

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: P332098-830

Luminaire Tested: **S123DIW-S340D755U830-4F0-1E-UDD-D**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332098-830
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-5,
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S123DIW-S340D755U830-4F0-1E-UDD-D
Description: DEFINE 3 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 340 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER
UPLIGHT 755 LUMENS PER FOOT, NO LENS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4204.3 lumens
Efficiency: N/A
Efficacy: 138.3 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.26 / 1.37
Luminous Opening: Rectangular w/ Sides (W: 0.25' x L: 4' x H: 0.08')
CIE Type: Semi-Indirect

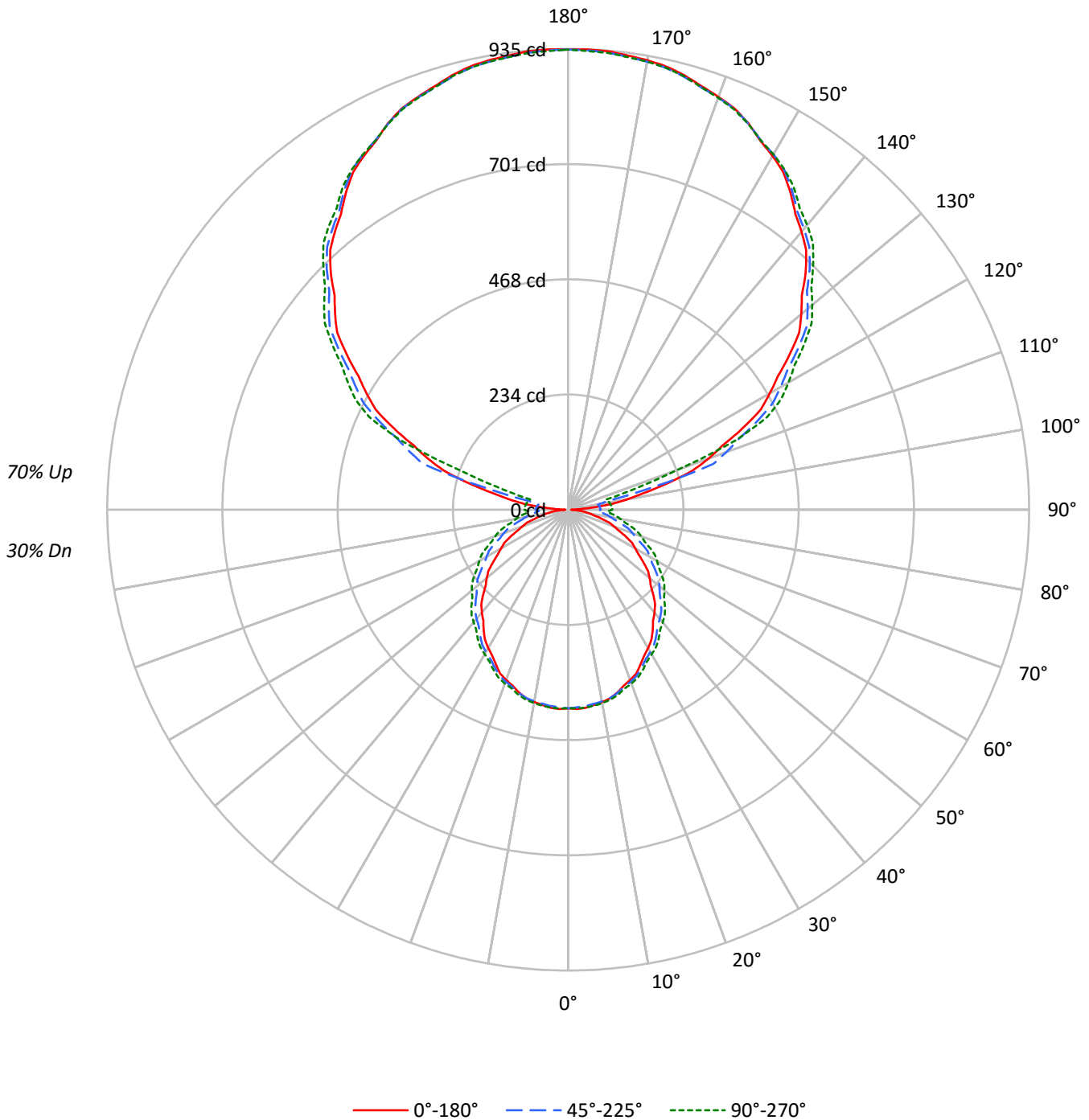
Input Watts (W): 30.4
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot





