

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: P332723-830

Luminaire Tested: **S124DIW-S350D770U830-4F0-1E-UDD-D**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332723-830
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-S350D770U830-4F0-1E-UDD-D
Description: DEFINE 4 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 350 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER
UPLIGHT 770 LUMENS PER FOOT, NO LENS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4254.3 lumens
Efficiency: N/A
Efficacy: 139.9 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

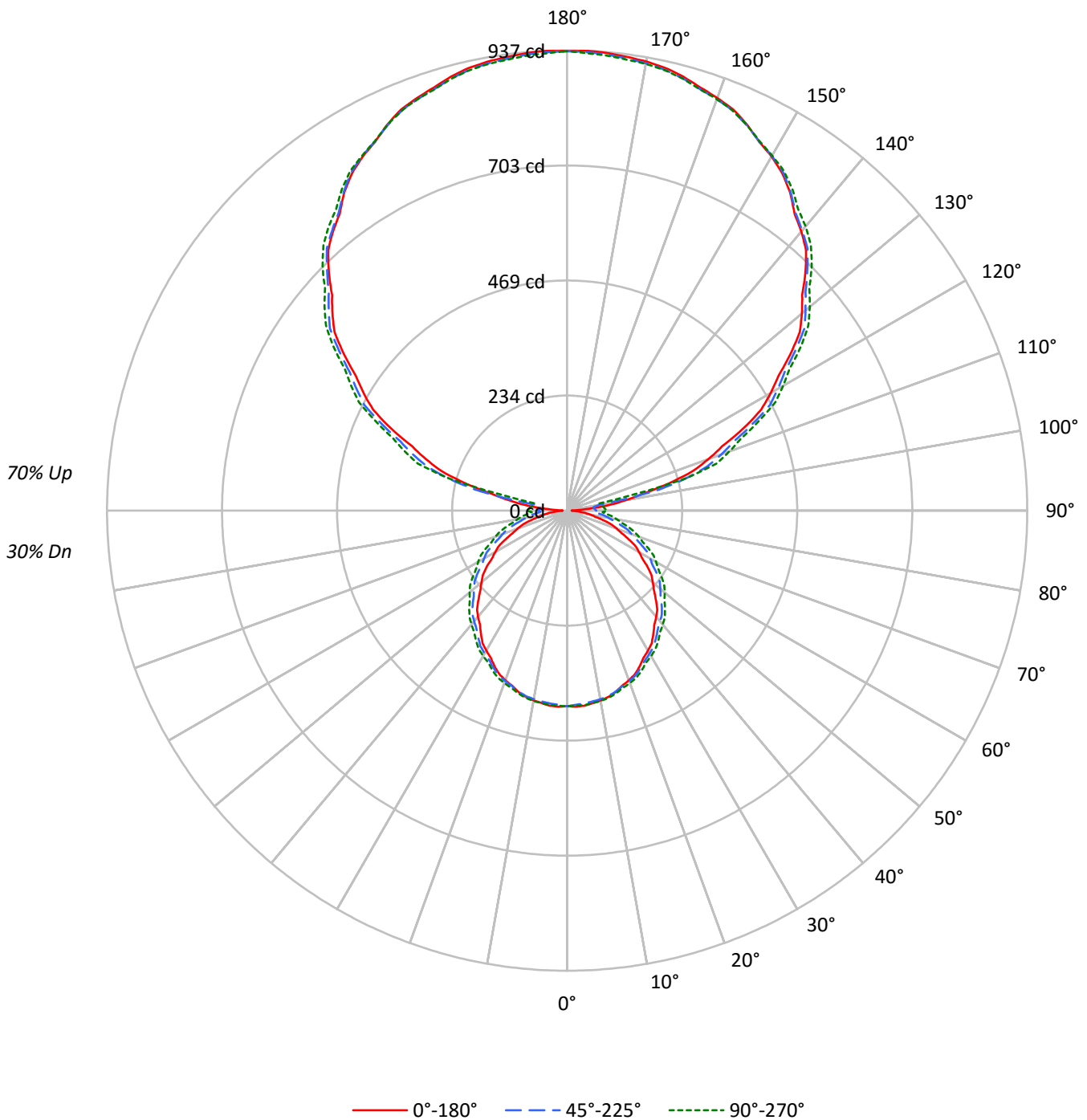
Input Watts (W): 30.4
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot





