332.2	332.1	331.9	331.8	331.4	331.0	330.5	330.0	329.5	330.3
10°	329.9	329.9	329.8	329.7	329.6	329.4	329.0	328.5	328.1	327.7	328.4
12.5°	326.7	326.6	326.6	326.6	326.6	326.5	326.1	325.9	325.6	325.3	326.0
15°	321.3	321.5	321.5	321.6	321.7	321.6	321.3	321.1	320.8	320.6	321.3
17.5°	314.1	314.3	314.6	314.8	315.1	315.2	315.1	315.1	315.1	315.0	315.8
20°	309.0	309.2	309.5	309.7	310.0	310.1	310.2	310.3	310.4	310.5	311.3
22.5°	303.2	303.6	303.9	304.2	304.5	304.8	304.9	305.1	305.2	305.4	306.2
25°	294.0	294.5	295.0	295.5	296.0	296.4	296.6	296.8	297.1	297.4	298.3
27.5°	283.6	284.4	285.1	285.8	286.5	287.1	287.5	287.9	288.3	288.7	289.5
30°	276.7	277.4	278.1	278.7	279.4	280.0	280.6	281.1	281.8	282.3	283.3
32.5°	269.3	270.1	270.8	271.6	272.4	273.1	273.8	274.4	275.1	275.8	276.8
35°	257.2	258.3	259.2	260.2	261.3	262.1	263.0	263.8	264.7	265.5	266.6
37.5°	245.2	246.3	247.5	248.6	249.8	250.8	251.9	252.9	254.0	255.0	256.2
40°	237.3	238.4	239.6	240.6	241.7	242.8	244.0	245.2	246.3	247.5	248.7
42.5°	228.4	229.6	230.8	232.0	233.2	234.5	235.9	237.3	238.6	240.0	241.4
45°	214.4	216.0	217.6	219.2	220.8	222.4	223.9	225.5	227.1	228.7	230.1
47.5°	201.2	202.9	204.5	206.1	207.7	209.5	211.3	213.2	215.0	216.8	218.2
50°	191.6	193.5	195.3	197.1	198.9	200.7	202.6	204.5	206.3	208.1	209.8
52.5°	182.0	183.9	185.7	187.5	189.3	191.3	193.4	195.5	197.6	199.7	201.4
55°	168.0	169.8	171.5	173.3	175.0	177.1	179.6	182.1	184.6	187.1	188.8
57.5°	152.3	154.5	156.6	158.8	161.0	163.3	165.8	168.3	170.7	173.3	175.2
60°	142.1	144.3	146.5	148.6	150.8	153.2	156.0	158.8	161.4	164.2	166.1
62.5°	132.2	134.6	137.0	139.3	141.6	144.3	146.9	149.7	152.5	155.3	157.2
65°	116.2	118.9	121.6	124.2	126.9	129.7	132.5	135.3	138.2	141.0	143.1
67.5°	100.8	103.7	106.5	109.4	112.2	115.1	118.2	121.2	124.2	127.2	129.4
70°	90.4	93.2	96.0	98.9	101.7	104.7	107.9	111.1	114.2	117.4	119.6
72.5°	80.2	83.1	86.0	88.9	91.7	94.9	98.2	101.6	105.0	108.4	110.5
75°	64.5	67.6	70.7	73.8	76.8	80.1	83.7	87.1	90.6	94.1	96.5
77.5°	49.9	53.2	56.4	59.7	62.9	66.4	70.0	73.8	77.4	81.0	83.4
80°	40.9	44.2	47.5	50.9	54.2	57.7	61.4	65.0	68.7	72.4	74.9
82.5°	31.8	35.3	38.8	42.3	45.7	49.3	53.0	56.6	60.3	64.0	66.5
85°	19.9	23.4	26.9	30.3	33.9	37.5	41.3	45.0	48.7	52.5	55.0
87.5°	11.5	15.2	18.9	22.6	26.3	30.1	33.9	37.8	41.7	45.6	48.2
90°	7.8	12.7	17.6	22.4	27.3	32.0	36.7	41.4	46.0	50.8	54.0
92.5°	18.9	23.7	28.4	33.2	37.9	42.5	46.8	51.2	55.5	59.8	62.7
95°	42.1	46.0	50.0	54.0	58.0	62.2	66.5	70.9	75.3	79.7	82.4
97.5°	69.3	72.7	76.0	79.4	82.8	86.7	91.2	95.7	100.2	104.7	107.4
100°	90.9	93.6	96.3	98.9	101.7	105.3	109.8	114.3	118.7	123.3	125.8
102.5°	113.6	115.7	117.9	120.0	122.1	125.3	129.6	134.0	138.2	142.6	145.1
105°	147.7	149.5	151.3	153.0	154.9	157.6	161.2	164.9	168.5	172.1	174.7
107.5°	184.1	185.7	187.2	188.7	190.3	192.5	195.5	198.5	201.5	204.5	207.0
110°	208.6	210.1	211.5	212.9	214.4	216.5	219.3	222.0	224.8	227.6	229.3



