

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: P331391-930

Luminaire Tested: **SA2XXDIP-C865D530U930-4F0-1E-UDD-F1**

Issue Date: 10/7/2019

**Test Information**

Test Method: LM-79-08  
Report Number: P331391-930  
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-C865D530U930-4F0-1E-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**

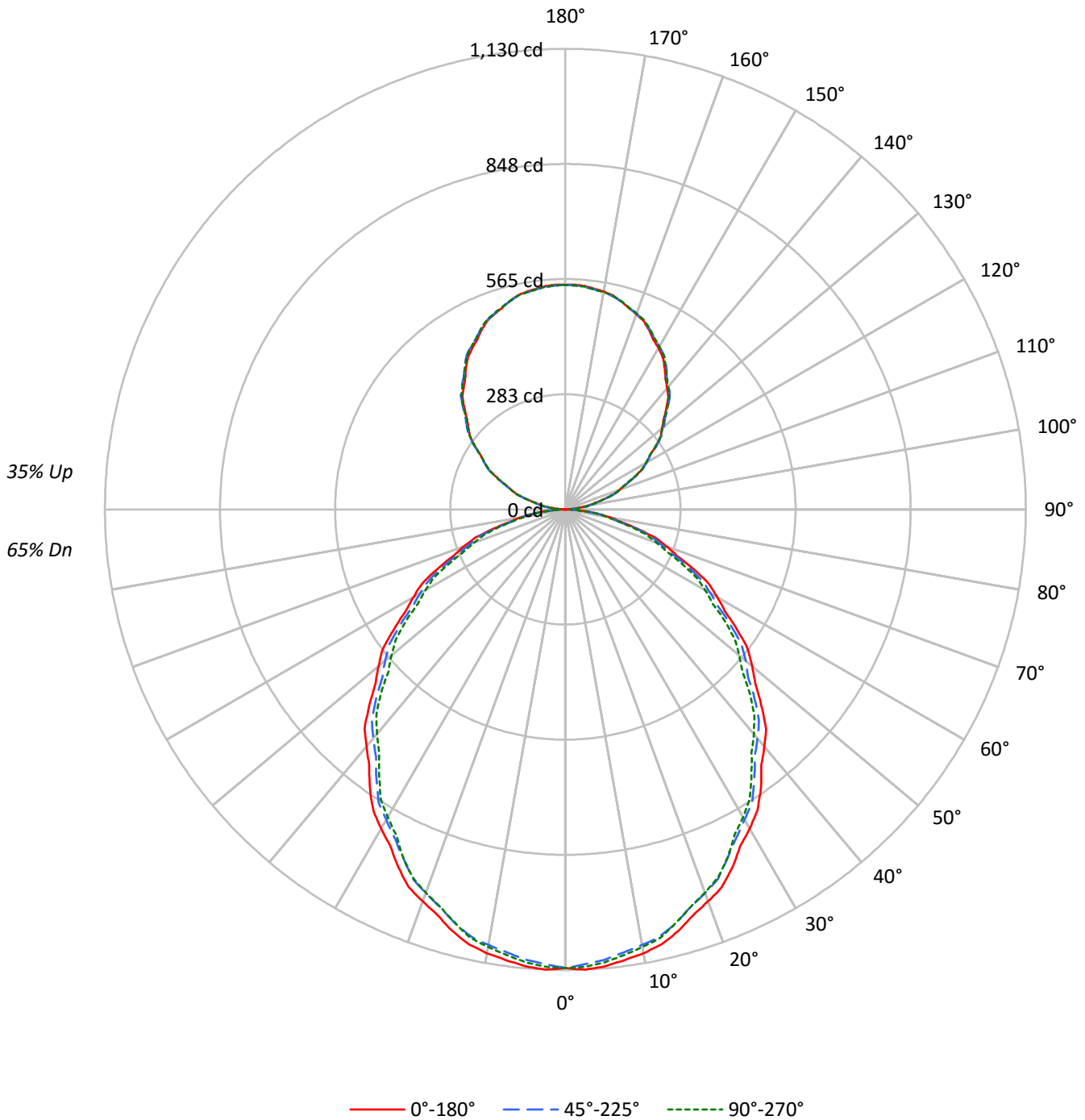
Lumens per Lamp: N/A  
Luminaire Lumens: 4405.2 lumens  
Efficiency: N/A  
Efficacy: 90.3 lumens/watt  
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.3  
Luminous Opening: Rectangular (W 0.17' x L: 4' x H: 0')  
CIE Type: Semi-Direct

