

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: P331564

Luminaire Tested: **S122DIW-S865D710U835-4F0-1E-UDD-D1**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P331564  
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-8,  
Test Lab: INNOVATION CENTER  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: NEO-RAY  
Catalog Number: S122DIW-S865D710U835-4F0-1E-UDD-D1  
Description: DEFINE 2 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE  
DOWNLIGHT 865 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER  
UPLIGHT 710 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

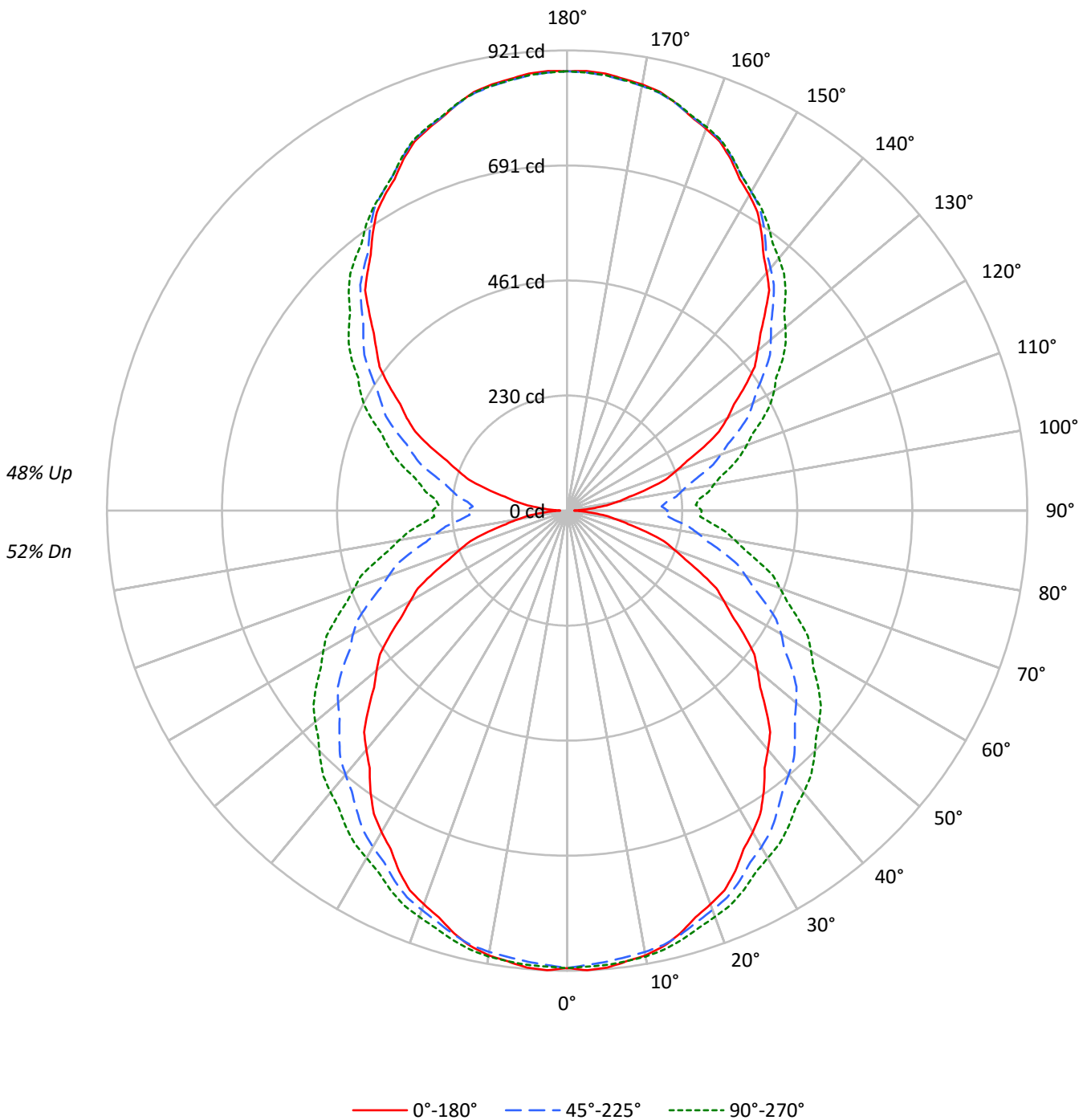
Lumens per Lamp: N/A  
Luminaire Lumens: 5955.3 lumens  
Efficiency: N/A  
Efficacy: 111.1 lumens/watt  
Spacing Criteria (0/90/45): 1.21 / 1.32 / 1.42  
Luminous Opening: Rectangular w/ Sides (W: 0.17' x L: 4' x H: 0.08')  
CIE Type: General Diffuse  
  
