

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: P331391-927

Luminaire Tested: **SA2XXDIP-C865D530U927-4F0-1E-UDD-F1**

Issue Date: 10/7/2019

**Test Information**

Test Method: LM-79-08  
Report Number: P331391-927  
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-8,  
Test Lab: INNOVATION CENTER  
Issue Date: 10/7/2019  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: NEO-RAY  
Catalog Number: SA2XXDIP-C865D530U927-4F0-1E-UDD-F1  
Description: DEFINE 2 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 865 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER  
UPLIGHT 530 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 4280.3 lumens  
Efficiency: N/A  
Efficacy: 87.7 lumens/watt  
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.3  
Luminous Opening: Rectangular (W 0.17' x L: 4' x H: 0')  
CIE Type: Semi-Direct

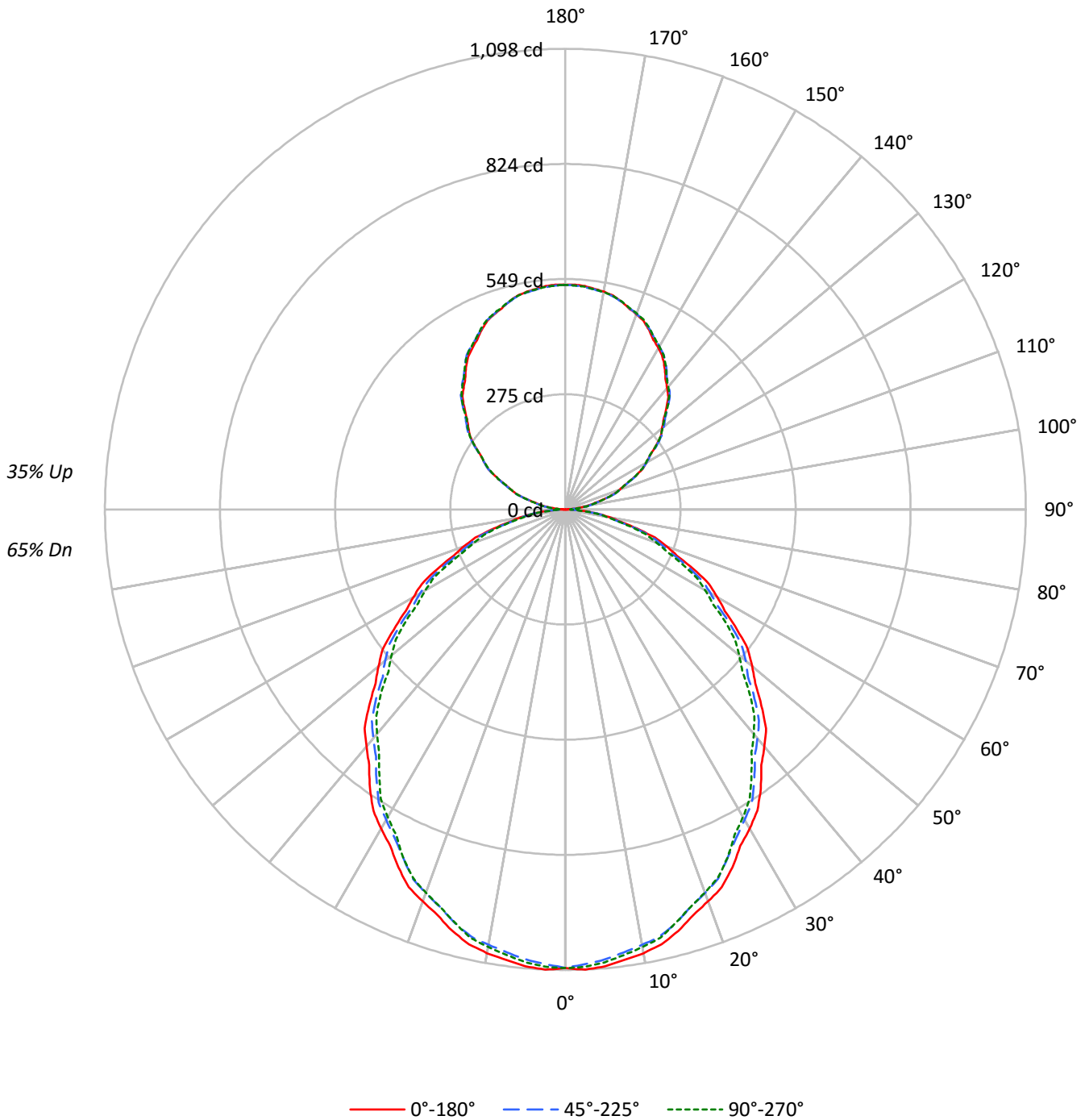
Input Watts (W): 48.8  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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### Luminous Intensity Polar Plot





