

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: P331557-840

Luminaire Tested: **S122DIW-S865D435U840-4F0-1E-UDD-D**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P331557-840  
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-2,  
Test Lab: INNOVATION CENTER  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: NEO-RAY  
Catalog Number: S122DIW-S865D435U840-4F0-1E-UDD-D  
Description: DEFINE 2 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE  
DOWNLIGHT 865 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER  
UPLIGHT 435 LUMENS PER FOOT, NO LENS  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

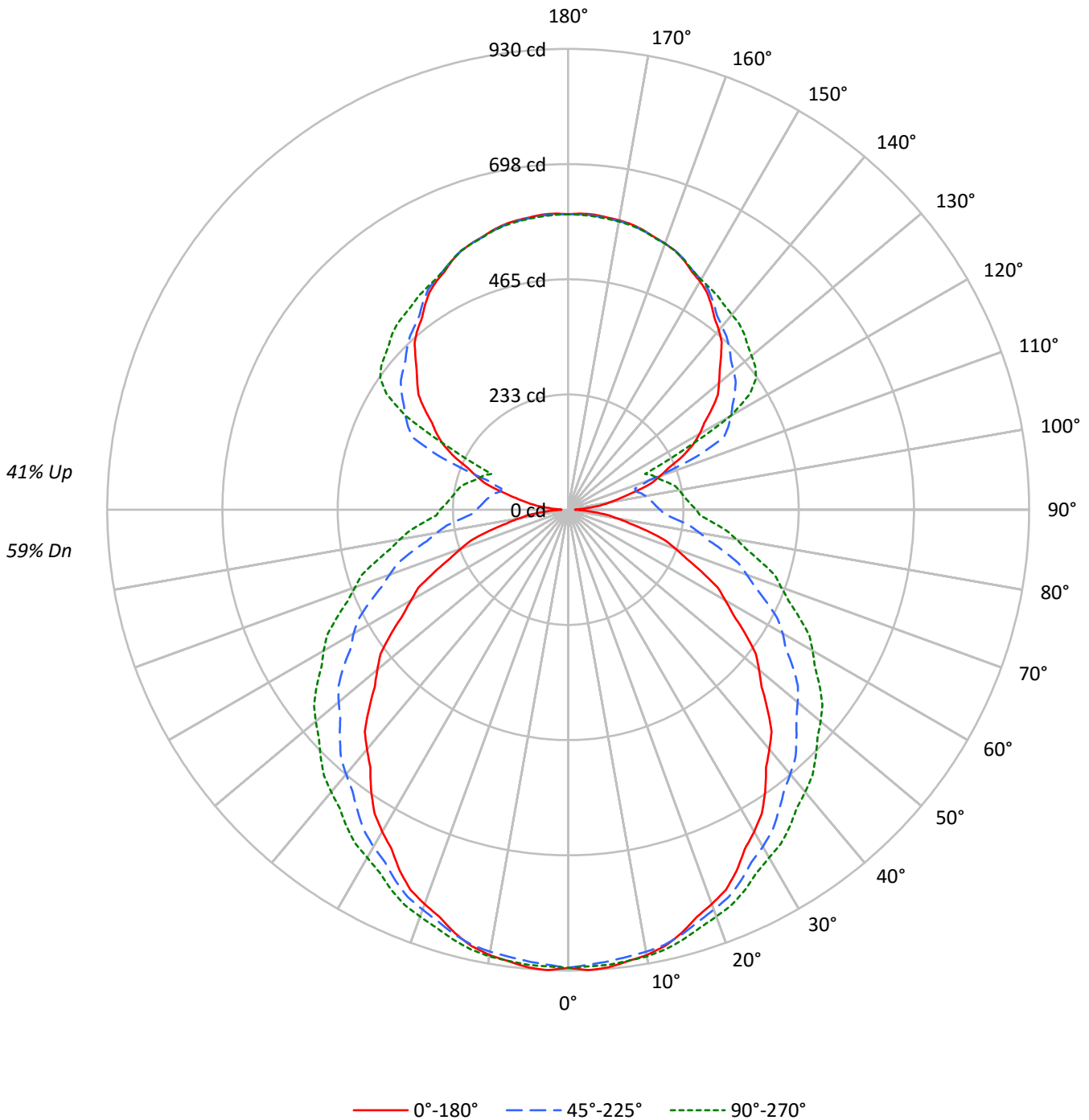
Lumens per Lamp: N/A  
Luminaire Lumens: 5277.1 lumens  
Efficiency: N/A  
Efficacy: 114.2 lumens/watt  
Spacing Criteria (0/90/45): 1.21 / 1.32 / 1.42  
Luminous Opening: Rectangular w/ Sides (W: 0.17' x L: 4' x H: 0.08')  
CIE Type: General Diffuse  
  