Input Watts (W): 53.6  
Input Voltage (V): 120  
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





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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	50	30	10	50	30	10	0		
RCR																										
0	108	108	108	108	100	100	100	100	85	85	85	71	71	71	58	58	58	52					52			
1	97	92	87	83	89	85	81	77	72	69	66	60	58	56	49	47	46	41					41			
2	87	79	72	67	80	73	67	62	62	57	54	52	48	45	42	40	37	33					33			
3	79	69	61	55	73	64	57	51	54	49	44	45	41	38	37	34	31	27					27			
4	72	61	52	46	66	56	49	43	48	42	37	40	35	32	33	29	26	23					23			
5	66	54	45	39	61	50	42	37	43	37	32	36	31	27	29	26	23	20					20			
6	61	48	40	34	56	45	37	32	38	32	28	32	27	24	26	23	20	17					17			
7	56	43	35	29	52	40	33	28	35	29	24	29	24	21	24	20	18	15					15			
8	52	39	31	26	48	37	29	24	31	26	21	27	22	18	22	18	16	13					13			
9	49	36	28	23	45	33	26	22	29	23	19	24	20	17	20	17	14	12					12			
10	45	33	25	20	42	31	24	19	26	21	17	23	18	15	19	15	13	11					11			

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

	0°	45°	90°
0°	14783	14783	14783
5°	14855	14230	14176
10°	14762	13809	13655
15°	14558	13364	13106
20°	14300	12888	12577
25°	14048	12428	12096
30°	13689	11955	11614
35°	13327	11498	11275
40°	12947	11110	10935
45°	12584	10762	10645
50°	12196	10448	10360
55°	11790	10109	10067
60°	11292	9759	9760
65°	10774	9347	9393
70°	10189	8905	8999
75°	9446	8470	8637
80°	8274	8029	8266
85°	7152	7646	7981