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	234.1	235.2	236.2	237.3	238.4	240.3	242.8	245.3	247.9	250.4	252.2
115°	272.3	273.0	273.8	274.5	275.3	276.9	279.2	281.6	284.0	286.4	288.1
117.5°	308.6	309.2	309.7	310.3	310.9	312.3	314.6	316.9	319.2	321.5	322.7
120°	332.6	333.4	334.2	335.0	335.8	337.2	339.2	341.2	343.2	345.2	346.2
122.5°	357.8	358.1	358.4	358.7	358.9	360.1	362.2	364.3	366.4	368.4	369.7
125°	394.7	394.7	394.6	394.5	394.4	395.4	397.3	399.3	401.2	403.1	404.5
127.5°	428.5	428.8	429.2	429.5	429.8	430.7	432.1	433.4	434.8	436.2	437.4
130°	452.0	452.3	452.7	453.0	453.3	454.2	455.5	456.8	458.1	459.5	460.7
132.5°	476.3	476.5	476.7	476.9	477.1	477.8	478.7	479.7	480.6	481.6	482.7
135°	507.9	508.8	509.6	510.5	511.3	512.0	512.5	513.2	513.7	514.3	515.4
137.5°	542.9	543.2	543.5	543.8	544.1	544.5	545.0	545.5	546.1	546.5	547.4
140°	566.2	566.4	566.6	566.7	567.0	567.1	567.2	567.3	567.4	567.4	568.4
142.5°	587.2	587.5	587.7	588.0	588.2	588.3	588.1	588.0	587.8	587.6	588.6
145°	616.6	617.0	617.5	618.0	618.5	618.8	618.9	619.0	619.2	619.3	619.6
147.5°	645.9	646.4	647.0	647.5	648.2	648.4	648.2	648.2	648.0	647.9	647.9
150°	663.7	664.2	664.6	665.0	665.5	665.7	665.7	665.7	665.7	665.7	665.7
152.5°	680.2	680.5	680.8	681.1	681.4	681.7	681.8	681.9	682.0	682.1	682.5
155°	706.0	706.0	706.0	706.0	706.0	705.9	705.8	705.7	705.5	705.4	705.9
157.5°	727.9	727.5	727.3	727.1	726.8	726.7	726.7	726.7	726.6	726.6	727.0
160°	740.7	740.5	740.5	740.3	740.1	740.0	739.9	739.7	739.6	739.5	739.9
162.5°	752.6	752.3	751.9	751.5	751.1	750.9	750.8	750.7	750.5	750.4	751.1
165°	768.6	768.2	767.8	767.3	766.9	766.6	766.3	766.0	765.7	765.5	766.3
167.5°	780.9	780.2	779.7	779.1	778.6	778.2	778.2	778.3	778.3	778.3	779.2
170°	787.7	787.1	786.4	785.7	785.1	784.7	784.9	785.1	785.1	785.3	786.1
172.5°	792.7	792.2	791.5	791.0	790.4	790.1	790.2	790.2	790.2	790.3	791.2
175°	799.5	798.8	798.1	797.5	796.8	796.4	796.2	796.1	796.0	795.8	796.8
177.5°	801.8	801.2	800.7	800.1	799.5	799.3	799.3	799.3	799.3	799.3	800.0
180°	800.7	800.7	800.7	800.7	800.7	800.7	800.7	800.7	800.7	800.7	800.7



