

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: P332152-935

Luminaire Tested: **S123DIW-S775D460U935-4F0-1E-UDD-D**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332152-935
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-S775D460U935-4F0-1E-UDD-D
Description: DEFINE 3 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 775 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER
UPLIGHT 460 LUMENS PER FOOT, NO LENS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4370.4 lumens
Efficiency: N/A
Efficacy: 115.9 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: General Diffuse

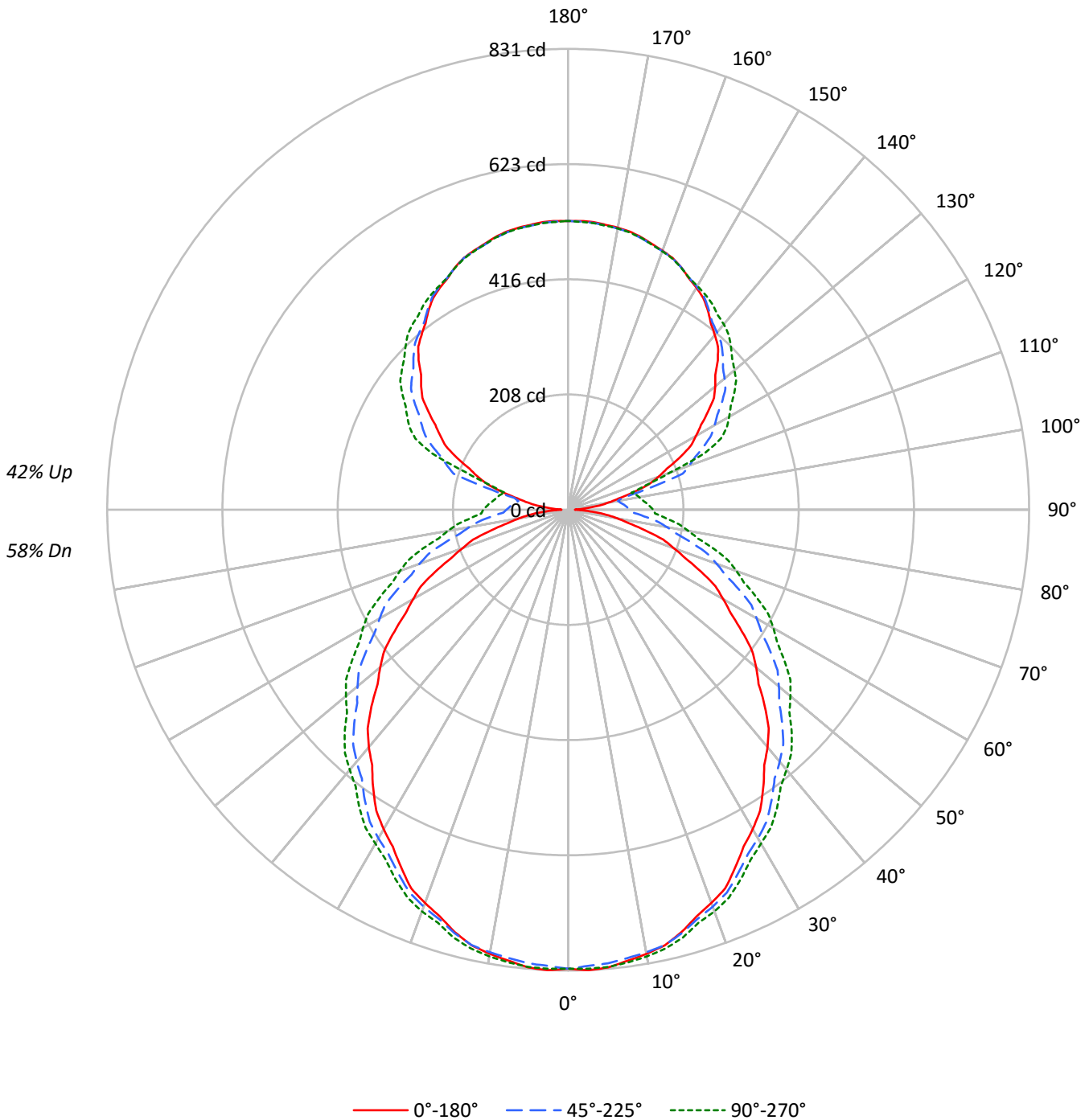
Input Watts (W): 37.7
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot