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	86.8	1.5
10°-20°	248.8	4.2
20°-30°	377.0	6.3
30°-40°	459.2	7.7
40°-50°	494.0	8.3
50°-60°	479.7	8.1
60°-70°	418.9	7.0
70°-80°	322.5	5.4
80°-90°	219.9	3.7
90°-100°	204.8	3.4
100°-110°	281.9	4.7
110°-120°	367.7	6.2
120°-130°	429.1	7.2
130°-140°	453.4	7.6
140°-150°	431.0	7.2
150°-160°	359.1	6.0
160°-170°	238.2	4.0
170°-180°	83.2	1.4
0°-30°	712.5	12.0
0°-40°	1171.7	19.7
0°-60°	2145.5	36.0
0°-90°	3106.8	52.2
90°-120°	854.5	14.3
90°-150°	2168.1	36.4
90°-180°	2849.0	47.8
0°-180°	5955.3	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	916	916	916	916	916	
5°	918	914	906	914	913	87
15°	876	878	878	890	889	247
25°	796	806	817	833	837	366
35°	686	709	734	762	772	429
45°	563	599	645	684	699	434
55°	431	480	548	594	613	385
65°	295	360	438	490	510	293
75°	163	238	322	377	397	173
85°	48	130	215	269	289	51
90°	14	101	201	251	269	11
95°	49	120	200	248	265	53
105°	166	209	277	323	340	176
115°	302	323	379	417	431	298
125°	434	443	481	514	526	389
135°	560	569	583	609	618	433
145°	678	683	688	696	700	424
155°	775	778	780	783	781	357
165°	844	843	843	848	844	238
175°	878	876	874	879	875	83
180°	879	879	879	879	879	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	915.6	915.6	915.6	915.6	915.6	915.6	915.6	915.6	915.6	915.6	915.6
2.5°	920.9	920.2	919.5	918.8	918.1	916.9	915.2	913.6	911.9	910.3	911.5
5°	918.2	917.4	916.5	915.6	914.7	913.4	911.6	909.8	908.1	906.3	908.1
7.5°	910.0	909.4	908.8	908.3	907.7	906.7	905.3	904.0	902.6	901.3	903.4
10°	903.7	903.1	902.5	901.9	901.3	900.6	899.7	898.8	897.9	897.0	899.4
12.5°	893.0	893.2	893.3	893.4	893.5	893.2	892.6	891.9	891.3	890.6	893.0
15°	875.8	876.4	877.0	877.6	878.1	878.4	878.4	878.4	878.4	878.4	881.1
17.5°	853.5	854.7	856.0	857.2	858.4	859.5	860.5	861.4	862.4	863.3	866.1
20°	838.6	840.1	841.6	843.1	844.5	845.9	847.0	848.2	849.4	850.6	853.8
22.5°	822.7	824.4	826.1	827.8	829.5	831.2	832.9	834.5	836.2	837.8	841.1
25°	796.2	798.2	800.3	802.4	804.4	806.8	809.4	812.1	814.7	817.4	820.9
27.5°	764.3	767.7	771.0	774.4	777.8	781.0	784.1	787.3	790.4	793.5	798.0
30°	743.1	746.9	750.8	754.6	758.4	762.3	766.1	769.9	773.8	777.6	782.3
32.5°	719.7	724.0	728.3	732.7	737.0	741.4	745.9	750.5	755.0	759.5	765.0
35°	686.0	691.0	696.1	701.1	706.1	711.4	717.0	722.6	728.2	733.8	740.3
37.5°	649.4	655.2	661.0	666.7	672.5	679.0	686.3	693.6	700.8	708.1	715.3
40°	625.0	631.5	638.0	644.5	650.9	658.2	666.1	674.1	682.1	690.0	697.7
42.5°	601.6	608.1	614.6	621.1	627.6	635.4	644.5	653.7	662.8	672.0	680.3
45°	562.6	570.6	578.5	586.5	594.5	603.6	613.9	624.3	634.6	644.9	654.0
47.5°	524.1	532.8	541.5	550.2	558.8	569.2	581.3	593.4	605.5	617.6	627.1
50°	497.6	506.7	515.9	525.0	534.2	545.4	558.6	571.9	585.2	598.5	608.5
52.5°	472.1	481.7	491.4	501.0	510.6	522.4	536.4	550.3	564.3	578.3	588.5
55°	431.3	441.9	452.5	463.1	473.7	486.7	502.0	517.4	532.7	548.0	558.6
57.5°	390.9	402.9	414.9	426.8	438.8	452.6	468.2	483.9	499.5	515.1	526.6
60°	362.3	374.9	387.6	400.3	413.0	427.7	444.5	461.3	478.1	495.0	506.2
62.5°	336.8	349.9	363.1	376.2	389.4	404.4	421.2	438.0	454.8	471.6	483.5
65°	294.6	309.0	323.5	337.9	352.4	368.3	385.7	403.1	420.5	437.9	450.0
67.5°	255.8	270.9	286.0	301.1	316.2	332.7	350.5	368.3	386.1	403.9	416.1
70°	228.2	243.6	258.9	274.2	289.6	306.4	324.7	342.9	361.2	379.5	392.2
72.5°	202.8	218.6	234.4	250.2	266.0	283.1	301.7	320.2	338.7	357.2	369.7
75°	163.2	179.7	196.2	212.8	229.3	247.0	265.8	284.7	303.6	322.4	335.1
77.5°	125.0	142.3	159.6	176.8	194.1	212.3	231.5	250.7	269.8	289.0	301.6
80°	99.5	117.5	135.5	153.5	171.5	190.0	209.2	228.4	247.5	266.7	279.1
82.5°	78.3	96.0	113.8	131.5	149.3	167.9	187.3	206.7	226.1	245.5	257.9
85°	47.8	66.1	84.3	102.6	120.9	139.5	158.3	177.2	196.1	215.0	227.4
87.5°	26.2	44.1	62.1	80.1	98.0	116.8	136.4	156.0	175.6	195.2	207.2
90°	14.0	33.1	52.2	71.3	90.3	111.1	133.6	156.1	178.6	201.1	212.6
92.5°	25.4	42.8	60.2	77.5	94.9	113.1	132.1	151.2	170.2	189.2	200.8
95°	49.2	64.7	80.2	95.7	111.2	128.0	146.0	164.0	182.1	200.1	211.3
97.5°	79.8	93.6	107.3	121.1	134.9	150.6	168.2	185.8	203.4	221.0	231.9
100°	103.5	115.8	128.0	140.2	152.4	167.1	184.1	201.1	218.1	235.1	246.0
102.5°	127.4	138.4	149.4	160.5	171.5	185.3	202.0	218.7	235.3	252.0	262.8
105°	166.2	175.2	184.3	193.3	202.4	214.7	230.4	246.0	261.7	277.4	288.0
107.5°	206.6	214.1	221.7	229.3	236.8	248.0	262.7	277.3	292.0	306.7	316.7
110°	231.6	238.5	245.4	252.3	259.2	269.8	284.3	298.7	313.2	327.6	337.1