TEST NUMBER: P332098-830

CATALOG NUMBER: S123DIW-S340D755U830-4F0-1E-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	80	83	79	76	73	62	60	58	46	45	43	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	47	35	27	22	42	31	25	20	25	20	17	19	16	13	13	11	10	7
10	43	32	25	20	39	29	22	18	23	18	15	18	14	12	12	10	9	7

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	4339	4339	4339
5°	4353	4230	4232
10°	4315	4133	4112
15°	4259	4022	3980
20°	4179	3896	3836
25°	4080	3751	3684
30°	3980	3620	3529
35°	3867	3481	3406
40°	3760	3356	3274
45°	3641	3235	3169
50°	3525	3116	3054
55°	3393	2993	2948
60°	3266	2869	2842
65°	3138	2736	2714
70°	2941	2586	2582
75°	2693	2416	2450
80°	2412	2249	2299
85°	2145	2133	2211



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	38.2	0.9
10°-20°	108.9	2.6
20°-30°	163.0	3.9
30°-40°	194.6	4.6
40°-50°	203.6	4.8
50°-60°	191.1	4.5
60°-70°	159.6	3.8
70°-80°	114.2	2.7
80°-90°	70.7	1.7
90°-100°	76.7	1.8
100°-110°	193.2	4.6
110°-120°	409.5	9.7
120°-130°	506.8	12.1
130°-140°	534.0	12.7
140°-150°	495.5	11.8
150°-160°	398.8	9.5
160°-170°	257.4	6.1
170°-180°	88.7	2.1
0°-30°	310.1	7.4
0°-40°	504.7	12.0
0°-60°	899.4	21.4
0°-90°	1243.8	29.6
90°-120°	679.3	16.2
90°-150°	2215.7	52.7
90°-180°	2961.0	70.4
0°-180°	4204.3	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	403	403	403	403	403	
5°	404	403	400	403	403	38
15°	384	386	385	389	389	108
25°	347	351	353	358	358	160
35°	299	306	311	318	320	187
45°	244	255	266	274	278	188
55°	186	201	216	228	232	167
65°	129	146	165	178	183	127
75°	70	91	112	126	132	75
85°	22	44	67	81	86	23
90°	6	35	66	83	90	6
95°	47	38	65	83	88	56
105°	210	225	185	81	80	223
115°	390	400	421	438	445	385
125°	548	554	569	579	584	489
135°	681	685	693	702	703	524
145°	786	790	791	796	798	491
155°	865	864	864	867	864	398
165°	912	910	909	914	910	258
175°	934	930	931	935	930	89
180°	934	934	934	934	934	