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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	111	111	111	111	104	104	104	104	92	92	92	80	80	80	70	70	70	65
1	101	97	93	89	95	91	88	84	80	78	75	71	69	67	62	60	59	55
2	92	84	78	73	86	80	74	69	71	66	62	62	59	56	54	52	50	46
3	84	74	67	61	79	70	63	58	62	57	53	55	51	47	48	45	42	39
4	77	66	58	51	72	62	55	49	55	50	45	49	44	41	43	40	37	33
5	71	59	50	44	66	56	48	42	50	44	39	44	39	35	39	35	32	29
6	65	53	44	39	61	50	42	37	45	39	34	40	35	31	35	31	28	25
7	60	48	40	34	57	45	38	33	41	35	30	36	31	27	32	28	25	23
8	56	43	36	30	53	41	34	29	37	31	27	33	28	25	30	26	22	20
9	52	40	32	27	49	38	31	26	34	28	24	31	26	22	27	23	20	18
10	49	37	29	24	46	35	28	23	32	26	22	28	24	20	25	21	18	17

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

	0°	45°	90°
0°	17651	17651	17651
5°	17718	17462	17566
10°	17613	17285	17372
15°	17396	17061	17043
20°	17086	16725	16706
25°	16778	16311	16311
30°	16384	15933	15795
35°	16015	15477	15248
40°	15553	15022	14733
45°	15098	14570	14209
50°	14601	14099	13599
55°	14083	13551	13050
60°	13511	12897	12426
65°	12894	12248	11687
70°	12109	11462	10914
75°	11017	10555	10293
80°	9772	9484	8991
85°	7984	7595	6817