Input Watts (W): 46.2  
Input Voltage (V): 120  
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



TEST NUMBER: P331557-840

CATALOG NUMBER: S122DIW-S865D435U840-4F0-1E-UDD-D

### 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	109	109	109	109	102	102	102	102	89	89	89	76	76	76	65	65	65	59
1	98	93	88	84	91	87	83	79	75	72	69	64	62	60	54	53	51	46
2	89	80	73	67	82	75	69	63	65	60	56	55	52	49	47	44	42	37
3	80	70	62	55	75	65	58	52	57	51	46	48	44	40	41	38	35	31
4	73	62	53	46	68	58	50	44	50	44	39	43	38	34	36	33	29	26
5	67	55	46	39	62	51	43	37	44	38	33	38	33	29	32	29	25	22
6	62	49	40	34	57	46	38	32	40	34	29	34	29	25	29	25	22	19
7	57	44	36	30	53	41	34	28	36	30	25	31	26	22	27	23	20	17
8	53	40	32	26	49	38	30	25	33	27	22	29	24	20	25	20	17	15
9	49	36	29	23	46	34	27	22	30	24	20	26	21	18	23	19	16	13
10	46	33	26	21	43	31	25	20	28	22	18	24	19	16	21	17	14	12

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

	0°	45°	90°
0°	14928	14928	14928
5°	15002	14370	14315
10°	14907	13945	13789
15°	14701	13496	13236
20°	14442	13015	12701
25°	14187	12551	12216
30°	13824	12074	11729
35°	13459	11611	11386
40°	13075	11219	11044
45°	12709	10869	10750
50°	12316	10551	10462
55°	11908	10209	10166
60°	11404	9856	9857
65°	10880	9439	9485
70°	10292	8992	9089
75°	9539	8554	8722
80°	8357	8107	8349
85°	7227	7720	8061



TEST NUMBER: P331557-840

CATALOG NUMBER: S122DIW-S865D435U840-4F0-1E-UDD-D

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	87.6	1.7
10°-20°	251.2	4.8
20°-30°	380.7	7.2
30°-40°	463.7	8.8
40°-50°	498.9	9.5
50°-60°	484.5	9.2
60°-70°	423.0	8.0
70°-80°	325.7	6.2
80°-90°	220.0	4.2
90°-100°	170.5	3.2
100°-110°	182.9	3.5
110°-120°	267.7	5.1
120°-130°	362.5	6.9
130°-140°	359.4	6.8
140°-150°	321.2	6.1
150°-160°	255.9	4.8
160°-170°	164.9	3.1
170°-180°	56.8	1.1
0°-30°	719.6	13.6
0°-40°	1183.3	22.4
0°-60°	2166.6	41.1
0°-90°	3135.4	59.4
90°-120°	621.1	11.8
90°-150°	1664.2	31.5
90°-180°	2142.0	40.6
0°-180°	5277.1	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	925	925	925	925	925	
5°	927	923	915	923	922	88
15°	884	887	887	898	898	249
25°	804	814	826	841	846	369
35°	693	716	741	769	780	433
45°	568	605	651	691	706	438
55°	436	485	553	600	619	389
65°	298	364	442	495	514	295
75°	165	240	326	381	401	174
85°	48	132	217	271	292	52
90°	14	97	186	239	258	10
95°	39	89	171	222	240	43
105°	138	184	142	191	210	148
115°	254	278	347	195	171	249
125°	354	362	410	448	463	316
135°	436	443	460	491	502	337
145°	504	504	511	521	526	315
155°	555	551	556	558	555	255
165°	584	582	583	586	583	165
175°	598	595	596	598	594	57
180°	596	596	596	596	596	