TEST NUMBER: P332723-830

CATALOG NUMBER: S124DIW-S350D770U830-4F0-1E-UDD-D

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	102	102	102	102	92	92	92	92	72	72	72	54	54	54	37	37	37	30
1	93	88	84	81	83	79	76	73	62	60	58	46	45	44	32	31	30	24
2	84	77	70	65	75	69	63	59	54	50	47	40	38	36	28	26	25	19
3	76	67	60	54	68	60	54	49	47	43	39	35	32	30	24	23	21	16
4	70	59	51	45	62	53	46	41	42	37	33	31	28	25	22	20	18	14
5	64	52	44	38	57	47	40	35	37	32	28	28	25	22	19	17	15	12
6	59	47	39	33	52	42	35	30	33	28	25	25	22	19	18	15	13	10
7	54	42	34	29	48	38	31	26	30	25	21	23	19	17	16	14	12	9
8	50	38	30	25	45	34	28	23	27	22	19	21	17	15	15	12	11	8
9	46	35	27	22	42	31	25	20	25	20	17	19	16	13	13	11	9	7
10	43	32	24	20	39	29	22	18	23	18	15	17	14	12	12	10	9	6

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	3216	3216	3216
5°	3227	3143	3152
10°	3207	3092	3090
15°	3177	3032	3016
20°	3134	2967	2944
25°	3086	2893	2865
30°	3032	2819	2784
35°	2972	2744	2713
40°	2925	2674	2639
45°	2853	2607	2575
50°	2794	2532	2508
55°	2732	2460	2429
60°	2635	2369	2357
65°	2529	2272	2269
70°	2400	2161	2166
75°	2220	2037	2074
80°	2021	1919	1981
85°	1773	1815	1928



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	37.7	0.9
10°-20°	108.1	2.5
20°-30°	163.4	3.8
30°-40°	197.8	4.6
40°-50°	209.1	4.9
50°-60°	196.8	4.6
60°-70°	163.2	3.8
70°-80°	114.7	2.7
80°-90°	67.5	1.6
90°-100°	70.5	1.7
100°-110°	232.5	5.5
110°-120°	409.4	9.6
120°-130°	506.2	11.9
130°-140°	534.7	12.6
140°-150°	496.6	11.7
150°-160°	399.7	9.4
160°-170°	257.8	6.1
170°-180°	88.8	2.1
0°-30°	309.3	7.3
0°-40°	507.0	11.9
0°-60°	912.9	21.5
0°-90°	1258.3	29.6
90°-120°	712.3	16.7
90°-150°	2249.7	52.9
90°-180°	2996.0	70.4
0°-180°	4254.3	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	398	398	398	398	398	
5°	399	397	394	398	398	38
15°	382	383	381	385	385	108
25°	350	352	354	358	359	161
35°	306	311	316	322	324	192
45°	255	264	272	279	282	197
55°	200	210	223	231	234	178
65°	138	153	168	178	182	137
75°	77	93	112	124	128	82
85°	24	42	62	75	80	25
90°	9	35	60	76	82	7
95°	44	37	54	70	75	54
105°	215	228	248	263	244	225
115°	396	402	416	426	430	390
125°	554	557	567	577	580	495
135°	686	686	692	700	704	529
145°	791	793	793	796	799	494
155°	867	867	865	868	866	400
165°	914	911	911	916	910	258
175°	935	932	932	937	930	89
180°	935	935	935	935	935	