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	260.1	266.1	272.0	278.0	283.9	293.7	307.3	320.9	334.5	348.1	357.2
115°	302.1	306.4	310.6	314.8	319.1	327.6	340.6	353.5	366.5	379.4	388.1
117.5°	342.7	346.1	349.5	353.0	356.4	363.8	375.2	386.5	397.8	409.2	417.5
120°	370.6	373.1	375.6	378.0	380.5	387.0	397.5	408.0	418.5	428.9	437.2
122.5°	396.1	398.1	400.2	402.2	404.3	410.4	420.6	430.7	440.9	451.1	458.7
125°	434.5	436.0	437.5	439.0	440.5	445.7	454.6	463.6	472.5	481.4	488.9
127.5°	473.3	474.8	476.4	478.0	479.6	483.9	490.9	497.9	504.9	512.0	518.7
130°	497.6	499.5	501.3	503.1	505.0	508.9	514.7	520.6	526.4	532.3	539.1
132.5°	524.9	526.4	527.8	529.3	530.7	533.9	538.7	543.6	548.4	553.2	559.4
135°	560.1	561.9	563.7	565.5	567.3	569.9	573.2	576.4	579.7	583.0	589.0
137.5°	598.5	600.0	601.4	602.8	604.2	605.8	607.5	609.3	611.0	612.7	618.0
140°	621.7	622.9	624.1	625.2	626.4	627.7	629.2	630.6	632.0	633.4	638.1
142.5°	645.4	646.6	647.8	649.0	650.2	651.1	651.8	652.5	653.2	653.8	657.7
145°	678.2	679.4	680.5	681.7	682.9	683.9	684.9	685.9	686.9	687.9	689.8
147.5°	708.7	710.0	711.4	712.8	714.2	715.2	715.9	716.5	717.2	717.9	718.5
150°	729.4	730.4	731.4	732.4	733.4	734.2	734.9	735.5	736.2	736.9	737.4
152.5°	747.8	748.8	749.8	750.8	751.8	752.7	753.5	754.3	755.1	755.9	756.5
155°	775.4	775.9	776.4	776.9	777.4	777.9	778.4	778.9	779.4	779.9	780.7
157.5°	799.0	799.4	799.7	800.0	800.4	800.7	801.0	801.3	801.6	801.9	803.0
160°	813.3	813.6	813.9	814.3	814.6	814.9	815.0	815.2	815.3	815.5	816.5
162.5°	826.3	826.4	826.5	826.5	826.6	826.7	826.9	827.1	827.2	827.4	828.5
165°	843.7	843.5	843.4	843.2	843.1	843.0	843.0	843.0	843.0	843.0	844.1
167.5°	858.3	857.8	857.3	856.8	856.3	856.0	856.0	855.9	855.9	855.9	857.0
170°	866.0	865.5	865.0	864.5	864.0	863.7	863.5	863.3	863.2	863.0	864.2
172.5°	871.3	870.8	870.3	869.8	869.3	869.0	868.8	868.7	868.5	868.3	869.5
175°	877.8	877.4	876.9	876.4	875.9	875.5	875.1	874.8	874.5	874.1	875.3
177.5°	880.5	880.1	879.7	879.3	878.9	878.6	878.3	878.1	877.8	877.5	878.3
180°	879.3	879.3	879.3	879.3	879.3	879.3	879.3	879.3	879.3	879.3	879.3