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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20									20									20									20									
RC	80									50									30									10									0
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	0													
RCR																																					
0	109	109	109	109	102	102	102	102	88	88	88	75	75	75	64	64	64	58																			
1	98	93	89	85	91	87	83	80	75	72	70	64	62	60	54	53	51	47																			
2	89	81	74	69	83	76	70	65	65	61	57	56	52	49	47	45	42	38																			
3	81	71	63	57	75	66	59	53	57	52	47	49	45	41	41	38	36	32																			
4	74	62	54	48	68	58	51	45	51	45	40	43	39	35	37	33	30	27																			
5	68	56	47	41	63	52	44	38	45	39	34	39	34	30	33	29	26	23																			
6	62	50	41	35	58	47	39	33	41	34	30	35	30	26	30	26	23	20																			
7	58	45	37	31	54	42	35	29	37	31	26	32	27	23	27	23	20	18																			
8	54	41	33	27	50	38	31	26	34	28	23	29	24	21	25	21	18	16																			
9	50	37	29	24	46	35	28	23	31	25	21	27	22	19	23	19	16	14																			
10	47	34	27	22	43	32	25	21	28	23	19	25	20	17	21	18	15	13																			

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	8908	8908	8908
5°	8936	8684	8689
10°	8856	8484	8441
15°	8741	8257	8171
20°	8579	7997	7875
25°	8377	7698	7561
30°	8171	7430	7245
35°	7939	7146	6992
40°	7720	6888	6722
45°	7475	6640	6505
50°	7232	6394	6267
55°	6967	6143	6052
60°	6707	5889	5832
65°	6441	5617	5571
70°	6040	5312	5303
75°	5534	4961	5030
80°	4951	4618	4718
85°	4409	4384	4537