TEST NUMBER: P331557-840

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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	924.6	924.6	924.6	924.6	924.6	924.6	924.6	924.6	924.6	924.6	924.6
2.5°	930.0	929.3	928.6	927.9	927.2	925.9	924.2	922.6	920.9	919.3	920.5
5°	927.3	926.5	925.5	924.6	923.7	922.4	920.6	918.8	917.1	915.2	917.1
7.5°	919.0	918.4	917.8	917.3	916.7	915.6	914.2	912.9	911.5	910.2	912.3
10°	912.6	912.0	911.4	910.8	910.2	909.5	908.6	907.7	906.8	905.8	908.3
12.5°	901.8	902.0	902.1	902.2	902.3	902.0	901.4	900.7	900.1	899.4	901.8
15°	884.4	885.0	885.7	886.3	886.8	887.1	887.1	887.1	887.1	887.1	889.8
17.5°	861.9	863.1	864.4	865.7	866.9	868.0	869.0	869.9	870.9	871.8	874.6
20°	846.9	848.4	849.9	851.4	852.8	854.2	855.4	856.6	857.8	859.0	862.2
22.5°	830.8	832.5	834.2	836.0	837.7	839.4	841.1	842.7	844.4	846.1	849.4
25°	804.1	806.1	808.2	810.3	812.3	814.8	817.4	820.1	822.7	825.5	829.0
27.5°	771.8	775.3	778.6	782.0	785.5	788.7	791.8	795.1	798.2	801.3	805.9
30°	750.4	754.3	758.2	762.0	765.9	769.8	773.7	777.5	781.4	785.3	790.0
32.5°	726.8	731.1	735.5	739.9	744.3	748.7	753.3	757.9	762.4	767.0	772.5
35°	692.8	697.8	703.0	708.0	713.1	718.4	724.1	729.7	735.4	741.0	747.6
37.5°	655.8	661.7	667.5	673.3	679.1	685.7	693.1	700.4	707.7	715.1	722.4
40°	631.2	637.7	644.3	650.9	657.3	664.7	672.7	680.8	688.8	696.8	704.6
42.5°	607.5	614.1	620.7	627.2	633.8	641.7	650.9	660.1	669.3	678.6	687.0
45°	568.2	576.2	584.2	592.3	600.4	609.6	620.0	630.5	640.9	651.3	660.5
47.5°	529.3	538.1	546.8	555.6	564.3	574.8	587.0	599.3	611.5	623.7	633.3
50°	502.5	511.7	521.0	530.2	539.5	550.8	564.1	577.5	591.0	604.4	614.5
52.5°	476.8	486.5	496.2	505.9	515.6	527.6	541.7	555.7	569.9	584.0	594.3
55°	435.6	446.3	457.0	467.7	478.4	491.5	507.0	522.5	538.0	553.4	564.1
57.5°	394.8	406.9	419.0	431.0	443.1	457.1	472.8	488.7	504.4	520.2	531.8
60°	365.9	378.6	391.4	404.2	417.1	431.9	448.9	465.9	482.8	499.9	511.2
62.5°	340.1	353.4	366.7	379.9	393.2	408.4	425.4	442.3	459.3	476.3	488.3
65°	297.5	312.0	326.7	341.2	355.9	371.9	389.5	407.1	424.6	442.2	454.4
67.5°	258.3	273.6	288.8	304.1	319.3	336.0	354.0	371.9	389.9	407.9	420.2
70°	230.5	246.0	261.5	276.9	292.5	309.4	327.9	346.3	364.8	383.2	396.1
72.5°	204.8	220.8	236.7	252.7	268.6	285.9	304.7	323.4	342.0	360.7	373.3
75°	164.8	181.5	198.1	214.9	231.6	249.4	268.4	287.5	306.6	325.6	338.4
77.5°	126.2	143.7	161.2	178.5	196.0	214.4	233.8	253.2	272.5	291.9	304.6
80°	100.5	118.7	136.8	155.0	173.2	191.9	211.3	230.7	249.9	269.3	281.9
82.5°	79.1	96.9	114.9	132.8	150.8	169.6	189.1	208.7	228.3	247.9	260.4
85°	48.3	66.8	85.1	103.6	122.1	140.9	159.9	178.9	198.0	217.1	229.6
87.5°	26.4	44.3	62.3	80.2	98.2	116.7	136.0	155.2	174.4	193.6	205.9
90°	13.8	32.1	50.5	68.8	87.2	106.2	126.0	145.8	165.7	185.5	197.9
92.5°	21.0	37.1	53.0	69.0	85.0	102.3	121.1	139.8	158.5	177.2	189.1
95°	38.8	49.6	60.4	71.3	82.1	96.7	115.3	133.9	152.4	171.0	182.7
97.5°	65.0	68.6	72.1	75.6	79.2	90.3	109.0	127.7	146.4	165.1	176.5
100°	85.7	83.6	81.5	79.4	77.3	85.3	103.7	122.0	140.3	158.6	170.4
102.5°	107.4	114.8	122.1	129.4	136.6	141.6	144.1	146.6	149.3	151.8	163.6
105°	137.9	149.5	161.0	172.5	184.0	184.4	173.7	163.0	152.3	141.6	153.1
107.5°	174.2	183.4	192.6	201.9	211.1	207.4	190.9	174.3	157.6	141.1	150.1
110°	196.6	204.5	212.5	220.5	228.4	225.9	212.8	199.7	186.5	173.4	173.3