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	915.6	915.6	915.6	915.6	915.6	915.6	915.6	915.6
2.5°	912.6	913.8	915.0	915.4	914.9	914.4	913.9	913.5
5°	909.8	911.6	913.4	914.1	913.8	913.5	913.2	912.9
7.5°	905.5	907.6	909.8	910.7	910.4	910.1	909.8	909.5
10°	901.7	904.1	906.5	907.5	907.2	906.9	906.6	906.3
12.5°	895.4	897.7	900.1	901.1	900.8	900.5	900.2	899.9
15°	883.7	886.4	889.1	890.2	889.9	889.6	889.3	889.1
17.5°	868.9	871.6	874.4	875.8	875.8	875.8	875.8	875.8
20°	857.1	860.3	863.5	865.2	865.2	865.2	865.2	865.2
22.5°	844.3	847.6	850.8	852.7	853.1	853.6	854.1	854.6
25°	824.5	828.0	831.6	833.8	834.6	835.5	836.4	837.3
27.5°	802.5	807.0	811.4	814.0	814.7	815.3	816.0	816.6
30°	787.0	791.7	796.5	799.3	800.1	801.0	801.9	802.8
32.5°	770.4	775.8	781.2	784.8	786.3	787.9	789.5	791.1
35°	746.8	753.3	759.8	764.0	766.1	768.2	770.2	772.3
37.5°	722.4	729.6	736.8	741.5	743.7	745.9	748.1	750.3
40°	705.3	713.0	720.7	725.8	728.5	731.1	733.8	736.5
42.5°	688.7	697.1	705.5	711.0	713.6	716.3	718.9	721.6
45°	663.2	672.3	681.5	687.5	690.5	693.4	696.4	699.3
47.5°	636.7	646.2	655.8	662.2	665.4	668.7	671.9	675.2
50°	618.5	628.5	638.6	645.2	648.4	651.7	654.9	658.2
52.5°	598.8	609.1	619.3	626.2	629.7	633.2	636.6	640.1
55°	569.3	579.9	590.5	597.7	601.5	605.4	609.2	613.0
57.5°	538.0	549.4	560.9	568.6	572.4	576.3	580.2	584.1
60°	517.4	528.6	539.8	547.4	551.6	555.7	559.8	564.0
62.5°	495.4	507.3	519.2	527.2	531.0	534.9	538.8	542.7
65°	462.1	474.2	486.3	494.2	498.0	501.9	505.7	509.5
67.5°	428.3	440.5	452.8	460.9	464.9	468.9	472.9	476.9
70°	404.9	417.5	430.2	438.3	441.9	445.4	449.0	452.5
72.5°	382.1	394.5	407.0	415.3	419.6	423.8	428.1	432.3
75°	347.8	360.5	373.2	381.4	385.3	389.1	392.9	396.8
77.5°	314.3	326.9	339.5	347.9	352.0	356.1	360.3	364.4
80°	291.5	303.9	316.3	324.5	328.6	332.8	336.9	341.0
82.5°	270.3	282.6	295.0	303.2	307.1	310.9	314.8	318.7
85°	239.7	252.1	264.5	272.8	276.9	281.0	285.1	289.3
87.5°	219.1	231.1	243.1	251.0	254.8	258.6	262.4	266.2
90°	224.1	235.5	247.0	254.6	258.3	262.0	265.7	269.4
92.5°	212.5	224.1	235.7	243.3	246.9	250.4	254.0	257.6
95°	222.5	233.7	244.9	252.1	255.3	258.5	261.7	265.0
97.5°	242.9	253.8	264.7	271.9	275.3	278.7	282.2	285.6
100°	256.9	267.8	278.7	285.7	288.8	291.9	295.0	298.0
102.5°	273.6	284.4	295.2	302.2	305.3	308.3	311.4	314.5
105°	298.7	309.3	320.0	326.9	330.2	333.4	336.6	339.9
107.5°	326.8	336.8	346.9	353.1	355.6	358.1	360.6	363.1
110°	346.5	356.0	365.4	371.5	374.2	377.0	379.7	382.5