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°	18166	18166	18166
5°	18235	17973	18078
10°	18126	17790	17879
15°	17904	17560	17541
20°	17584	17213	17194
25°	17268	16787	16787
30°	16861	16397	16257
35°	16484	15928	15693
40°	16008	15460	15163
45°	15536	14995	14625
50°	15028	14511	13996
55°	14494	13948	13430
60°	13905	13275	12788
65°	13268	12607	12027
70°	12463	11797	11235
75°	11335	10861	10593
80°	10060	9754	9252
85°	8225	7818	7003



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	105.8	2.4
10°-20°	297.7	6.8
20°-30°	437.6	9.9
30°-40°	508.3	11.5
40°-50°	507.7	11.5
50°-60°	442.8	10.1
60°-70°	327.4	7.4
70°-80°	185.4	4.2
80°-90°	52.1	1.2
90°-100°	34.9	0.8
100°-110°	108.4	2.5
110°-120°	185.3	4.2
120°-130°	243.7	5.5
130°-140°	273.5	6.2
140°-150°	268.2	6.1
150°-160°	225.0	5.1
160°-170°	149.2	3.4
170°-180°	52.2	1.2
0°-30°	841.1	19.1
0°-40°	1349.3	30.6
0°-60°	2299.8	52.2
0°-90°	2864.7	65.0
90°-120°	328.7	7.5
90°-150°	1114.2	25.3
90°-180°	1540.0	35.0
0°-180°	4405.2	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1125	1125	1125	1125	1125	
5°	1125	1120	1109	1117	1115	107
15°	1071	1064	1050	1054	1049	301
25°	969	960	942	944	942	446
35°	836	825	808	802	796	522
45°	680	672	657	645	640	525
55°	515	508	496	483	477	460
65°	347	341	330	320	315	343
75°	182	179	174	168	170	194
85°	44	43	42	39	38	51
90°	0	6	16	15	16	3
95°	24	29	30	30	29	28
105°	100	101	102	103	103	106
115°	186	189	188	187	186	184
125°	271	274	273	272	272	242
135°	350	355	356	356	354	270
145°	425	428	431	431	430	265
155°	486	487	489	491	490	224
165°	529	528	528	531	529	149
175°	550	549	548	551	548	52
180°	551	551	551	551	551	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1125.1	1125.1	1125.1	1125.1	1125.1	1125.1	1125.1	1125.1	1125.1	1125.1	1125.1
2.5°	1130.3	1129.4	1128.4	1127.5	1126.5	1124.9	1122.8	1120.7	1118.6	1116.5	1118.4
5°	1125.1	1124.1	1123.2	1122.3	1121.3	1119.5	1116.9	1114.2	1111.6	1108.9	1110.8
7.5°	1115.2	1113.7	1112.2	1110.7	1109.2	1107.1	1104.4	1101.7	1099.0	1096.3	1098.3
10°	1105.6	1104.0	1102.3	1100.6	1098.9	1096.7	1093.7	1090.9	1088.0	1085.1	1087.0
12.5°	1092.7	1091.2	1089.7	1088.2	1086.7	1084.5	1081.7	1078.7	1075.9	1073.0	1074.3
15°	1071.1	1069.6	1068.1	1066.7	1065.3	1063.0	1059.9	1056.7	1053.6	1050.5	1051.4
17.5°	1043.3	1041.9	1040.5	1039.0	1037.5	1035.3	1032.1	1028.9	1025.7	1022.5	1023.7
20°	1023.4	1022.0	1020.6	1019.1	1017.7	1015.3	1011.9	1008.5	1005.2	1001.8	1002.5
22.5°	1003.6	1001.5	999.5	997.4	995.5	992.9	989.7	986.5	983.3	980.2	980.3
25°	969.3	967.4	965.5	963.6	961.6	958.6	954.6	950.5	946.4	942.3	942.8
27.5°	930.4	928.7	926.9	925.2	923.5	921.0	917.8	914.5	911.3	908.1	907.4
30°	904.4	902.5	900.6	898.7	896.7	894.0	890.4	886.8	883.1	879.5	878.8
32.5°	876.8	875.2	873.7	872.1	870.6	867.9	864.1	860.3	856.6	852.7	851.4
35°	836.3	833.9	831.4	829.1	826.6	823.5	819.7	815.9	812.0	808.1	806.7
37.5°	790.6	788.5	786.4	784.2	782.2	779.2	775.3	771.5	767.6	763.8	762.0
40°	759.5	757.6	755.6	753.7	751.8	748.9	745.0	741.2	737.4	733.5	731.3
42.5°	729.2	727.2	725.3	723.4	721.5	718.6	714.8	710.9	707.0	703.2	700.8
45°	680.4	678.8	677.1	675.5	673.8	671.1	667.5	663.9	660.3	656.7	654.0
47.5°	632.0	630.5	628.8	627.3	625.7	623.0	619.2	615.5	611.7	608.0	605.2
50°	598.3	597.0	595.9	594.7	593.5	591.2	587.8	584.4	581.1	577.7	574.4
52.5°	565.4	563.8	562.2	560.6	559.1	556.7	553.5	550.3	547.1	544.0	541.2
55°	514.9	513.6	512.1	510.6	509.2	507.0	504.2	501.2	498.4	495.5	492.6
57.5°	464.3	463.2	462.0	460.9	459.7	457.5	454.4	451.2	448.0	444.8	442.1
60°	430.6	429.6	428.7	427.7	426.7	424.6	421.2	417.8	414.5	411.1	408.5
62.5°	397.7	396.2	394.6	393.1	391.5	389.5	386.9	384.3	381.6	379.1	376.7
65°	347.3	345.8	344.4	342.9	341.5	339.6	337.2	334.8	332.4	330.0	327.8
67.5°	296.0	294.8	293.7	292.5	291.4	289.8	287.6	285.4	283.2	281.0	279.4
70°	264.0	263.0	262.0	261.1	260.2	258.5	256.4	254.2	252.1	249.9	248.3
72.5°	231.1	230.2	229.2	228.2	227.2	226.1	224.7	223.3	221.8	220.5	218.8
75°	181.7	181.2	180.8	180.3	179.9	179.0	177.8	176.6	175.4	174.1	172.8
77.5°	137.6	136.8	136.0	135.2	134.4	133.7	133.2	132.7	132.2	131.8	131.0
80°	108.2	107.9	107.7	107.5	107.2	106.9	106.4	105.9	105.4	104.9	104.2
82.5°	80.5	80.5	80.4	80.3	80.3	80.1	79.8	79.6	79.2	79.0	78.0
85°	44.4	44.1	43.9	43.6	43.4	43.1	42.9	42.6	42.4	42.2	41.5
87.5°	15.7	15.6	15.4	15.2	15.2	15.1	15.2	15.2	15.3	15.4	14.8
90°	0.5	1.7	2.9	4.2	5.5	7.2	9.5	11.7	14.0	16.3	16.1
92.5°	8.3	9.2	10.1	11.0	11.9	12.6	13.2	13.7	14.3	14.8	14.8
95°	24.2	25.2	26.3	27.3	28.3	28.9	29.1	29.4	29.5	29.8	29.8
97.5°	44.2	45.1	46.0	46.9	47.8	48.4	48.8	49.2	49.7	50.1	50.1
100°	59.0	59.8	60.7	61.6	62.4	62.9	63.3	63.5	63.8	64.2	64.2
102.5°	74.7	75.3	76.0	76.6	77.3	77.9	78.3	78.6	79.0	79.4	79.5
105°	100.0	100.3	100.6	100.9	101.2	101.4	101.7	101.8	102.1	102.3	102.5
107.5°	125.5	125.9	126.4	126.8	127.3	127.5	127.5	127.5	127.5	127.5	127.6
110°	141.8	142.4	143.0	143.7	144.3	144.6	144.6	144.6	144.6	144.6	144.6



