

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: P331401-930

Luminaire Tested: **SA2XXDIP-C865D725U930-4F0-1E-UDD-F4**

Issue Date: 10/7/2019

**Test Information**

Test Method: LM-79-08  
Report Number: P331401-930  
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-16,  
Test Lab: INNOVATION CENTER  
Issue Date: 10/7/2019  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: NEO-RAY  
Catalog Number: SA2XXDIP-C865D725U930-4F0-1E-UDD-F4  
Description: DEFINE 2 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 865 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER  
UPLIGHT 725 LUMENS PER FOOT, BATWING OPTIC  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

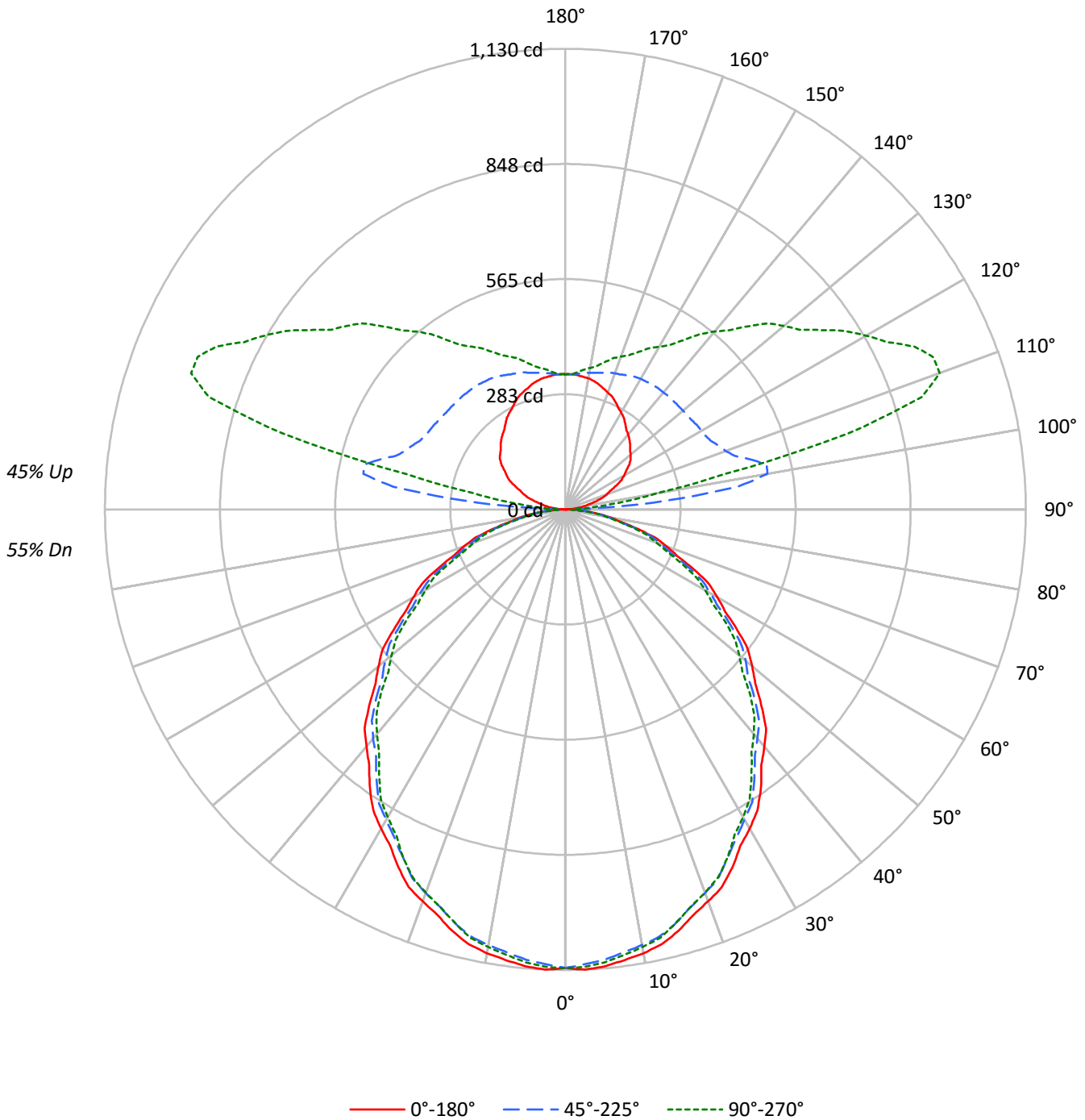
Lumens per Lamp: N/A  
Luminaire Lumens: 5171.6 lumens  
Efficiency: N/A  
Efficacy: 95.1 lumens/watt  
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.3  
Luminous Opening: Rectangular (W 0.17' x L: 4' x H: 0')  
CIE Type: General Diffuse