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	78.5	1.8
10°-20°	223.7	5.1
20°-30°	334.5	7.7
30°-40°	399.5	9.1
40°-50°	418.0	9.6
50°-60°	392.2	9.0
60°-70°	327.6	7.5
70°-80°	234.4	5.4
80°-90°	141.2	3.2
90°-100°	106.6	2.4
100°-110°	154.7	3.5
110°-120°	259.7	5.9
120°-130°	300.5	6.9
130°-140°	305.9	7.0
140°-150°	278.1	6.4
150°-160°	222.4	5.1
160°-170°	143.5	3.3
170°-180°	49.5	1.1
0°-30°	636.6	14.6
0°-40°	1036.1	23.7
0°-60°	1846.2	42.2
0°-90°	2549.4	58.3
90°-120°	521.0	11.9
90°-150°	1405.5	32.2
90°-180°	1821.0	41.7
0°-180°	4370.4	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	828	828	828	828	828	
5°	828	826	821	828	828	79
15°	789	791	791	799	799	222
25°	712	721	724	735	736	328
35°	613	627	639	652	656	383
45°	501	523	545	562	570	386
55°	382	412	444	468	476	342
65°	264	300	339	365	375	261
75°	143	186	231	260	271	153
85°	44	89	137	166	177	46
90°	12	60	111	142	153	9
95°	34	54	101	131	141	37
105°	122	147	152	112	118	129
115°	221	235	270	294	304	218
125°	308	312	338	357	365	275
135°	381	383	394	411	415	293
145°	439	441	441	449	453	274
155°	482	482	482	484	482	222
165°	509	508	507	510	508	144
175°	521	519	519	522	519	50
180°	521	521	521	521	521	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	827.6	827.6	827.6	827.6	827.6	827.6	827.6	827.6	827.6	827.6	827.6
2.5°	831.2	830.7	830.3	829.7	829.3	828.4	827.2	825.9	824.6	823.3	824.6
5°	828.5	828.1	827.7	827.3	826.9	826.1	824.9	823.7	822.5	821.3	822.9
7.5°	820.4	820.4	820.5	820.6	820.7	820.2	819.0	817.9	816.7	815.5	817.5
10°	813.2	813.6	814.0	814.4	814.8	814.5	813.5	812.5	811.5	810.5	812.5
12.5°	804.5	805.1	805.6	806.2	806.8	806.8	806.1	805.4	804.7	804.0	805.8
15°	788.8	789.5	790.1	790.7	791.3	791.4	791.3	791.1	790.8	790.7	792.6
17.5°	769.0	770.3	771.5	772.6	773.8	774.4	774.3	774.2	774.1	774.0	775.8
20°	754.6	755.8	757.0	758.2	759.4	760.2	760.6	761.0	761.4	761.8	763.6
22.5°	739.4	740.6	741.8	743.0	744.2	745.1	745.7	746.2	746.8	747.3	749.7
25°	712.2	714.2	716.2	718.2	720.2	721.5	722.1	722.7	723.3	723.9	726.5
27.5°	684.8	687.1	689.4	691.6	694.0	695.7	697.0	698.3	699.6	700.9	703.1
30°	665.3	668.0	670.5	673.1	675.7	677.9	679.4	681.1	682.7	684.2	686.6
32.5°	643.7	646.6	649.5	652.5	655.4	657.9	660.0	662.1	664.2	666.2	668.8
35°	613.0	616.2	619.5	622.7	625.9	628.8	631.4	634.0	636.6	639.2	642.2
37.5°	580.6	584.2	587.8	591.4	595.0	598.4	601.7	604.9	608.0	611.2	614.7
40°	559.0	562.6	566.2	569.8	573.3	577.2	581.2	585.2	589.2	593.2	596.6
42.5°	535.1	539.6	544.0	548.4	552.8	557.1	561.2	565.4	569.6	573.8	577.5
45°	501.3	506.1	510.8	515.7	520.5	525.4	530.4	535.4	540.4	545.4	549.2
47.5°	465.7	471.2	476.6	482.1	487.5	493.1	498.9	504.5	510.3	516.0	520.3
50°	442.6	448.2	453.8	459.5	465.1	471.0	477.3	483.5	489.7	495.8	500.4
52.5°	418.1	424.0	430.0	435.9	441.9	448.2	455.1	461.9	468.8	475.6	480.4
55°	382.3	388.8	395.5	402.1	408.7	415.6	422.8	430.1	437.2	444.4	449.9
57.5°	347.2	354.1	361.0	367.9	374.9	382.2	390.1	398.0	405.9	413.8	419.2
60°	322.8	329.9	337.2	344.4	351.6	359.3	367.6	375.7	383.9	392.2	397.8
62.5°	299.6	307.0	314.4	321.8	329.2	337.2	345.9	354.6	363.3	372.0	377.5
65°	264.2	272.0	279.7	287.6	295.4	303.7	312.5	321.3	330.2	339.0	345.0
67.5°	228.1	236.3	244.7	253.0	261.2	269.9	278.9	287.8	296.8	305.8	312.4
70°	202.9	211.5	220.1	228.7	237.3	246.4	256.1	265.6	275.3	284.9	291.3
72.5°	179.8	188.4	197.0	205.6	214.2	223.5	233.4	243.4	253.3	263.2	269.8
75°	143.4	152.7	162.2	171.6	181.0	190.7	200.7	210.8	220.8	230.8	237.4
77.5°	111.6	121.1	130.6	140.1	149.6	159.4	169.5	179.6	189.7	199.8	206.7
80°	89.3	99.1	108.9	118.7	128.5	138.6	149.0	159.5	169.9	180.3	187.1
82.5°	69.7	79.7	89.7	99.7	109.7	119.9	130.5	141.1	151.7	162.3	169.1
85°	44.2	54.2	64.2	74.2	84.2	94.5	105.2	115.8	126.4	137.1	143.9
87.5°	24.0	34.2	44.3	54.5	64.7	74.9	85.4	95.8	106.2	116.8	123.6
90°	12.1	22.8	33.5	44.2	54.8	65.8	77.1	88.5	99.8	111.2	118.3
92.5°	18.2	26.8	35.4	44.0	52.7	62.4	73.3	84.2	95.1	106.0	113.2
95°	33.5	37.8	42.1	46.4	50.6	58.2	69.0	79.7	90.5	101.3	108.1
97.5°	56.2	61.7	67.2	72.7	78.2	82.5	85.7	88.9	92.0	95.2	101.9
100°	73.5	81.6	89.7	97.9	106.0	108.0	103.8	99.6	95.4	91.2	97.7
102.5°	93.2	100.2	107.2	114.3	121.2	121.9	116.3	110.7	105.1	99.5	103.1
105°	122.5	128.2	134.0	139.7	145.5	148.8	149.7	150.6	151.4	152.3	142.8
107.5°	152.5	157.4	162.2	167.0	171.9	179.0	188.4	197.8	207.2	216.5	210.8
110°	172.5	176.8	181.1	185.4	189.7	196.3	205.3	214.2	223.2	232.1	234.5