TEST NUMBER: P332723-830

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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	398.4	398.4	398.4	398.4	398.4	398.4	398.4	398.4	398.4	398.4	398.4
2.5°	399.8	399.5	399.4	399.1	398.9	398.4	397.8	397.2	396.5	395.9	396.4
5°	398.9	398.5	398.2	397.9	397.7	397.2	396.4	395.8	395.1	394.4	395.2
7.5°	395.5	395.3	395.1	394.9	394.7	394.4	393.8	393.2	392.7	392.1	392.9
10°	392.6	392.5	392.4	392.3	392.2	391.9	391.4	390.9	390.4	389.9	390.8
12.5°	388.7	388.6	388.6	388.6	388.6	388.4	388.0	387.8	387.4	387.1	387.9
15°	382.3	382.5	382.6	382.7	382.8	382.7	382.3	382.0	381.7	381.4	382.3
17.5°	373.7	374.0	374.3	374.6	374.8	375.0	374.9	374.8	374.8	374.8	375.7
20°	367.6	367.9	368.3	368.5	368.8	369.0	369.1	369.2	369.3	369.4	370.4
22.5°	360.8	361.2	361.6	361.9	362.3	362.6	362.8	363.0	363.2	363.4	364.3
25°	349.8	350.3	351.0	351.6	352.1	352.6	352.9	353.2	353.5	353.8	354.9
27.5°	337.4	338.4	339.2	340.1	340.9	341.6	342.0	342.5	343.0	343.5	344.4
30°	329.2	330.1	330.8	331.6	332.4	333.2	333.8	334.5	335.3	335.9	337.1
32.5°	320.4	321.3	322.3	323.2	324.1	325.0	325.7	326.5	327.3	328.1	329.3
35°	306.0	307.3	308.4	309.6	310.9	311.9	312.9	313.9	314.9	315.8	317.3
37.5°	291.7	293.0	294.5	295.8	297.2	298.4	299.7	301.0	302.2	303.4	304.8
40°	282.4	283.7	285.0	286.3	287.6	288.9	290.3	291.7	293.0	294.5	296.0
42.5°	271.7	273.1	274.6	276.1	277.5	279.0	280.7	282.3	283.9	285.5	287.2
45°	255.1	257.0	258.9	260.8	262.7	264.6	266.5	268.3	270.2	272.1	273.8
47.5°	239.4	241.4	243.3	245.2	247.1	249.2	251.4	253.6	255.8	258.0	259.7
50°	228.0	230.2	232.3	234.5	236.7	238.8	241.1	243.3	245.4	247.6	249.6
52.5°	216.6	218.8	220.9	223.1	225.3	227.6	230.1	232.6	235.1	237.6	239.6
55°	199.9	202.0	204.1	206.1	208.2	210.8	213.7	216.7	219.6	222.6	224.6
57.5°	181.3	183.8	186.3	189.0	191.5	194.3	197.3	200.2	203.1	206.1	208.5
60°	169.1	171.6	174.3	176.8	179.4	182.3	185.6	188.9	192.1	195.4	197.7
62.5°	157.3	160.1	163.0	165.8	168.5	171.6	174.8	178.1	181.4	184.7	187.0
65°	138.3	141.5	144.7	147.8	151.0	154.3	157.6	161.0	164.4	167.8	170.2
67.5°	120.0	123.4	126.8	130.2	133.5	137.0	140.6	144.2	147.8	151.4	153.9
70°	107.5	110.8	114.2	117.6	121.0	124.6	128.4	132.1	135.9	139.7	142.3
72.5°	95.4	98.9	102.3	105.8	109.1	112.9	116.9	120.9	124.9	128.9	131.5
75°	76.7	80.4	84.1	87.8	91.4	95.3	99.5	103.7	107.8	112.0	114.8
77.5°	59.4	63.2	67.1	71.0	74.8	79.0	83.3	87.8	92.1	96.4	99.2
80°	48.6	52.6	56.6	60.5	64.5	68.6	73.0	77.4	81.7	86.1	89.1
82.5°	37.9	42.0	46.2	50.3	54.4	58.6	63.1	67.4	71.7	76.2	79.2
85°	23.7	27.8	32.0	36.1	40.3	44.6	49.1	53.5	58.0	62.5	65.4
87.5°	13.7	18.0	22.4	26.8	31.2	35.6	40.2	44.9	49.4	54.0	57.1
90°	9.2	14.9	20.5	26.3	32.0	37.5	43.1	48.5	54.0	59.6	63.3
92.5°	15.6	19.2	22.9	26.6	30.3	34.9	40.3	45.8	51.4	56.8	60.6
95°	44.3	42.2	40.2	38.3	36.2	37.3	41.6	45.8	50.0	54.2	57.8
97.5°	87.0	93.1	99.2	105.3	111.4	107.8	94.5	81.2	67.9	54.5	57.2
100°	119.6	125.0	130.4	135.8	141.2	135.1	117.4	99.9	82.3	64.7	64.8
102.5°	156.6	160.9	165.2	169.6	173.8	176.4	177.5	178.4	179.5	180.4	154.5
105°	214.6	217.5	220.5	223.4	226.3	230.0	234.4	238.8	243.3	247.7	251.6
107.5°	269.2	271.4	273.4	275.5	277.6	280.9	285.4	289.9	294.5	299.0	302.2
110°	305.9	307.6	309.5	311.4	313.2	316.3	320.7	325.2	329.6	333.9	336.6