Input Watts (W): 54.4  
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	108	108	108	108	101	101	101	101	86	86	86	73	73	73	61	61	61	55
1	99	95	91	87	92	88	85	82	76	73	71	64	63	61	54	53	52	47
2	90	83	76	71	83	77	72	67	66	62	59	57	54	51	48	45	43	39
3	82	73	65	59	76	68	61	56	59	54	49	50	46	43	42	39	37	33
4	75	64	56	50	70	60	53	47	52	47	42	45	40	37	38	34	32	28
5	69	57	49	43	64	54	46	41	47	41	36	40	36	32	34	31	28	25
6	64	51	43	37	59	48	41	36	42	36	32	36	32	28	31	27	24	22
7	59	47	38	33	55	44	36	31	38	32	28	33	28	25	28	25	22	19
8	55	42	34	29	51	40	33	28	35	29	25	30	26	22	26	22	20	17
9	51	39	31	26	47	36	29	25	32	26	22	28	23	20	24	20	18	16
10	48	35	28	23	44	33	27	22	29	24	20	26	21	18	22	19	16	14

**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	2.0
10°-20°	297.7	5.8
20°-30°	437.6	8.5
30°-40°	508.3	9.8
40°-50°	507.7	9.8
50°-60°	442.8	8.6
60°-70°	327.4	6.3
70°-80°	185.4	3.6
80°-90°	52.8	1.0
90°-100°	132.5	2.6
100°-110°	449.7	8.7
110°-120°	477.7	9.2
120°-130°	393.2	7.6
130°-140°	315.8	6.1
140°-150°	238.6	4.6
150°-160°	167.7	3.2
160°-170°	98.7	1.9
170°-180°	32.1	0.6
0°-30°	841.1	16.3
0°-40°	1349.3	26.1
0°-60°	2299.8	44.5
0°-90°	2865.5	55.4
90°-120°	1059.9	20.5
90°-150°	2007.6	38.8
90°-180°	2306.0	44.6
0°-180°	5171.6	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°	1	9	22	21	21	3
95°	22	55	250	94	73	24
105°	78	117	472	844	718	83
115°	137	173	395	815	945	136
125°	191	226	380	661	767	170
135°	224	268	375	555	635	173
145°	256	294	374	464	507	161
155°	291	314	363	410	426	134
165°	317	327	347	368	374	89
175°	331	331	334	338	337	31
180°	331	331	331	331	331	



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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	15.7	15.8	15.7	15.6	15.6	15.8	16.3	16.7	16.5	15.7
90°	0.7	2.5	5.1	6.4	7.7	9.5	12.7	17.2	21.0	21.7	21.0
92.5°	7.7	11.3	15.8	18.6	22.9	28.9	43.4	63.6	81.7	82.8	70.0
95°	22.3	24.9	31.2	36.9	47.1	62.5	91.8	147.2	221.2	249.8	218.6
97.5°	36.4	39.8	46.6	55.2	66.9	84.2	121.1	198.4	321.2	426.5	447.4
100°	49.1	51.0	56.7	66.9	79.7	97.5	131.3	209.0	346.7	503.4	595.3
102.5°	60.8	62.2	67.9	78.1	91.4	109.3	140.5	209.5	337.0	506.1	650.3
105°	77.8	80.3	84.8	94.3	108.4	126.2	156.1	212.9	318.0	472.2	641.8
107.5°	96.1	98.2	102.5	111.3	125.1	143.2	172.2	221.7	308.6	436.0	585.8
110°	108.4	110.9	114.7	123.0	136.4	154.9	182.9	228.8	306.6	418.7	550.7



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	119.5	122.1	126.5	134.2	147.1	166.1	193.1	236.4	307.0	407.5	526.2
115°	137.1	140.2	144.1	151.6	164.4	181.6	209.0	247.9	309.7	395.2	495.9
117.5°	155.2	157.7	161.5	168.3	180.5	198.4	223.7	260.2	314.3	389.1	476.7
120°	166.3	168.9	172.7	178.5	191.2	209.0	233.9	268.3	317.4	385.6	466.5
122.5°	177.1	179.1	182.9	189.1	201.9	220.3	243.6	275.5	321.0	383.5	457.9
125°	191.2	193.1	196.9	204.6	217.4	235.1	258.1	286.8	326.3	379.8	445.5
127.5°	202.4	205.0	210.3	218.7	231.0	249.3	271.7	297.3	331.8	377.6	434.0
130°	209.0	211.6	217.9	226.9	239.6	257.5	279.8	304.0	335.9	376.7	426.4
132.5°	215.2	218.3	225.1	234.6	247.8	265.6	286.9	310.6	340.0	376.2	420.3
135°	224.4	226.9	234.6	244.1	258.8	276.6	297.0	319.3	344.8	375.4	411.7
137.5°	233.0	236.0	243.7	253.9	268.5	285.0	305.2	326.0	349.1	375.3	405.7
140°	239.6	242.1	249.8	260.0	274.0	290.7	309.7	329.5	351.1	374.7	402.2
142.5°	246.2	248.3	255.4	265.6	279.2	294.7	313.3	332.6	352.7	374.7	398.6
145°	256.2	258.8	265.1	274.7	287.4	301.4	318.7	336.5	354.3	373.5	393.9
147.5°	266.9	268.8	274.9	283.7	294.3	306.8	323.0	338.7	354.9	371.2	389.1
150°	274.0	276.0	281.0	289.3	298.9	310.4	325.1	339.7	354.3	369.7	384.9
152.5°	281.2	282.1	287.1	294.4	303.5	314.0	327.1	340.2	353.4	367.1	381.4
155°	291.2	291.9	295.7	302.7	309.7	319.3	330.1	341.0	351.8	362.6	374.7
157.5°	299.7	300.3	303.4	309.5	315.1	323.1	332.3	341.0	348.9	358.1	368.5
160°	305.2	305.9	308.4	313.6	318.7	325.6	333.3	341.0	347.3	355.0	363.9
162.5°	310.9	310.5	313.1	317.2	321.7	327.2	333.9	340.5	345.8	352.5	359.8
165°	317.4	316.7	318.0	321.9	325.1	328.9	334.6	339.1	342.9	347.3	353.1
167.5°	322.8	322.0	323.1	325.5	327.8	330.3	334.4	338.2	340.0	342.9	346.4
170°	326.3	325.1	325.6	327.6	328.9	330.8	333.9	337.1	338.4	340.3	342.9
172.5°	328.3	327.6	327.2	329.1	329.9	331.3	333.5	335.6	336.4	337.3	339.3
175°	330.8	330.1	329.5	330.8	330.8	331.4	332.6	333.9	333.3	333.9	334.6
177.5°	331.9	330.9	330.4	331.4	331.4	331.4	331.9	333.0	331.9	331.4	331.9
180°	331.4	331.4	331.4	331.4	331.4	331.4	331.4	331.4	331.4	331.4	331.4