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	102.8	2.4
10°-20°	289.3	6.8
20°-30°	425.2	9.9
30°-40°	493.9	11.5
40°-50°	493.3	11.5
50°-60°	430.2	10.1
60°-70°	318.1	7.4
70°-80°	180.2	4.2
80°-90°	50.6	1.2
90°-100°	33.9	0.8
100°-110°	105.4	2.5
110°-120°	180.1	4.2
120°-130°	236.8	5.5
130°-140°	265.8	6.2
140°-150°	260.6	6.1
150°-160°	218.6	5.1
160°-170°	145.0	3.4
170°-180°	50.7	1.2
0°-30°	817.2	19.1
0°-40°	1311.1	30.6
0°-60°	2234.6	52.2
0°-90°	2783.5	65.0
90°-120°	319.4	7.5
90°-150°	1082.6	25.3
90°-180°	1497.0	35.0
0°-180°	4280.3	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1093	1093	1093	1093	1093	
5°	1093	1089	1077	1085	1084	104
15°	1041	1034	1021	1024	1020	293
25°	942	933	916	917	916	433
35°	812	802	785	779	774	507
45°	661	653	638	627	622	510
55°	500	494	481	469	464	447
65°	338	331	321	311	306	334
75°	177	174	169	163	165	189
85°	43	42	41	38	37	49
90°	0	6	16	15	15	3
95°	24	28	29	29	28	27
105°	97	98	99	100	100	103
115°	181	183	182	182	181	179
125°	263	267	266	264	264	235
135°	340	345	346	346	344	263
145°	413	416	419	419	417	258
155°	472	473	475	477	476	217
165°	514	513	513	516	514	145
175°	534	533	532	535	533	51
180°	535	535	535	535	535	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1093.2	1093.2	1093.2	1093.2	1093.2	1093.2	1093.2	1093.2	1093.2	1093.2	1093.2
2.5°	1098.3	1097.3	1096.4	1095.5	1094.6	1093.1	1091.0	1088.9	1086.9	1084.8	1086.7
5°	1093.2	1092.3	1091.4	1090.4	1089.5	1087.7	1085.2	1082.6	1080.1	1077.4	1079.3
7.5°	1083.5	1082.1	1080.7	1079.2	1077.8	1075.7	1073.1	1070.5	1067.9	1065.2	1067.1
10°	1074.3	1072.7	1071.0	1069.4	1067.8	1065.6	1062.7	1059.9	1057.2	1054.3	1056.2
12.5°	1061.7	1060.3	1058.8	1057.3	1055.9	1053.8	1051.0	1048.1	1045.4	1042.6	1043.9
15°	1040.7	1039.3	1037.8	1036.5	1035.1	1032.8	1029.8	1026.7	1023.7	1020.7	1021.6
17.5°	1013.8	1012.3	1011.0	1009.6	1008.1	1005.9	1002.8	999.7	996.6	993.6	994.7
20°	994.4	993.0	991.7	990.2	988.8	986.5	983.2	979.9	976.7	973.4	974.1
22.5°	975.1	973.1	971.1	969.2	967.3	964.7	961.6	958.5	955.5	952.4	952.5
25°	941.8	940.0	938.1	936.3	934.4	931.4	927.5	923.5	919.6	915.6	916.1
27.5°	904.0	902.4	900.6	899.0	897.3	894.8	891.8	888.6	885.5	882.3	881.7
30°	878.8	876.9	875.0	873.2	871.3	868.6	865.1	861.7	858.1	854.6	853.9
32.5°	851.9	850.4	848.9	847.4	845.9	843.3	839.6	835.9	832.3	828.5	827.3
35°	812.5	810.2	807.9	805.6	803.2	800.2	796.5	792.7	788.9	785.2	783.9
37.5°	768.2	766.1	764.1	762.0	760.0	757.1	753.4	749.6	745.8	742.1	740.4
40°	737.9	736.1	734.2	732.3	730.5	727.6	723.9	720.2	716.4	712.7	710.6
42.5°	708.5	706.6	704.7	702.9	701.0	698.2	694.5	690.8	687.0	683.3	681.0
45°	661.2	659.6	657.9	656.3	654.7	652.0	648.6	645.1	641.6	638.1	635.5
47.5°	614.1	612.6	611.0	609.5	607.9	605.3	601.7	598.0	594.4	590.7	588.0
50°	581.3	580.1	579.0	577.8	576.6	574.4	571.2	567.8	564.6	561.3	558.1
52.5°	549.4	547.8	546.3	544.7	543.2	540.9	537.8	534.7	531.6	528.5	525.9
55°	500.3	499.0	497.6	496.1	494.7	492.7	489.9	487.0	484.3	481.4	478.6
57.5°	451.1	450.0	448.9	447.8	446.7	444.6	441.5	438.4	435.3	432.2	429.5
60°	418.4	417.4	416.5	415.6	414.6	412.6	409.2	406.0	402.7	399.4	396.9
62.5°	386.4	384.9	383.4	381.9	380.4	378.4	375.9	373.4	370.8	368.4	366.0
65°	337.5	336.0	334.6	333.2	331.8	329.9	327.6	325.3	323.0	320.6	318.5
67.5°	287.6	286.5	285.3	284.2	283.1	281.5	279.4	277.3	275.2	273.1	271.5
70°	256.5	255.6	254.6	253.7	252.8	251.2	249.1	247.0	244.9	242.8	241.2
72.5°	224.5	223.6	222.7	221.7	220.8	219.7	218.3	217.0	215.6	214.2	212.6
75°	176.6	176.1	175.6	175.2	174.8	173.9	172.8	171.6	170.4	169.2	167.9
77.5°	133.7	132.9	132.1	131.3	130.6	129.9	129.4	129.0	128.5	128.0	127.3
80°	105.1	104.9	104.6	104.4	104.2	103.9	103.4	102.9	102.4	102.0	101.2
82.5°	78.2	78.2	78.1	78.0	78.0	77.9	77.6	77.3	77.0	76.8	75.8
85°	43.1	42.9	42.6	42.4	42.1	41.9	41.7	41.4	41.2	41.0	40.3
87.5°	15.2	15.1	15.0	14.8	14.7	14.7	14.7	14.8	14.9	15.0	14.3
90°	0.5	1.7	2.9	4.0	5.3	7.0	9.2	11.4	13.6	15.8	15.6
92.5°	8.1	9.0	9.8	10.7	11.6	12.3	12.8	13.3	13.9	14.3	14.4
95°	23.5	24.5	25.5	26.5	27.5	28.1	28.3	28.5	28.7	28.9	28.9
97.5°	42.9	43.8	44.7	45.6	46.4	47.1	47.5	47.8	48.2	48.6	48.6
100°	57.4	58.1	58.9	59.8	60.6	61.2	61.5	61.7	62.0	62.3	62.3
102.5°	72.6	73.2	73.8	74.5	75.1	75.7	76.0	76.4	76.8	77.2	77.2
105°	97.1	97.4	97.8	98.0	98.3	98.5	98.8	98.9	99.2	99.4	99.6
107.5°	121.9	122.3	122.8	123.2	123.7	123.9	123.9	123.9	123.9	123.9	124.0
110°	137.8	138.4	138.9	139.6	140.2	140.5	140.5	140.5	140.5	140.5	140.5