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	192.3	195.9	199.5	203.1	206.6	212.8	221.4	230.1	238.7	247.4	252.4
115°	220.8	223.7	226.6	229.5	232.4	237.9	245.9	253.8	261.8	269.8	275.5
117.5°	248.9	251.1	253.2	255.3	257.4	262.1	269.2	276.4	283.6	290.8	296.2
120°	265.9	267.7	269.4	271.2	272.9	277.3	284.1	291.0	297.9	304.8	310.0
122.5°	283.8	285.0	286.1	287.3	288.4	292.3	298.9	305.6	312.2	318.8	323.7
125°	307.5	308.2	308.9	309.6	310.3	313.7	319.9	326.0	332.2	338.3	342.7
127.5°	331.3	331.8	332.3	332.8	333.3	336.1	341.4	346.6	351.8	357.1	361.3
130°	346.2	346.7	347.2	347.7	348.2	350.6	354.9	359.3	363.6	368.0	372.1
132.5°	359.7	360.3	361.0	361.7	362.3	364.4	367.8	371.3	374.8	378.3	382.3
135°	381.3	381.6	381.9	382.2	382.5	384.0	386.5	389.1	391.6	394.2	398.0
137.5°	399.7	400.2	400.6	401.1	401.7	402.6	404.1	405.4	406.9	408.3	411.9
140°	411.3	411.8	412.3	412.8	413.4	414.1	414.9	415.8	416.6	417.5	420.9
142.5°	422.8	423.1	423.5	423.9	424.2	424.6	424.9	425.3	425.7	426.1	429.0
145°	438.8	439.2	439.6	440.0	440.4	440.7	440.8	441.0	441.2	441.3	443.2
147.5°	453.0	453.4	453.7	454.2	454.5	454.9	455.0	455.2	455.4	455.6	456.2
150°	462.3	462.5	462.8	463.0	463.3	463.5	463.6	463.8	464.0	464.2	464.3
152.5°	470.6	470.7	470.9	471.0	471.1	471.2	471.3	471.4	471.5	471.7	471.9
155°	482.3	482.2	482.0	481.9	481.7	481.6	481.7	481.8	481.9	482.0	482.4
157.5°	491.5	491.5	491.5	491.5	491.5	491.4	491.3	491.2	491.1	491.0	491.5
160°	497.1	497.0	496.9	496.8	496.7	496.6	496.5	496.5	496.4	496.3	496.8
162.5°	502.3	502.1	501.9	501.7	501.4	501.3	501.2	501.1	501.0	500.9	501.5
165°	508.7	508.4	508.2	507.9	507.6	507.5	507.4	507.3	507.2	507.1	507.8
167.5°	513.7	513.3	513.0	512.6	512.3	512.1	512.1	512.1	512.1	512.1	512.8
170°	516.4	516.1	515.7	515.4	515.1	514.9	514.9	514.9	514.9	514.9	515.6
172.5°	518.2	517.9	517.5	517.0	516.6	516.4	516.5	516.6	516.7	516.7	517.4
175°	520.6	520.2	519.8	519.4	518.9	518.8	518.8	518.9	519.0	519.1	519.7
177.5°	521.2	520.9	520.6	520.2	519.9	519.8	519.9	519.9	520.0	520.0	520.6
180°	520.6	520.6	520.6	520.6	520.6	520.6	520.6	520.6	520.6	520.6	520.6