TEST NUMBER: P331557-840

CATALOG NUMBER: S122DIW-S865D435U840-4F0-1E-UDD-D

**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	218.6	225.5	232.3	239.0	245.8	252.8	259.7	266.8	273.8	280.8	255.4
115°	253.6	258.4	263.4	268.2	273.2	283.6	299.3	315.1	330.9	346.7	311.2
117.5°	283.4	287.3	291.3	295.3	299.2	308.2	322.2	336.3	350.3	364.4	362.4
120°	306.2	308.8	311.4	314.1	316.7	324.8	338.4	352.1	365.8	379.4	388.9
122.5°	325.5	327.5	329.5	331.4	333.5	341.0	354.1	367.2	380.2	393.3	402.1
125°	353.6	354.9	356.1	357.3	358.6	364.9	376.3	387.6	398.9	410.3	419.0
127.5°	380.3	381.3	382.4	383.5	384.6	389.7	398.7	407.8	416.8	425.9	434.2
130°	397.2	398.4	399.7	400.9	402.1	406.4	413.7	421.0	428.4	435.7	443.8
132.5°	414.4	415.5	416.5	417.5	418.5	421.9	427.8	433.6	439.6	445.5	453.2
135°	435.6	437.1	438.6	440.2	441.7	444.3	448.3	452.1	456.0	459.8	467.0
137.5°	458.3	459.3	460.3	461.3	462.3	463.9	466.3	468.6	470.8	473.1	479.6
140°	473.1	473.6	474.0	474.5	475.0	476.1	477.7	479.4	481.0	482.6	488.3
142.5°	485.5	485.9	486.4	486.8	487.2	488.0	489.3	490.6	492.0	493.3	497.9
145°	503.7	503.6	503.5	503.4	503.3	504.1	505.7	507.4	509.0	510.6	513.1
147.5°	520.7	520.4	520.0	519.7	519.3	519.9	521.5	523.1	524.7	526.3	527.0
150°	531.8	531.1	530.4	529.8	529.1	529.5	531.1	532.6	534.1	535.6	536.2
152.5°	541.1	540.4	539.6	538.9	538.1	538.5	539.9	541.4	542.8	544.3	544.8
155°	554.6	553.8	552.9	552.1	551.2	551.4	552.5	553.6	554.8	555.9	556.5
157.5°	565.2	564.5	563.8	563.1	562.4	562.4	563.2	564.0	564.8	565.6	566.2
160°	571.5	570.9	570.4	569.8	569.2	569.2	569.8	570.4	570.9	571.5	572.1
162.5°	577.0	576.4	575.8	575.3	574.7	574.7	575.1	575.6	576.1	576.6	577.3
165°	584.4	583.9	583.3	582.7	582.1	582.0	582.3	582.6	582.9	583.1	583.8
167.5°	590.0	589.4	588.9	588.2	587.6	587.5	587.7	588.0	588.3	588.5	589.3
170°	593.1	592.5	591.9	591.4	590.8	590.6	590.8	591.0	591.2	591.4	592.0
172.5°	595.1	594.6	594.0	593.4	592.8	592.7	592.8	593.0	593.2	593.4	594.1
175°	597.8	597.1	596.4	595.8	595.1	594.9	595.1	595.3	595.4	595.6	596.3
177.5°	598.2	597.7	597.1	596.6	596.1	595.8	595.9	596.0	596.1	596.1	596.7
180°	596.5	596.5	596.5	596.5	596.5	596.5	596.5	596.5	596.5	596.5	596.5