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	155.1	155.7	156.3	156.9	157.6	157.8	157.7	157.6	157.6	157.5	157.2
115°	180.7	181.3	181.9	182.5	183.1	183.3	183.1	182.9	182.7	182.5	182.4
117.5°	206.2	207.0	207.8	208.6	209.4	209.5	209.0	208.3	207.8	207.2	207.0
120°	223.2	223.9	224.7	225.5	226.4	226.4	225.5	224.7	223.9	223.2	223.2
122.5°	238.7	239.6	240.7	241.6	242.6	242.7	242.2	241.6	241.1	240.5	240.3
125°	262.9	263.8	264.7	265.6	266.5	266.8	266.5	266.3	265.9	265.6	265.3
127.5°	286.5	287.6	288.8	289.9	291.0	291.4	291.1	290.7	290.4	290.0	289.6
130°	301.3	302.6	303.9	305.2	306.5	307.0	306.9	306.7	306.5	306.3	306.1
132.5°	317.9	319.0	320.0	321.2	322.2	322.7	322.8	322.8	322.9	322.9	322.5
135°	340.2	341.3	342.4	343.5	344.6	345.2	345.4	345.6	345.9	346.0	345.9
137.5°	363.5	364.5	365.4	366.3	367.2	367.7	368.0	368.3	368.5	368.8	368.7
140°	377.6	378.6	379.5	380.3	381.3	382.0	382.5	382.9	383.5	384.0	384.0
142.5°	392.1	393.0	394.0	394.8	395.7	396.3	396.7	397.0	397.4	397.7	397.8
145°	412.9	413.6	414.3	415.0	415.7	416.4	416.9	417.6	418.2	418.7	418.8
147.5°	431.4	432.2	433.1	434.0	434.7	435.4	435.8	436.2	436.6	437.0	437.2
150°	444.1	444.7	445.3	445.8	446.5	446.9	447.3	447.7	448.1	448.6	448.9
152.5°	455.3	455.9	456.5	457.1	457.6	458.2	458.7	459.1	459.6	460.2	460.5
155°	472.1	472.4	472.7	472.9	473.2	473.6	473.9	474.2	474.4	474.8	475.3
157.5°	486.4	486.6	486.8	487.0	487.3	487.4	487.6	487.8	488.0	488.1	488.9
160°	495.1	495.3	495.5	495.7	495.9	496.1	496.1	496.2	496.4	496.5	497.1
162.5°	503.0	503.1	503.1	503.2	503.2	503.3	503.4	503.5	503.6	503.7	504.4
165°	513.7	513.5	513.4	513.3	513.3	513.2	513.2	513.2	513.2	513.2	513.9
167.5°	522.4	522.2	521.9	521.6	521.3	521.1	521.1	521.1	521.0	521.0	521.7
170°	527.2	526.9	526.6	526.2	526.0	525.8	525.7	525.5	525.5	525.4	526.1
172.5°	530.4	530.1	529.8	529.5	529.3	529.0	528.9	528.9	528.7	528.6	529.3
175°	534.4	534.1	533.8	533.5	533.2	533.0	532.7	532.6	532.3	532.1	532.8
177.5°	536.1	535.8	535.5	535.3	535.0	534.9	534.7	534.6	534.4	534.2	534.7
180°	535.3	535.3	535.3	535.3	535.3	535.3	535.3	535.3	535.3	535.3	535.3