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	159.6	160.3	160.9	161.5	162.2	162.4	162.3	162.2	162.2	162.1	161.8
115°	186.0	186.6	187.2	187.8	188.4	188.7	188.4	188.3	188.0	187.8	187.8
117.5°	212.2	213.0	213.9	214.7	215.5	215.6	215.1	214.4	213.9	213.3	213.0
120°	229.7	230.5	231.3	232.1	233.0	233.0	232.1	231.3	230.5	229.7	229.7
122.5°	245.6	246.6	247.7	248.7	249.6	249.8	249.2	248.7	248.1	247.5	247.3
125°	270.6	271.5	272.5	273.4	274.3	274.6	274.3	274.0	273.7	273.4	273.0
127.5°	294.8	296.0	297.2	298.4	299.5	299.9	299.6	299.2	298.9	298.5	298.1
130°	310.1	311.4	312.7	314.1	315.4	316.0	315.8	315.6	315.4	315.2	315.0
132.5°	327.2	328.3	329.4	330.5	331.6	332.2	332.2	332.2	332.3	332.3	331.9
135°	350.1	351.2	352.4	353.5	354.7	355.3	355.5	355.7	356.0	356.1	356.0
137.5°	374.1	375.1	376.0	377.0	377.9	378.5	378.8	379.0	379.3	379.5	379.4
140°	388.7	389.6	390.5	391.4	392.4	393.1	393.6	394.1	394.7	395.2	395.2
142.5°	403.6	404.5	405.4	406.3	407.2	407.9	408.3	408.6	409.0	409.3	409.4
145°	424.9	425.7	426.4	427.1	427.9	428.5	429.1	429.7	430.4	431.0	431.0
147.5°	444.0	444.8	445.7	446.6	447.4	448.1	448.5	448.9	449.3	449.8	450.0
150°	457.1	457.6	458.3	458.9	459.5	460.0	460.4	460.8	461.2	461.7	461.9
152.5°	468.6	469.2	469.8	470.4	471.0	471.6	472.1	472.5	473.0	473.6	473.9
155°	485.8	486.2	486.5	486.7	487.1	487.4	487.7	488.0	488.3	488.6	489.2
157.5°	500.6	500.8	501.0	501.2	501.5	501.7	501.8	502.1	502.2	502.4	503.1
160°	509.6	509.7	510.0	510.1	510.4	510.5	510.6	510.7	510.9	510.9	511.6
162.5°	517.7	517.8	517.8	517.9	517.9	518.0	518.0	518.2	518.3	518.4	519.1
165°	528.6	528.5	528.4	528.3	528.2	528.2	528.2	528.2	528.2	528.2	528.9
167.5°	537.7	537.4	537.1	536.8	536.5	536.3	536.3	536.3	536.2	536.2	537.0
170°	542.6	542.3	541.9	541.6	541.4	541.1	541.0	540.9	540.8	540.7	541.4
172.5°	545.9	545.6	545.3	544.9	544.7	544.5	544.4	544.3	544.1	544.0	544.8
175°	550.0	549.7	549.3	549.1	548.8	548.5	548.3	548.1	547.9	547.6	548.4
177.5°	551.7	551.4	551.1	550.9	550.7	550.5	550.3	550.2	550.0	549.8	550.3
180°	550.9	550.9	550.9	550.9	550.9	550.9	550.9	550.9	550.9	550.9	550.9