TEST NUMBER: P331557-840

CATALOG NUMBER: S122DIW-S865D435U840-4F0-1E-UDD-D

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	924.6	924.6	924.6	924.6	924.6	924.6	924.6	924.6
2.5°	921.6	922.8	924.0	924.4	923.9	923.4	922.9	922.5
5°	918.8	920.6	922.4	923.1	922.8	922.5	922.2	921.9
7.5°	914.4	916.6	918.8	919.7	919.4	919.1	918.8	918.5
10°	910.6	913.0	915.4	916.5	916.1	915.8	915.5	915.2
12.5°	904.2	906.6	909.0	910.0	909.7	909.4	909.1	908.8
15°	892.4	895.1	897.9	899.0	898.7	898.4	898.1	897.9
17.5°	877.5	880.2	883.0	884.4	884.4	884.4	884.4	884.4
20°	865.6	868.8	872.0	873.7	873.7	873.7	873.7	873.7
22.5°	852.6	856.0	859.2	861.1	861.5	862.0	862.5	863.0
25°	832.6	836.2	839.8	842.0	842.8	843.7	844.7	845.6
27.5°	810.4	815.0	819.4	822.0	822.7	823.3	824.0	824.7
30°	794.8	799.5	804.4	807.2	808.0	808.9	809.8	810.7
32.5°	778.0	783.5	788.9	792.5	794.1	795.7	797.3	798.9
35°	754.2	760.7	767.3	771.5	773.7	775.8	777.8	779.9
37.5°	729.5	736.8	744.1	748.8	751.0	753.3	755.5	757.7
40°	712.3	720.0	727.8	733.0	735.7	738.3	741.0	743.8
42.5°	695.5	704.0	712.5	718.0	720.6	723.4	726.0	728.7
45°	669.7	678.9	688.2	694.3	697.3	700.2	703.3	706.2
47.5°	643.0	652.6	662.3	668.7	672.0	675.3	678.5	681.9
50°	624.6	634.7	644.9	651.6	654.8	658.1	661.4	664.7
52.5°	604.7	615.1	625.4	632.4	635.9	639.4	642.9	646.4
55°	574.9	585.6	596.3	603.6	607.4	611.4	615.2	619.0
57.5°	543.3	554.8	566.4	574.2	578.0	582.0	585.9	589.9
60°	522.5	533.8	545.1	552.8	557.0	561.2	565.3	569.6
62.5°	500.3	512.3	524.3	532.4	536.2	540.2	544.1	548.1
65°	466.7	478.9	491.1	499.1	502.9	506.9	510.7	514.5
67.5°	432.5	444.8	457.3	465.4	469.5	473.5	477.6	481.6
70°	408.9	421.6	434.4	442.6	446.3	449.8	453.4	457.0
72.5°	385.9	398.4	411.0	419.4	423.7	428.0	432.3	436.6
75°	351.2	364.1	376.9	385.2	389.1	392.9	396.8	400.7
77.5°	317.4	330.1	342.8	351.3	355.5	359.6	363.9	368.0
80°	294.4	306.9	319.4	327.7	331.8	336.1	340.2	344.4
82.5°	273.0	285.4	297.9	306.2	310.1	314.0	317.9	321.8
85°	242.1	254.6	267.1	275.5	279.6	283.8	287.9	292.2
87.5°	218.1	230.4	242.6	250.6	254.5	258.3	262.2	266.1
90°	210.3	222.7	235.1	243.2	246.9	250.6	254.5	258.2
92.5°	201.1	213.0	224.9	232.8	236.4	240.1	243.8	247.5
95°	194.5	206.3	218.1	225.8	229.2	232.7	236.2	239.6
97.5°	187.9	199.3	210.8	218.2	221.9	225.5	229.1	232.8
100°	182.2	194.0	205.7	213.4	216.8	220.4	223.8	227.2
102.5°	175.3	187.1	198.9	206.5	210.2	213.7	217.2	220.8
105°	164.5	176.0	187.5	195.0	198.7	202.4	206.0	209.6
107.5°	159.0	167.9	176.8	183.1	186.8	190.5	194.1	197.7
110°	173.2	173.2	173.1	174.9	178.5	182.2	185.9	189.6