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	827.6	827.6	827.6	827.6	827.6	827.6	827.6	827.6
2.5°	825.9	827.2	828.4	829.0	828.8	828.6	828.5	828.4
5°	824.5	826.1	827.7	828.4	828.2	828.0	827.9	827.6
7.5°	819.5	821.6	823.5	824.4	824.1	824.0	823.7	823.5
10°	814.5	816.5	818.5	819.3	818.9	818.5	818.1	817.7
12.5°	807.7	809.5	811.3	812.1	811.7	811.3	810.9	810.5
15°	794.6	796.7	798.7	799.5	799.4	799.2	798.9	798.7
17.5°	777.7	779.5	781.3	782.0	781.8	781.4	781.2	780.9
20°	765.4	767.2	769.0	770.0	770.3	770.4	770.6	770.9
22.5°	751.9	754.2	756.5	757.6	757.5	757.3	757.2	757.1
25°	729.2	731.8	734.3	735.6	735.6	735.6	735.6	735.6
27.5°	705.3	707.6	709.8	711.0	711.2	711.4	711.5	711.7
30°	689.1	691.5	693.9	695.1	695.1	695.1	695.1	695.1
32.5°	671.3	673.9	676.5	678.0	678.5	679.0	679.4	679.9
35°	645.2	648.2	651.2	653.2	653.9	654.7	655.5	656.3
37.5°	618.0	621.5	624.8	626.9	627.5	628.2	628.8	629.5
40°	600.0	603.4	606.8	608.9	609.8	610.5	611.3	612.2
42.5°	581.2	584.9	588.7	591.1	592.2	593.3	594.4	595.6
45°	553.0	556.8	560.7	563.4	565.0	566.5	568.2	569.8
47.5°	524.6	528.9	533.2	536.0	537.2	538.5	539.7	540.9
50°	505.1	509.6	514.3	517.3	518.7	520.0	521.5	522.9
52.5°	485.2	490.0	494.7	498.0	499.7	501.4	503.2	504.9
55°	455.3	460.7	466.1	469.6	471.2	472.8	474.4	476.0
57.5°	424.7	430.2	435.6	439.3	441.2	443.1	444.9	446.8
60°	403.4	409.0	414.6	418.5	420.7	422.9	425.2	427.3
62.5°	383.2	388.8	394.4	398.2	400.3	402.3	404.4	406.4
65°	351.0	357.0	363.0	367.0	369.0	371.0	373.1	375.1
67.5°	318.9	325.5	332.1	336.2	337.9	339.6	341.3	342.9
70°	297.7	304.1	310.6	314.7	316.8	318.7	320.7	322.8
72.5°	276.4	282.9	289.6	293.9	295.8	297.8	299.8	301.9
75°	244.0	250.6	257.3	261.7	264.2	266.6	269.0	271.4
77.5°	213.7	220.7	227.6	232.0	233.9	235.7	237.6	239.4
80°	193.9	200.7	207.6	212.0	214.0	215.9	218.0	220.0
82.5°	175.9	182.7	189.5	193.9	196.0	197.9	199.9	201.9
85°	150.7	157.5	164.3	168.7	170.7	172.7	174.7	176.7
87.5°	130.4	137.3	144.2	148.7	150.8	152.7	154.8	156.9
90°	125.4	132.6	139.7	144.5	146.6	148.8	150.9	153.2
92.5°	120.4	127.6	134.8	139.4	141.3	143.3	145.3	147.1
95°	114.9	121.7	128.5	132.9	134.9	136.9	138.9	140.9
97.5°	108.6	115.2	121.8	126.2	128.3	130.4	132.5	134.6
100°	104.2	110.7	117.2	121.5	123.6	125.6	127.8	129.8
102.5°	106.6	110.1	113.7	116.5	118.6	120.8	123.0	125.1
105°	133.1	123.6	113.9	110.1	112.1	114.1	116.0	118.0
107.5°	205.0	199.2	193.4	185.7	176.0	166.3	156.5	146.9
110°	236.9	239.3	241.7	237.5	226.8	216.1	205.4	194.8