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	341.3	343.4	345.4	347.5	349.6	352.4	356.2	360.0	363.7	367.4	369.6
115°	395.9	397.2	398.6	399.9	401.3	403.5	406.5	409.5	412.6	415.6	418.0
117.5°	445.4	446.6	447.8	448.9	450.1	452.3	455.6	458.9	462.2	465.5	467.5
120°	478.7	479.6	480.5	481.5	482.4	484.2	486.9	489.7	492.4	495.0	497.4
122.5°	510.0	510.5	510.9	511.3	511.8	513.4	516.4	519.3	522.3	525.2	527.4
125°	554.5	555.1	555.5	556.1	556.6	557.9	560.1	562.2	564.4	566.6	568.9
127.5°	596.9	597.0	597.1	597.1	597.2	598.5	601.2	603.8	606.3	609.0	610.7
130°	624.1	624.1	624.2	624.2	624.2	625.3	627.4	629.4	631.4	633.5	635.5
132.5°	649.2	649.4	649.6	649.8	649.9	650.9	652.8	654.7	656.5	658.4	660.3
135°	686.5	686.4	686.3	686.1	685.9	686.5	687.8	689.1	690.4	691.7	693.6
137.5°	720.0	719.9	719.9	719.9	719.8	720.3	721.3	722.4	723.4	724.4	726.2
140°	741.8	742.1	742.3	742.4	742.6	743.0	743.4	743.8	744.2	744.6	746.4
142.5°	761.0	761.6	762.1	762.7	763.2	763.6	763.6	763.7	763.9	764.0	765.5
145°	791.1	791.4	791.7	792.1	792.5	792.7	792.7	792.7	792.7	792.7	793.4
147.5°	814.9	815.8	816.5	817.3	818.0	818.3	818.2	818.0	817.8	817.7	817.9
150°	832.4	832.8	833.4	833.9	834.4	834.6	834.4	834.2	834.2	834.0	834.0
152.5°	846.5	847.0	847.4	847.9	848.4	848.5	848.2	848.0	847.7	847.4	847.6
155°	866.9	867.0	867.1	867.3	867.5	867.3	866.9	866.4	865.9	865.4	866.1
157.5°	884.1	884.0	883.9	883.8	883.7	883.4	882.9	882.3	881.7	881.3	882.0
160°	894.1	893.6	893.2	892.8	892.3	891.9	891.8	891.6	891.5	891.4	892.3
162.5°	903.1	902.5	901.9	901.4	900.7	900.3	900.2	900.0	899.8	899.8	900.7
165°	914.5	913.6	912.9	912.1	911.3	911.0	911.0	911.0	911.0	911.0	912.2
167.5°	923.4	922.6	921.8	921.0	920.1	919.7	919.6	919.5	919.5	919.4	920.7
170°	928.4	927.5	926.5	925.6	924.7	924.3	924.4	924.6	924.7	924.9	926.1
172.5°	931.8	930.9	929.9	929.0	928.0	927.7	927.8	927.9	928.1	928.3	929.5
175°	935.4	934.4	933.6	932.6	931.7	931.3	931.4	931.6	931.8	931.9	933.3
177.5°	937.1	936.2	935.4	934.4	933.6	933.3	933.6	933.8	934.1	934.2	935.3
180°	935.4	935.4	935.4	935.4	935.4	935.4	935.4	935.4	935.4	935.4	935.4