TEST NUMBER: P332098-830

CATALOG NUMBER: S123DIW-S340D755U830-4F0-1E-UDD-D

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	403.1	403.1	403.1	403.1	403.1	403.1	403.1	403.1	403.1	403.1	403.1
2.5°	404.9	404.7	404.4	404.3	404.0	403.6	402.9	402.3	401.7	401.1	401.7
5°	403.6	403.4	403.2	403.0	402.8	402.5	401.8	401.2	400.7	400.1	400.9
7.5°	399.6	399.7	399.7	399.7	399.8	399.5	399.0	398.4	397.8	397.3	398.2
10°	396.2	396.3	396.5	396.7	396.9	396.8	396.2	395.8	395.3	394.8	395.8
12.5°	391.9	392.2	392.5	392.8	393.0	392.9	392.7	392.3	392.0	391.6	392.6
15°	384.3	384.6	384.8	385.1	385.4	385.6	385.4	385.3	385.2	385.1	386.2
17.5°	374.7	375.2	375.8	376.4	376.9	377.2	377.2	377.1	377.1	377.1	378.0
20°	367.6	368.2	368.7	369.4	369.9	370.3	370.5	370.7	370.9	371.1	372.0
22.5°	360.2	360.8	361.4	361.9	362.6	363.0	363.3	363.5	363.8	364.1	365.2
25°	346.9	347.9	348.9	349.9	350.8	351.5	351.8	352.0	352.3	352.7	353.9
27.5°	333.6	334.7	335.8	337.0	338.1	338.9	339.5	340.2	340.8	341.4	342.5
30°	324.1	325.4	326.7	327.9	329.2	330.2	331.0	331.8	332.5	333.4	334.5
32.5°	313.6	315.0	316.4	317.8	319.2	320.5	321.5	322.5	323.6	324.5	325.8
35°	298.6	300.2	301.8	303.3	304.9	306.3	307.6	308.9	310.1	311.4	312.8
37.5°	282.9	284.6	286.3	288.1	289.8	291.5	293.0	294.6	296.2	297.7	299.4
40°	272.3	274.1	275.8	277.6	279.3	281.2	283.1	285.1	287.0	289.0	290.7
42.5°	260.7	262.9	264.9	267.1	269.3	271.4	273.4	275.4	277.5	279.5	281.3
45°	244.2	246.6	248.8	251.2	253.5	255.9	258.4	260.8	263.3	265.7	267.6
47.5°	226.9	229.5	232.1	234.9	237.5	240.3	243.0	245.8	248.5	251.4	253.4
50°	215.7	218.4	221.1	223.9	226.6	229.4	232.4	235.5	238.6	241.6	243.8
52.5°	203.7	206.6	209.4	212.4	215.3	218.4	221.7	225.1	228.4	231.7	234.0
55°	186.2	189.5	192.7	195.9	199.1	202.5	205.9	209.5	213.0	216.5	219.1
57.5°	169.2	172.5	175.9	179.3	182.6	186.2	190.0	193.9	197.7	201.6	204.2
60°	157.2	160.7	164.3	167.8	171.3	175.0	179.1	183.0	187.0	191.1	193.8
62.5°	146.0	149.6	153.2	156.7	160.3	164.3	168.5	172.8	177.0	181.3	183.9
65°	128.7	132.5	136.3	140.1	143.9	148.0	152.2	156.6	160.8	165.1	168.1
67.5°	111.1	115.2	119.2	123.2	127.2	131.5	135.8	140.3	144.6	149.0	152.1
70°	98.8	103.0	107.2	111.4	115.6	120.1	124.7	129.4	134.1	138.7	141.9
72.5°	87.6	91.8	96.0	100.2	104.3	108.9	113.7	118.6	123.4	128.3	131.5
75°	69.8	74.5	79.0	83.6	88.2	92.9	97.8	102.6	107.5	112.4	115.6
77.5°	54.4	59.0	63.6	68.2	72.9	77.7	82.6	87.5	92.4	97.4	100.8
80°	43.5	48.3	53.1	57.9	62.6	67.6	72.6	77.7	82.8	87.8	91.1
82.5°	34.0	38.8	43.7	48.5	53.4	58.4	63.6	68.7	73.9	79.1	82.4
85°	21.5	26.4	31.3	36.2	41.0	46.1	51.3	56.4	61.5	66.7	70.0
87.5°	11.8	17.0	22.1	27.3	32.5	37.8	43.2	48.5	53.9	59.3	62.7
90°	6.4	12.7	19.0	25.4	31.7	38.4	45.3	52.3	59.3	66.3	70.2
92.5°	18.3	22.1	26.0	29.9	33.7	38.9	45.3	51.7	58.2	64.6	68.8
95°	47.1	44.6	42.1	39.6	37.0	39.1	45.5	52.0	58.5	64.9	69.1
97.5°	89.4	89.9	90.6	91.1	91.7	88.8	82.3	75.7	69.2	62.7	66.8
100°	121.2	127.3	133.6	139.8	146.0	139.3	119.8	100.2	80.7	61.1	65.1
102.5°	157.4	162.5	167.5	172.5	177.6	169.2	147.3	125.5	103.6	81.7	80.7
105°	210.2	214.2	218.3	222.3	226.3	223.6	213.9	204.2	194.5	184.8	160.3
107.5°	265.4	268.8	272.1	275.5	278.8	283.6	289.7	296.0	302.1	308.3	290.9
110°	302.3	305.3	308.2	311.2	314.2	318.5	324.1	329.7	335.4	340.9	338.4