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CATALOG NUMBER: S122DIW-S865D710U835-4F0-1E-UDD-D1

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	366.2	375.2	384.3	390.2	393.1	396.0	398.9	401.8
115°	396.8	405.4	414.1	419.8	422.6	425.3	428.1	430.8
117.5°	425.9	434.2	442.5	447.9	450.5	453.0	455.5	458.0
120°	445.5	453.7	462.0	467.5	470.2	473.0	475.7	478.5
122.5°	466.3	473.9	481.6	486.6	489.0	491.4	493.8	496.2
125°	496.4	503.8	511.3	516.3	518.8	521.3	523.8	526.2
127.5°	525.4	532.1	538.8	543.2	545.3	547.4	549.4	551.5
130°	545.8	552.5	559.3	563.5	565.2	566.9	568.6	570.3
132.5°	565.5	571.6	577.7	581.7	583.5	585.3	587.2	589.0
135°	595.1	601.1	607.1	611.1	612.9	614.8	616.7	618.5
137.5°	623.3	628.6	633.9	637.2	638.6	639.9	641.2	642.6
140°	642.8	647.6	652.3	655.2	656.3	657.4	658.5	659.6
142.5°	661.6	665.6	669.5	671.8	672.7	673.6	674.5	675.3
145°	691.7	693.7	695.6	697.0	697.8	698.6	699.4	700.3
147.5°	719.1	719.7	720.3	720.6	720.7	720.8	720.8	720.9
150°	737.8	738.3	738.8	738.8	738.3	737.8	737.4	736.9
152.5°	757.1	757.7	758.4	758.4	757.7	757.1	756.5	755.9
155°	781.5	782.4	783.2	783.4	782.9	782.4	781.9	781.4
157.5°	804.1	805.2	806.3	806.5	805.7	804.9	804.1	803.3
160°	817.5	818.5	819.5	819.6	819.0	818.3	817.7	817.0
162.5°	829.6	830.8	831.9	832.0	831.2	830.5	829.7	828.9
165°	845.3	846.4	847.6	847.8	846.9	846.1	845.3	844.5
167.5°	858.2	859.3	860.5	860.6	859.8	858.9	858.1	857.2
170°	865.3	866.5	867.6	867.7	866.7	865.7	864.7	863.7
172.5°	870.7	871.8	873.0	873.0	872.1	871.1	870.1	869.1
175°	876.4	877.6	878.8	878.8	877.8	876.9	875.9	874.9
177.5°	879.1	879.9	880.7	880.7	879.9	879.1	878.3	877.5
180°	879.3	879.3	879.3	879.3	879.3	879.3	879.3	879.3

(END OF REPORT)