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	398.4	398.4	398.4	398.4	398.4	398.4	398.4	398.4
2.5°	397.0	397.6	398.1	398.3	398.3	398.2	398.1	398.0
5°	396.0	396.7	397.6	397.9	397.8	397.7	397.6	397.5
7.5°	393.9	394.7	395.7	396.1	396.0	395.9	395.8	395.7
10°	391.7	392.6	393.5	393.9	393.8	393.7	393.6	393.5
12.5°	388.7	389.6	390.3	390.7	390.7	390.7	390.7	390.6
15°	383.2	384.1	385.0	385.4	385.3	385.2	385.1	385.0
17.5°	376.5	377.5	378.4	378.8	378.7	378.6	378.6	378.5
20°	371.4	372.4	373.3	373.9	373.9	373.9	373.9	373.9
22.5°	365.3	366.3	367.3	367.9	368.1	368.2	368.3	368.5
25°	356.0	357.0	358.2	358.7	358.8	358.9	359.0	359.1
27.5°	345.4	346.5	347.5	348.1	348.2	348.3	348.4	348.6
30°	338.1	339.2	340.3	340.9	341.1	341.4	341.6	341.8
32.5°	330.5	331.9	333.1	333.8	334.0	334.2	334.4	334.6
35°	318.7	320.0	321.4	322.3	322.5	322.8	323.2	323.5
37.5°	306.2	307.6	309.0	309.9	310.2	310.5	310.9	311.1
40°	297.5	298.9	300.4	301.3	301.7	302.2	302.6	302.9
42.5°	288.8	290.5	292.1	293.1	293.4	293.7	294.1	294.4
45°	275.5	277.2	278.9	279.9	280.5	281.0	281.4	281.9
47.5°	261.5	263.2	264.9	266.1	266.7	267.3	267.9	268.5
50°	251.6	253.5	255.5	256.8	257.4	258.0	258.6	259.2
52.5°	241.6	243.6	245.5	246.9	247.4	248.0	248.6	249.2
55°	226.6	228.6	230.5	231.9	232.4	233.0	233.7	234.2
57.5°	210.8	213.2	215.6	217.0	217.5	218.1	218.7	219.2
60°	200.0	202.3	204.5	206.0	206.9	207.6	208.5	209.2
62.5°	189.3	191.5	193.8	195.4	196.1	196.9	197.7	198.5
65°	172.7	175.2	177.7	179.3	180.1	180.9	181.7	182.5
67.5°	156.5	159.0	161.5	163.2	163.9	164.7	165.4	166.3
70°	145.0	147.7	150.3	152.0	152.7	153.4	154.1	154.8
72.5°	134.1	136.8	139.3	141.0	141.8	142.5	143.4	144.1
75°	117.5	120.3	123.1	124.9	125.8	126.7	127.6	128.5
77.5°	102.1	104.9	107.7	109.6	110.6	111.5	112.4	113.4
80°	92.1	95.0	98.0	99.9	100.7	101.5	102.3	103.0
82.5°	82.2	85.3	88.3	90.3	91.1	92.0	92.9	93.8
85°	68.4	71.4	74.4	76.3	77.3	78.3	79.3	80.3
87.5°	60.1	63.2	66.3	68.2	69.2	70.1	71.1	72.0
90°	67.2	71.0	74.8	77.3	78.3	79.5	80.6	81.6
92.5°	64.3	68.1	71.7	74.1	74.9	75.8	76.6	77.5
95°	61.5	65.0	68.6	71.0	72.0	73.0	74.1	75.1
97.5°	59.9	62.6	65.3	67.1	68.1	69.2	70.1	71.2
100°	64.8	64.8	64.8	65.2	66.1	66.9	67.8	68.7
102.5°	128.7	102.7	76.8	64.2	65.0	65.8	66.6	67.5
105°	255.5	259.4	263.3	262.8	258.0	253.2	248.4	243.6
107.5°	305.3	308.4	311.5	313.7	315.0	316.3	317.6	319.0
110°	339.1	341.8	344.3	346.3	347.5	348.7	350.1	351.3