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1125.1	1125.1	1125.1	1125.1	1125.1	1125.1	1125.1	1125.1
2.5°	1120.3	1122.3	1124.1	1124.9	1124.5	1124.1	1123.8	1123.4
5°	1112.7	1114.7	1116.6	1117.3	1116.9	1116.4	1115.9	1115.4
7.5°	1100.2	1102.1	1104.1	1104.7	1104.2	1103.7	1103.2	1102.6
10°	1088.9	1090.9	1092.8	1093.4	1092.7	1091.9	1091.2	1090.5
12.5°	1075.7	1077.0	1078.4	1078.8	1078.2	1077.7	1077.2	1076.7
15°	1052.4	1053.4	1054.3	1054.2	1053.0	1051.8	1050.6	1049.4
17.5°	1024.7	1025.9	1027.0	1027.0	1025.8	1024.7	1023.5	1022.4
20°	1003.2	1004.0	1004.7	1004.5	1003.6	1002.7	1001.7	1000.7
22.5°	980.5	980.6	980.7	980.6	979.9	979.3	978.8	978.2
25°	943.3	943.7	944.2	944.2	943.7	943.3	942.8	942.3
27.5°	906.7	906.0	905.2	904.3	903.1	902.0	900.8	899.7
30°	878.1	877.4	876.7	875.8	874.9	873.9	872.9	872.0
32.5°	850.1	848.8	847.5	846.4	845.5	844.5	843.5	842.5
35°	805.3	803.8	802.4	801.0	799.9	798.7	797.4	796.2
37.5°	760.3	758.5	756.7	755.2	754.1	752.9	751.8	750.6
40°	729.2	727.0	724.9	723.3	722.4	721.4	720.4	719.4
42.5°	698.5	696.1	693.8	691.9	690.6	689.3	687.9	686.6
45°	651.4	648.7	646.1	644.3	643.4	642.4	641.4	640.5
47.5°	602.4	599.7	596.9	594.8	593.4	592.0	590.6	589.2
50°	571.0	567.6	564.3	562.0	560.8	559.5	558.4	557.2
52.5°	538.3	535.6	532.8	530.6	529.0	527.4	525.9	524.2
55°	489.8	486.8	484.0	481.9	480.7	479.5	478.3	477.1
57.5°	439.2	436.3	433.5	431.6	430.7	429.8	428.9	428.0
60°	405.9	403.2	400.6	398.8	398.1	397.4	396.6	396.0
62.5°	374.1	371.7	369.2	367.6	366.6	365.7	364.8	363.9
65°	325.6	323.5	321.3	319.6	318.5	317.2	316.0	314.8
67.5°	277.7	276.0	274.3	273.0	272.1	271.1	270.1	269.1
70°	246.5	244.8	243.2	241.8	240.9	239.9	239.0	238.0
72.5°	217.1	215.4	213.8	212.5	211.7	211.0	210.2	209.5
75°	171.3	169.8	168.4	168.0	168.4	168.9	169.3	169.8
77.5°	130.4	129.6	128.9	128.2	127.5	126.9	126.2	125.5
80°	103.5	102.8	102.1	101.4	100.9	100.5	100.0	99.5
82.5°	77.1	76.2	75.3	74.8	74.7	74.6	74.5	74.4
85°	40.8	40.0	39.3	38.8	38.6	38.3	38.1	37.8
87.5°	14.1	13.5	12.9	12.5	12.3	12.1	12.0	11.8
90°	15.9	15.7	15.4	15.4	15.5	15.6	15.7	15.8
92.5°	14.8	14.9	14.9	15.0	15.0	15.0	15.1	15.1
95°	29.8	29.8	29.8	29.7	29.4	29.3	29.0	28.9
97.5°	50.1	50.1	50.1	50.0	50.0	50.0	50.0	49.9
100°	64.2	64.2	64.2	64.1	64.0	63.9	63.8	63.7
102.5°	79.6	79.7	79.7	79.7	79.7	79.5	79.4	79.3
105°	102.7	102.9	103.1	103.2	103.2	103.2	103.2	103.2
107.5°	127.7	127.8	127.8	127.6	127.1	126.7	126.2	125.7
110°	144.6	144.6	144.6	144.5	144.1	143.8	143.5	143.2