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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°	15.0	14.2	13.9	13.6	13.5	13.2	13.0	12.9
90°	20.4	19.2	20.4	21.0	21.0	21.0	21.0	21.0
92.5°	55.6	47.7	42.3	38.4	37.8	35.8	36.4	35.3
95°	167.0	128.1	101.3	87.3	79.0	73.9	72.0	72.6
97.5°	389.6	318.8	249.8	203.8	173.3	157.7	148.4	143.0
100°	581.9	502.9	415.6	338.4	285.5	258.1	239.6	228.1
102.5°	707.8	690.0	626.1	544.4	486.9	440.1	417.0	401.5
105°	774.4	846.4	854.7	833.6	794.1	754.6	727.2	718.3
107.5°	726.4	834.9	901.2	932.1	937.0	934.8	929.4	917.5
110°	685.1	799.2	880.8	933.0	960.4	972.6	978.3	977.6





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CATALOG NUMBER: SA2XXDIP-C865D725U930-4F0-1E-UDD-F4

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	647.4	756.8	844.1	904.0	942.1	962.4	973.2	976.6
115°	601.0	699.1	782.6	848.2	893.5	922.8	939.4	945.2
117.5°	566.1	652.2	728.0	789.5	835.7	866.7	884.1	888.9
120°	548.7	627.8	695.3	753.3	797.9	827.9	846.4	852.7
122.5°	535.0	607.4	671.3	723.7	763.8	793.2	809.7	815.0
125°	514.9	580.6	636.7	684.4	721.5	745.7	761.6	766.7
127.5°	495.2	554.6	607.5	651.6	683.9	706.5	720.3	724.4
130°	482.4	537.3	587.6	629.7	660.9	682.6	695.3	700.4
132.5°	470.2	521.0	567.2	606.7	637.5	659.1	670.8	675.4
135°	453.1	495.2	537.3	572.9	600.4	621.4	632.8	635.4
137.5°	439.5	474.7	508.1	539.2	564.2	582.3	592.3	596.1
140°	430.8	461.5	490.7	518.8	539.2	555.7	565.3	569.2
142.5°	423.7	449.7	474.9	498.4	517.8	532.8	541.4	542.1
145°	413.6	434.6	454.4	472.9	488.2	499.0	505.4	507.3
147.5°	405.9	422.4	437.8	451.3	464.0	472.6	477.0	478.1
150°	400.2	414.3	427.6	439.1	448.7	456.3	460.2	460.8
152.5°	394.6	407.6	419.0	428.9	436.4	443.0	445.9	446.0
155°	386.9	397.1	406.6	413.6	420.6	425.1	427.6	426.4
157.5°	377.8	386.4	394.4	399.8	404.8	408.5	409.7	409.7
160°	372.2	379.2	386.2	390.7	395.2	398.4	398.9	398.9
162.5°	366.6	372.6	378.5	382.0	386.5	388.7	389.3	388.7
165°	358.2	362.6	367.1	369.7	372.2	374.7	374.7	374.1
167.5°	350.2	353.6	356.6	359.0	360.1	361.5	361.3	360.6
170°	346.1	348.0	350.5	351.8	352.5	354.3	353.7	352.5
172.5°	341.4	342.9	345.0	345.7	346.3	347.2	346.6	345.8
175°	336.5	337.1	337.8	338.4	338.4	339.1	338.4	337.1
177.5°	333.0	333.0	333.5	333.5	333.5	333.5	333.0	331.9
180°	331.4	331.4	331.4	331.4	331.4	331.4	331.4	331.4

(END OF REPORT)