TEST NUMBER: P332152-935

CATALOG NUMBER: S123DIW-S775D460U935-4F0-1E-UDD-D

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	257.5	262.6	267.7	269.8	269.1	268.2	267.3	266.6
115°	281.1	286.8	292.5	296.3	298.3	300.2	302.1	304.1
117.5°	301.7	307.1	312.5	316.1	317.7	319.3	321.0	322.6
120°	315.4	320.6	326.0	329.3	330.7	332.1	333.6	334.9
122.5°	328.6	333.6	338.5	341.7	343.2	344.7	346.1	347.6
125°	347.1	351.5	355.9	358.8	360.4	362.0	363.5	365.1
127.5°	365.5	369.8	374.0	376.7	377.9	379.1	380.3	381.5
130°	376.3	380.4	384.6	387.2	388.2	389.3	390.3	391.3
132.5°	386.2	390.3	394.3	396.8	398.0	399.1	400.2	401.3
135°	401.9	405.8	409.7	411.9	412.7	413.5	414.1	414.9
137.5°	415.5	419.0	422.7	424.8	425.7	426.5	427.3	428.2
140°	424.2	427.6	430.9	433.0	433.9	434.6	435.5	436.4
142.5°	432.0	435.0	437.9	439.8	440.6	441.3	442.0	442.8
145°	444.9	446.7	448.5	449.8	450.6	451.3	452.2	453.0
147.5°	456.8	457.4	458.1	458.7	458.9	459.3	459.6	459.9
150°	464.5	464.7	464.9	465.0	465.2	465.3	465.5	465.6
152.5°	472.3	472.5	472.9	472.9	472.5	472.3	471.9	471.6
155°	482.8	483.3	483.7	483.6	483.1	482.6	482.1	481.6
157.5°	492.1	492.6	493.1	493.0	492.3	491.7	491.0	490.3
160°	497.3	497.8	498.3	498.3	497.7	497.1	496.5	495.9
162.5°	502.1	502.7	503.3	503.3	502.7	502.2	501.7	501.2
165°	508.5	509.2	509.9	509.9	509.3	508.8	508.2	507.6
167.5°	513.5	514.1	514.8	514.8	514.1	513.5	512.8	512.1
170°	516.3	516.9	517.6	517.6	516.9	516.3	515.6	514.9
172.5°	518.1	518.8	519.4	519.4	518.7	517.9	517.2	516.4
175°	520.3	520.9	521.5	521.5	520.8	520.1	519.4	518.8
177.5°	521.2	521.7	522.3	522.2	521.5	520.8	520.1	519.4
180°	520.6	520.6	520.6	520.6	520.6	520.6	520.6	520.6

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