TEST NUMBER: P332723-830

CATALOG NUMBER: S124DIW-S350D770U830-4F0-1E-UDD-D

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	371.7	373.9	376.0	377.8	379.2	380.5	381.9	383.3
115°	420.6	423.0	425.6	427.2	427.8	428.5	429.2	429.9
117.5°	469.5	471.5	473.5	474.9	475.6	476.4	477.0	477.8
120°	499.6	501.9	504.3	505.6	506.1	506.6	507.1	507.6
122.5°	529.5	531.7	533.9	535.2	535.6	535.9	536.3	536.8
125°	571.3	573.6	576.0	577.6	578.3	579.1	579.9	580.5
127.5°	612.4	614.1	615.8	616.9	617.5	617.9	618.5	619.1
130°	637.3	639.3	641.3	642.5	643.1	643.8	644.3	644.9
132.5°	662.1	663.9	665.8	667.0	667.5	668.0	668.4	668.8
135°	695.6	697.5	699.4	700.8	701.6	702.6	703.4	704.4
137.5°	728.0	729.8	731.6	732.6	733.1	733.5	733.9	734.2
140°	748.1	749.9	751.6	752.8	753.5	754.1	754.8	755.4
142.5°	766.9	768.5	770.0	770.9	771.4	771.8	772.2	772.7
145°	794.2	794.9	795.7	796.4	797.1	797.9	798.5	799.3
147.5°	818.1	818.3	818.5	818.9	819.4	819.8	820.3	820.8
150°	834.0	834.0	834.0	834.1	834.2	834.3	834.5	834.6
152.5°	847.9	848.1	848.4	848.5	848.4	848.3	848.2	848.1
155°	866.7	867.3	867.9	868.0	867.5	867.0	866.6	866.2
157.5°	882.9	883.7	884.5	884.5	883.7	882.9	882.0	881.3
160°	893.2	894.1	895.0	895.0	894.1	893.2	892.3	891.4
162.5°	901.6	902.5	903.4	903.4	902.4	901.3	900.2	899.2
165°	913.4	914.6	915.9	915.9	914.5	913.0	911.6	910.2
167.5°	922.1	923.4	924.8	924.7	923.1	921.6	920.0	918.5
170°	927.4	928.7	929.9	929.7	928.2	926.6	925.1	923.5
172.5°	930.8	932.0	933.2	933.0	931.3	929.7	928.0	926.3
175°	934.7	936.1	937.5	937.3	935.4	933.6	931.7	929.8
177.5°	936.3	937.3	938.3	938.0	936.5	935.0	933.6	932.1
180°	935.4	935.4	935.4	935.4	935.4	935.4	935.4	935.4

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