TEST NUMBER: P332512-927

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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	334.9	334.9	334.9	334.9	334.9	334.9	334.9	334.9
2.5°	333.7	334.1	334.6	334.8	334.8	334.7	334.6	334.5
5°	332.8	333.4	334.1	334.5	334.4	334.2	334.1	334.1
7.5°	331.1	331.8	332.6	332.9	332.8	332.7	332.6	332.6
10°	329.2	329.9	330.7	331.1	331.0	330.9	330.8	330.7
12.5°	326.7	327.4	328.0	328.4	328.4	328.4	328.4	328.3
15°	322.1	322.8	323.6	323.9	323.8	323.8	323.7	323.6
17.5°	316.5	317.3	318.1	318.4	318.3	318.2	318.2	318.1
20°	312.1	313.0	313.8	314.3	314.3	314.3	314.3	314.3
22.5°	307.0	307.8	308.7	309.2	309.3	309.4	309.6	309.7
25°	299.2	300.1	301.0	301.5	301.6	301.7	301.7	301.8
27.5°	290.3	291.2	292.1	292.6	292.6	292.7	292.8	292.9
30°	284.2	285.1	286.0	286.5	286.7	286.9	287.1	287.2
32.5°	277.8	278.9	280.0	280.6	280.7	280.9	281.1	281.2
35°	267.8	268.9	270.1	270.8	271.1	271.3	271.6	271.9
37.5°	257.4	258.5	259.7	260.5	260.7	260.9	261.3	261.5
40°	250.0	251.2	252.5	253.3	253.6	254.0	254.3	254.6
42.5°	242.7	244.2	245.5	246.4	246.6	246.8	247.2	247.4
45°	231.6	233.0	234.4	235.3	235.8	236.1	236.5	236.9
47.5°	219.8	221.2	222.7	223.6	224.2	224.7	225.1	225.7
50°	211.4	213.1	214.8	215.9	216.3	216.8	217.4	217.9
52.5°	203.0	204.7	206.4	207.5	207.9	208.4	209.0	209.5
55°	190.4	192.1	193.8	194.9	195.4	195.8	196.4	196.9
57.5°	177.2	179.2	181.2	182.4	182.8	183.3	183.8	184.3
60°	168.1	170.0	171.9	173.2	173.9	174.5	175.2	175.9
62.5°	159.1	161.0	162.9	164.2	164.9	165.5	166.2	166.8
65°	145.1	147.3	149.3	150.7	151.4	152.0	152.7	153.4
67.5°	131.5	133.6	135.7	137.1	137.8	138.4	139.0	139.7
70°	121.8	124.1	126.4	127.8	128.3	129.0	129.5	130.1
72.5°	112.7	114.9	117.1	118.5	119.1	119.8	120.5	121.1
75°	98.8	101.1	103.5	105.0	105.8	106.5	107.3	108.0
77.5°	85.8	88.2	90.5	92.1	92.9	93.7	94.5	95.3
80°	77.4	79.9	82.4	84.0	84.6	85.3	86.0	86.6
82.5°	69.1	71.7	74.2	75.9	76.6	77.3	78.1	78.8
85°	57.5	60.0	62.5	64.2	65.0	65.8	66.6	67.5
87.5°	50.7	53.3	55.8	57.6	58.4	59.1	59.9	60.7
90°	57.2	60.4	63.7	65.8	66.8	67.7	68.6	69.6
92.5°	65.5	68.4	71.2	73.0	73.9	74.7	75.6	76.4
95°	85.0	87.7	90.3	92.1	92.8	93.6	94.3	95.1
97.5°	110.1	112.8	115.4	117.2	117.9	118.6	119.3	120.0
100°	128.3	130.8	133.3	134.9	135.5	136.1	136.7	137.2
102.5°	147.7	150.3	152.8	154.5	155.3	156.1	156.8	157.6
105°	177.1	179.7	182.1	183.9	185.0	186.1	187.2	188.2
107.5°	209.4	211.8	214.3	215.8	216.3	216.9	217.5	218.1
110°	230.9	232.5	234.2	235.5	236.6	237.7	238.8	239.9





TEST NUMBER: P332512-927

CATALOG NUMBER: S124DIP-S350D810U927-4F0-1E-UDD-D1

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	254.0	255.8	257.5	258.8	259.6	260.3	261.1	261.8
115°	289.8	291.5	293.2	294.3	294.7	295.2	295.6	296.0
117.5°	324.0	325.3	326.5	327.3	327.7	328.1	328.5	328.9
120°	347.1	348.2	349.1	350.1	351.0	352.0	352.9	353.9
122.5°	370.9	372.1	373.3	373.9	374.1	374.1	374.2	374.3
125°	405.8	407.1	408.4	409.2	409.4	409.6	409.8	410.0
127.5°	438.6	439.9	441.1	441.9	442.2	442.6	442.9	443.3
130°	461.9	463.1	464.4	464.9	464.9	464.9	464.8	464.8
132.5°	483.9	485.1	486.2	486.9	487.2	487.4	487.7	488.1
135°	516.4	517.5	518.6	519.1	519.2	519.3	519.4	519.4
137.5°	548.3	549.1	549.9	550.6	551.1	551.7	552.2	552.6
140°	569.3	570.3	571.2	571.8	572.1	572.4	572.7	572.9
142.5°	589.5	590.4	591.3	591.9	592.2	592.6	592.9	593.3
145°	620.0	620.4	620.8	620.9	620.8	620.8	620.7	620.6
147.5°	647.8	647.8	647.8	647.8	647.9	648.1	648.2	648.3
150°	665.7	665.7	665.7	665.7	665.6	665.4	665.3	665.1
152.5°	682.8	683.1	683.4	683.4	683.1	682.7	682.4	682.0
155°	706.5	707.0	707.6	707.6	707.0	706.5	705.9	705.4
157.5°	727.4	727.9	728.3	728.2	727.8	727.3	726.8	726.4
160°	740.3	740.7	741.1	741.0	740.3	739.6	738.9	738.2
162.5°	751.9	752.6	753.4	753.4	752.7	752.0	751.3	750.6
165°	767.1	767.9	768.8	768.9	768.3	767.8	767.2	766.8
167.5°	780.0	780.9	781.6	781.6	780.8	779.9	779.1	778.2
170°	787.0	787.7	788.6	788.5	787.6	786.6	785.6	784.7
172.5°	792.1	793.1	794.0	794.0	793.1	792.0	791.1	790.1
175°	797.7	798.7	799.7	799.7	798.7	797.7	796.8	795.8
177.5°	800.8	801.6	802.4	802.3	801.5	800.6	799.7	798.8
180°	800.7	800.7	800.7	800.7	800.7	800.7	800.7	800.7

(END OF REPORT)