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	337.8	340.4	342.9	345.4	348.0	351.9	357.4	362.9	368.3	373.7	376.4
115°	389.9	392.0	394.1	396.2	398.3	401.8	406.7	411.6	416.5	421.4	425.3
117.5°	440.7	442.6	444.4	446.3	448.2	451.1	455.2	459.1	463.2	467.1	470.7
120°	472.0	473.9	475.8	477.6	479.5	482.3	486.0	489.7	493.3	497.0	500.5
122.5°	504.2	505.6	507.0	508.4	509.7	512.3	515.9	519.6	523.2	526.9	529.9
125°	547.9	549.1	550.4	551.6	552.8	555.2	558.6	562.0	565.4	568.9	571.3
127.5°	590.6	591.7	592.9	594.0	595.1	597.2	600.3	603.4	606.5	609.5	612.0
130°	617.2	618.3	619.5	620.7	621.8	623.6	626.1	628.8	631.3	633.9	636.3
132.5°	642.3	643.6	644.8	646.0	647.2	648.8	650.9	653.0	655.1	657.1	659.5
135°	681.3	682.1	683.0	683.7	684.6	685.9	687.5	689.2	690.9	692.6	694.8
137.5°	714.4	715.6	716.7	717.7	718.9	719.9	720.9	721.8	722.7	723.7	725.9
140°	736.3	737.3	738.2	739.1	740.0	740.8	741.6	742.3	743.1	743.9	745.9
142.5°	756.9	757.7	758.6	759.4	760.3	760.9	761.5	762.0	762.5	763.0	764.8
145°	785.6	786.6	787.5	788.5	789.5	790.1	790.4	790.8	791.1	791.4	792.5
147.5°	812.2	812.8	813.6	814.3	815.0	815.5	815.9	816.1	816.4	816.7	817.3
150°	828.9	829.2	829.7	830.2	830.7	831.0	831.4	831.7	832.0	832.3	832.6
152.5°	843.8	844.0	844.2	844.4	844.7	844.9	845.1	845.3	845.5	845.6	846.1
155°	864.9	864.6	864.3	863.9	863.7	863.6	863.7	863.9	864.0	864.2	865.0
157.5°	881.3	881.3	881.2	881.2	881.2	881.1	880.9	880.7	880.6	880.4	881.4
160°	891.3	891.1	891.0	890.8	890.6	890.5	890.3	890.1	890.0	889.9	890.8
162.5°	900.7	900.3	899.8	899.5	899.1	898.8	898.6	898.5	898.3	898.1	899.3
165°	912.1	911.6	911.2	910.7	910.2	909.9	909.7	909.6	909.5	909.3	910.5
167.5°	921.0	920.3	919.7	919.1	918.5	918.1	918.1	918.1	918.1	918.1	919.4
170°	926.0	925.3	924.7	924.1	923.5	923.1	923.1	923.1	923.1	923.1	924.4
172.5°	929.3	928.5	927.7	927.1	926.3	926.0	926.1	926.2	926.3	926.5	927.7
175°	933.6	932.7	932.0	931.2	930.5	930.2	930.3	930.5	930.7	930.8	931.9
177.5°	934.6	934.1	933.4	932.8	932.2	932.0	932.1	932.2	932.4	932.5	933.4
180°	933.6	933.6	933.6	933.6	933.6	933.6	933.6	933.6	933.6	933.6	933.6



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	403.1	403.1	403.1	403.1	403.1	403.1	403.1	403.1
2.5°	402.3	402.9	403.6	403.8	403.8	403.7	403.6	403.5
5°	401.6	402.5	403.2	403.6	403.5	403.3	403.2	403.1
7.5°	399.3	400.2	401.1	401.6	401.5	401.3	401.2	401.1
10°	396.8	397.8	398.7	399.1	398.9	398.7	398.5	398.3
12.5°	393.4	394.4	395.2	395.6	395.4	395.2	395.0	394.8
15°	387.1	388.0	389.1	389.5	389.4	389.3	389.2	389.1
17.5°	378.8	379.8	380.6	381.0	380.8	380.7	380.6	380.4
20°	372.9	373.7	374.7	375.1	375.2	375.3	375.4	375.5
22.5°	366.3	367.4	368.5	369.1	369.0	368.9	368.9	368.8
25°	355.2	356.5	357.7	358.4	358.4	358.4	358.4	358.4
27.5°	343.6	344.7	345.8	346.4	346.5	346.6	346.6	346.7
30°	335.6	336.9	338.0	338.6	338.6	338.6	338.6	338.6
32.5°	327.1	328.3	329.5	330.3	330.5	330.7	331.0	331.2
35°	314.3	315.8	317.3	318.2	318.6	319.0	319.3	319.7
37.5°	301.0	302.7	304.4	305.4	305.7	306.0	306.3	306.6
40°	292.3	294.0	295.6	296.6	297.0	297.5	297.8	298.2
42.5°	283.1	284.9	286.7	287.9	288.5	289.0	289.5	290.1
45°	269.4	271.3	273.1	274.5	275.2	276.0	276.8	277.6
47.5°	255.5	257.7	259.8	261.1	261.6	262.3	262.9	263.5
50°	246.0	248.3	250.5	252.0	252.7	253.4	254.0	254.8
52.5°	236.4	238.7	241.0	242.6	243.5	244.3	245.1	245.9
55°	221.8	224.4	227.1	228.8	229.5	230.4	231.1	231.9
57.5°	206.9	209.5	212.2	214.0	214.9	215.8	216.8	217.6
60°	196.5	199.3	202.0	203.9	204.9	206.0	207.1	208.2
62.5°	186.6	189.4	192.1	194.0	195.0	196.0	197.0	198.0
65°	171.0	173.9	176.8	178.8	179.7	180.8	181.7	182.7
67.5°	155.3	158.5	161.7	163.8	164.6	165.4	166.3	167.0
70°	145.1	148.2	151.3	153.4	154.3	155.2	156.3	157.2
72.5°	134.6	137.8	141.0	143.2	144.1	145.1	146.1	147.0
75°	118.9	122.1	125.4	127.5	128.7	129.9	131.0	132.2
77.5°	104.2	107.5	110.9	113.0	114.0	114.9	115.7	116.7
80°	94.4	97.8	101.1	103.2	104.2	105.2	106.2	107.2
82.5°	85.7	89.0	92.4	94.4	95.5	96.4	97.4	98.4
85°	73.4	76.7	80.0	82.2	83.1	84.2	85.1	86.1
87.5°	66.2	69.6	73.0	75.3	76.3	77.4	78.4	79.5
90°	74.2	78.0	82.0	84.6	85.9	87.2	88.5	89.7
92.5°	73.0	77.3	81.4	84.2	85.2	86.3	87.4	88.5
95°	73.1	77.3	81.4	84.0	84.9	85.9	86.9	87.8
97.5°	71.0	75.1	79.2	81.8	82.9	84.1	85.2	86.3
100°	69.2	73.3	77.4	79.9	81.1	82.2	83.3	84.5
102.5°	79.6	78.5	77.5	77.6	78.8	80.0	81.3	82.6
105°	135.7	111.2	86.6	74.9	76.2	77.3	78.5	79.7
107.5°	273.5	256.1	238.7	220.2	200.5	180.8	161.1	141.4
110°	335.8	333.3	330.7	318.8	297.6	276.3	255.1	233.8