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1093.2	1093.2	1093.2	1093.2	1093.2	1093.2	1093.2	1093.2
2.5°	1088.5	1090.4	1092.3	1093.1	1092.7	1092.3	1091.9	1091.5
5°	1081.2	1083.1	1085.0	1085.6	1085.2	1084.7	1084.3	1083.8
7.5°	1069.0	1070.9	1072.8	1073.4	1072.9	1072.4	1071.9	1071.3
10°	1058.0	1059.9	1061.8	1062.4	1061.7	1061.0	1060.3	1059.6
12.5°	1045.2	1046.5	1047.8	1048.2	1047.7	1047.2	1046.6	1046.2
15°	1022.5	1023.5	1024.5	1024.3	1023.2	1022.0	1020.8	1019.6
17.5°	995.7	996.8	997.9	997.8	996.7	995.6	994.5	993.4
20°	974.8	975.5	976.2	976.0	975.2	974.2	973.3	972.3
22.5°	952.7	952.8	952.9	952.8	952.1	951.6	951.0	950.5
25°	916.6	917.0	917.4	917.4	917.0	916.6	916.1	915.6
27.5°	881.0	880.3	879.6	878.7	877.5	876.4	875.3	874.2
30°	853.2	852.5	851.8	851.0	850.1	849.1	848.2	847.2
32.5°	826.0	824.7	823.5	822.4	821.5	820.5	819.6	818.6
35°	782.4	781.0	779.7	778.3	777.2	776.0	774.8	773.6
37.5°	738.7	737.0	735.2	733.8	732.7	731.6	730.5	729.3
40°	708.5	706.4	704.3	702.7	701.9	700.9	700.0	699.0
42.5°	678.7	676.4	674.1	672.3	671.0	669.7	668.4	667.1
45°	633.0	630.3	627.8	626.1	625.1	624.2	623.2	622.3
47.5°	585.3	582.7	580.0	577.9	576.6	575.2	573.9	572.5
50°	554.8	551.5	548.3	546.1	544.9	543.7	542.6	541.4
52.5°	523.1	520.4	517.7	515.6	514.0	512.5	511.0	509.4
55°	475.9	473.0	470.2	468.3	467.1	465.9	464.8	463.6
57.5°	426.7	424.0	421.2	419.4	418.5	417.6	416.8	415.8
60°	394.3	391.7	389.2	387.5	386.8	386.1	385.4	384.8
62.5°	363.5	361.2	358.8	357.2	356.2	355.4	354.5	353.6
65°	316.4	314.3	312.2	310.5	309.4	308.2	307.0	305.9
67.5°	269.8	268.2	266.6	265.3	264.4	263.4	262.4	261.5
70°	239.6	237.9	236.3	235.0	234.1	233.1	232.2	231.2
72.5°	211.0	209.3	207.7	206.5	205.7	205.0	204.2	203.5
75°	166.4	165.0	163.7	163.2	163.7	164.1	164.5	165.0
77.5°	126.7	126.0	125.2	124.5	123.9	123.3	122.6	121.9
80°	100.5	99.9	99.2	98.5	98.1	97.7	97.2	96.7
82.5°	74.9	74.1	73.2	72.7	72.6	72.5	72.4	72.3
85°	39.6	38.9	38.2	37.7	37.5	37.2	37.0	36.8
87.5°	13.7	13.2	12.5	12.1	12.0	11.8	11.6	11.5
90°	15.4	15.2	15.0	15.0	15.1	15.1	15.3	15.4
92.5°	14.4	14.5	14.5	14.6	14.6	14.6	14.7	14.7
95°	28.9	28.9	28.9	28.8	28.6	28.4	28.2	28.0
97.5°	48.6	48.6	48.6	48.6	48.6	48.6	48.6	48.5
100°	62.3	62.3	62.3	62.3	62.2	62.1	62.0	61.9
102.5°	77.3	77.4	77.5	77.5	77.4	77.2	77.2	77.1
105°	99.8	100.0	100.2	100.3	100.3	100.3	100.3	100.3
107.5°	124.1	124.1	124.2	124.0	123.5	123.1	122.6	122.2
110°	140.5	140.5	140.5	140.4	140.1	139.7	139.4	139.1