TEST NUMBER: P331557-840

CATALOG NUMBER: S122DIW-S865D435U840-4F0-1E-UDD-D

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	229.9	204.5	178.9	168.0	171.7	175.2	178.8	182.4
115°	275.8	240.2	204.8	185.2	181.7	178.0	174.4	170.8
117.5°	360.5	358.6	356.7	345.9	326.2	306.6	286.9	267.2
120°	398.4	407.9	417.3	417.3	407.6	397.9	388.2	378.5
122.5°	410.9	419.7	428.5	433.0	433.3	433.5	433.8	434.1
125°	427.7	436.5	445.1	451.0	453.9	456.9	459.9	462.8
127.5°	442.6	450.9	459.3	464.8	467.5	470.2	472.8	475.5
130°	452.0	460.3	468.5	473.7	475.9	478.3	480.6	482.8
132.5°	461.1	468.9	476.7	481.7	484.0	486.4	488.6	490.9
135°	474.1	481.4	488.6	493.3	495.5	497.7	499.9	502.1
137.5°	485.9	492.4	498.8	502.9	504.5	506.2	508.0	509.7
140°	493.9	499.6	505.1	508.7	510.0	511.3	512.5	513.8
142.5°	502.5	507.1	511.7	514.5	515.5	516.6	517.8	518.8
145°	515.5	518.0	520.5	522.2	523.2	524.2	525.2	526.2
147.5°	527.9	528.6	529.3	529.8	530.1	530.4	530.8	531.1
150°	536.8	537.3	538.0	538.1	537.6	537.0	536.5	536.1
152.5°	545.4	546.0	546.6	546.5	545.9	545.3	544.6	544.0
155°	557.1	557.6	558.3	558.2	557.3	556.6	555.8	555.1
157.5°	566.9	567.5	568.3	568.2	567.4	566.6	565.9	565.2
160°	572.6	573.2	573.8	573.7	573.1	572.4	571.7	571.1
162.5°	577.9	578.7	579.3	579.2	578.3	577.5	576.7	575.9
165°	584.5	585.1	585.8	585.8	585.1	584.5	583.8	583.1
167.5°	590.0	590.6	591.3	591.2	590.3	589.5	588.5	587.7
170°	592.7	593.4	594.0	593.9	593.1	592.2	591.4	590.5
172.5°	594.7	595.4	596.1	596.0	595.1	594.3	593.4	592.6
175°	597.0	597.6	598.3	598.2	597.2	596.3	595.3	594.4
177.5°	597.2	597.7	598.3	598.2	597.5	596.8	596.1	595.5
180°	596.5	596.5	596.5	596.5	596.5	596.5	596.5	596.5

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