TEST NUMBER: P332098-830

CATALOG NUMBER: S123DIW-S340D755U830-4F0-1E-UDD-D

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	378.9	381.4	384.0	383.3	379.6	375.8	371.9	368.2
115°	429.1	433.0	437.0	439.6	440.9	442.3	443.7	445.2
117.5°	474.3	477.8	481.4	483.6	484.5	485.3	486.3	487.1
120°	504.0	507.5	511.0	513.0	513.7	514.3	515.1	515.8
122.5°	532.9	535.9	539.0	540.9	541.8	542.5	543.4	544.1
125°	573.6	576.0	578.3	580.0	581.0	582.0	583.0	584.0
127.5°	614.4	616.8	619.3	620.7	621.0	621.3	621.7	622.1
130°	638.9	641.3	643.8	645.2	645.5	645.7	646.0	646.2
132.5°	661.9	664.3	666.7	668.0	668.2	668.5	668.6	668.9
135°	697.0	699.3	701.4	702.6	702.7	702.7	702.7	702.7
137.5°	728.2	730.5	732.7	734.1	734.1	734.3	734.5	734.7
140°	748.0	750.2	752.2	753.4	753.6	753.7	753.8	754.0
142.5°	766.6	768.5	770.2	771.2	771.2	771.3	771.3	771.4
145°	793.5	794.7	795.7	796.4	796.8	797.3	797.7	798.1
147.5°	817.8	818.4	819.0	819.0	818.7	818.3	817.9	817.6
150°	832.9	833.2	833.5	833.6	833.3	833.0	832.7	832.5
152.5°	846.7	847.3	847.8	847.8	847.1	846.4	845.7	845.1
155°	865.7	866.5	867.3	867.2	866.3	865.3	864.4	863.5
157.5°	882.3	883.2	884.1	884.0	882.8	881.6	880.4	879.2
160°	891.7	892.7	893.5	893.5	892.4	891.4	890.2	889.2
162.5°	900.3	901.4	902.4	902.4	901.4	900.5	899.6	898.6
165°	911.7	912.9	914.2	914.3	913.2	912.1	911.1	909.9
167.5°	920.6	921.9	923.1	923.1	921.9	920.6	919.4	918.1
170°	925.6	926.9	928.1	928.1	926.9	925.6	924.4	923.1
172.5°	929.0	930.2	931.4	931.3	930.0	928.7	927.3	926.0
175°	932.9	934.1	935.1	935.0	933.8	932.6	931.3	930.1
177.5°	934.4	935.4	936.4	936.2	935.0	933.8	932.6	931.3
180°	933.6	933.6	933.6	933.6	933.6	933.6	933.6	933.6

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