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CATALOG NUMBER: SA2XXDIP-C865D530U927-4F0-1E-UDD-F1

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	157.0	156.8	156.5	156.3	156.1	155.8	155.6	155.4
115°	182.3	182.2	182.1	181.9	181.6	181.3	181.0	180.7
117.5°	206.8	206.5	206.3	206.0	205.7	205.4	205.1	204.8
120°	223.2	223.2	223.2	223.0	222.7	222.4	222.1	221.8
122.5°	240.0	239.8	239.6	239.3	239.1	238.8	238.7	238.4
125°	265.0	264.7	264.4	264.2	264.1	264.0	263.9	263.8
127.5°	289.3	288.9	288.6	288.2	287.9	287.6	287.2	286.9
130°	305.9	305.7	305.5	305.1	304.8	304.4	304.0	303.6
132.5°	322.0	321.5	321.2	320.8	320.4	320.1	319.8	319.5
135°	345.9	345.7	345.6	345.4	345.2	344.8	344.5	344.2
137.5°	368.6	368.5	368.4	368.2	367.8	367.4	367.0	366.6
140°	384.0	384.0	384.0	383.8	383.3	382.9	382.5	382.1
142.5°	397.8	397.9	398.0	397.8	397.4	397.0	396.6	396.2
145°	419.0	419.1	419.1	419.0	418.6	418.2	417.8	417.4
147.5°	437.4	437.7	437.9	437.8	437.4	437.0	436.7	436.3
150°	449.2	449.5	449.8	449.8	449.5	449.2	448.9	448.6
152.5°	460.9	461.3	461.7	461.7	461.3	460.9	460.5	460.2
155°	475.8	476.3	476.8	476.9	476.6	476.3	475.9	475.7
157.5°	489.5	490.2	490.9	491.0	490.5	490.0	489.6	489.0
160°	497.6	498.3	498.8	499.0	498.6	498.2	497.7	497.3
162.5°	505.0	505.7	506.4	506.5	506.0	505.6	505.1	504.6
165°	514.6	515.3	515.9	516.1	515.6	515.1	514.6	514.0
167.5°	522.4	523.2	523.9	523.9	523.4	522.9	522.4	521.8
170°	526.8	527.5	528.1	528.2	527.6	527.0	526.4	525.9
172.5°	530.0	530.8	531.4	531.5	530.9	530.3	529.7	529.1
175°	533.5	534.2	535.0	535.0	534.4	533.8	533.2	532.6
177.5°	535.2	535.7	536.1	536.1	535.7	535.2	534.7	534.2
180°	535.3	535.3	535.3	535.3	535.3	535.3	535.3	535.3

(END OF REPORT)