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CATALOG NUMBER: SA2XXDIP-C865D530U930-4F0-1E-UDD-F1

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	161.6	161.3	161.1	160.9	160.6	160.4	160.1	160.0
115°	187.6	187.5	187.4	187.2	186.9	186.6	186.3	186.0
117.5°	212.8	212.5	212.3	212.1	211.7	211.4	211.1	210.8
120°	229.7	229.7	229.7	229.5	229.2	228.9	228.6	228.3
122.5°	247.0	246.8	246.5	246.3	246.1	245.8	245.6	245.4
125°	272.7	272.5	272.1	271.9	271.8	271.7	271.6	271.5
127.5°	297.7	297.3	297.0	296.6	296.3	296.0	295.6	295.3
130°	314.8	314.6	314.4	314.1	313.6	313.2	312.8	312.4
132.5°	331.4	330.9	330.5	330.1	329.8	329.5	329.1	328.8
135°	356.0	355.8	355.7	355.5	355.2	354.9	354.6	354.2
137.5°	379.4	379.3	379.2	379.0	378.5	378.1	377.7	377.3
140°	395.2	395.2	395.2	395.0	394.5	394.1	393.7	393.3
142.5°	409.4	409.5	409.6	409.4	409.0	408.6	408.2	407.8
145°	431.2	431.3	431.4	431.2	430.8	430.4	430.0	429.6
147.5°	450.2	450.5	450.7	450.6	450.2	449.8	449.4	449.0
150°	462.3	462.6	462.9	462.9	462.6	462.3	461.9	461.7
152.5°	474.3	474.7	475.2	475.2	474.7	474.3	473.9	473.6
155°	489.7	490.2	490.7	490.8	490.5	490.2	489.8	489.6
157.5°	503.8	504.5	505.2	505.3	504.8	504.3	503.9	503.3
160°	512.2	512.8	513.4	513.6	513.1	512.7	512.3	511.8
162.5°	519.8	520.5	521.2	521.3	520.8	520.3	519.8	519.3
165°	529.6	530.4	531.0	531.2	530.6	530.1	529.6	529.0
167.5°	537.7	538.4	539.2	539.2	538.7	538.2	537.6	537.0
170°	542.2	542.9	543.6	543.6	543.0	542.4	541.8	541.2
172.5°	545.5	546.3	546.9	547.0	546.4	545.8	545.1	544.5
175°	549.1	549.8	550.6	550.7	550.0	549.3	548.8	548.1
177.5°	550.8	551.3	551.8	551.8	551.3	550.8	550.3	549.8
180°	550.9	550.9	550.9	550.9	550.9	550.9	550.9	550.9

(END OF REPORT)