

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: P331716-930

Luminaire Tested: **SA2XXRDIP-C865D530U930-4F0-1E-UDD-F4**

Issue Date: 10/7/2019

Test Information

Test Method: LM-79-08
Report Number: P331716-930
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: SA2XXRDIP-C865D530U930-4F0-1E-UDD-F4
Description: DEFINE 2 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 865 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED
HOUSING
UPLIGHT 530 LUMENS PER FOOT, BATWING OPTIC
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

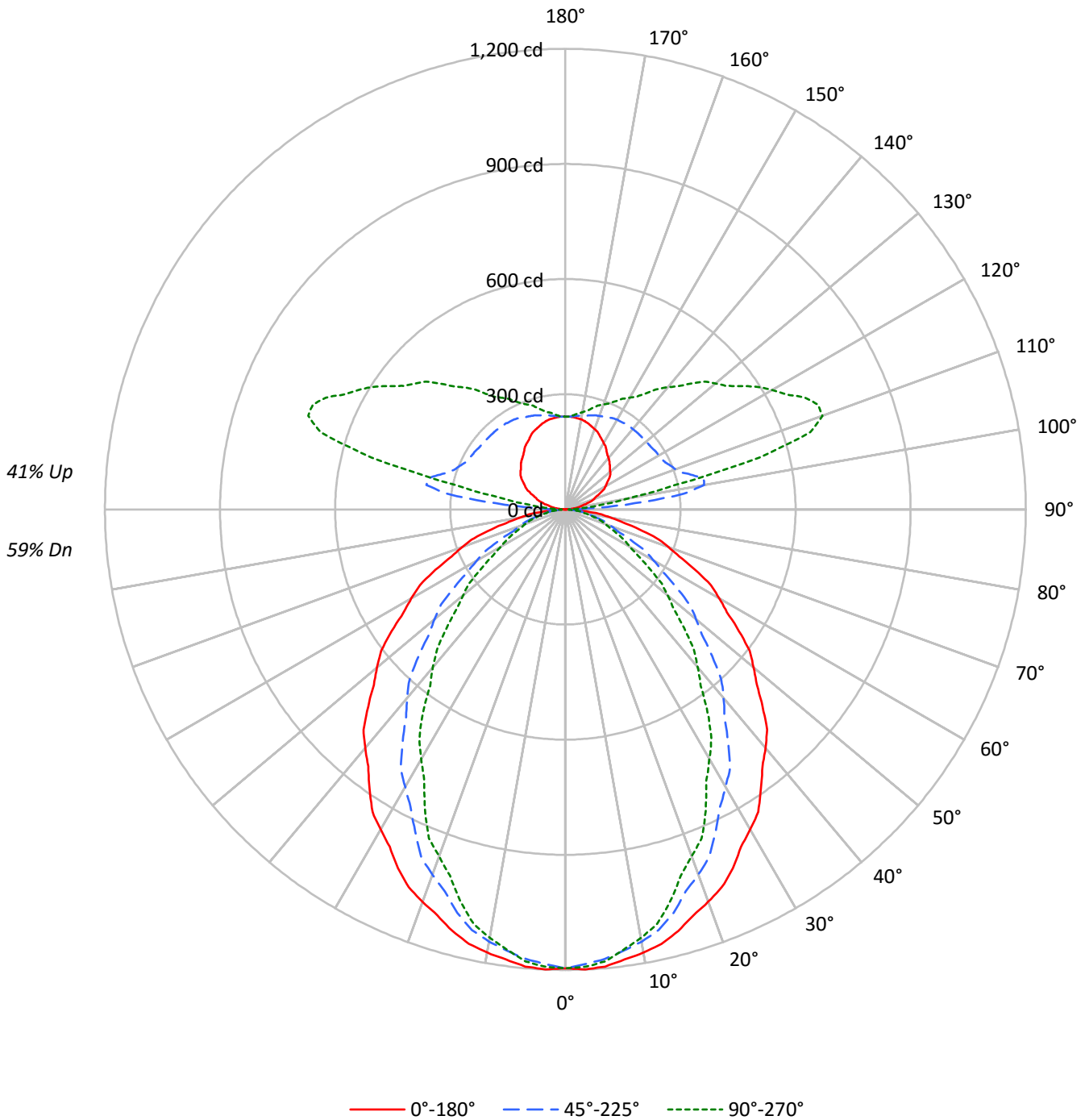
Lumens per Lamp: N/A
Luminaire Lumens: 4143.3 lumens
Efficiency: N/A
Efficacy: 84.9 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular (W 0.17' x L: 4' x H: 0')
CIE Type: General Diffuse

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	109	109	109	109	102	102	102	102	89	89	89	76	76	76	65	65	65	59
1	100	96	93	89	94	90	87	84	79	76	74	68	66	65	58	57	56	51
2	92	85	79	74	86	79	74	70	69	66	62	60	57	55	52	50	48	44
3	84	75	68	62	78	70	64	59	62	57	53	54	50	47	46	44	41	38
4	77	67	59	53	72	63	56	51	55	50	46	48	44	41	42	39	36	33
5	71	60	52	46	66	56	49	44	50	44	40	44	39	36	38	35	32	29
6	66	54	46	40	61	51	44	39	45	39	35	40	35	32	35	31	28	26
7	61	49	41	36	57	46	39	34	41	35	31	36	32	28	32	28	25	23
8	57	45	37	32	53	42	35	31	38	32	28	33	29	25	29	26	23	21
9	53	41	34	29	50	39	32	27	35	29	25	31	26	23	27	24	21	19
10	50	38	31	26	47	36	29	25	32	27	23	29	24	21	25	22	19	17

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	19302	19302	19302
5°	19376	19060	19164
10°	19226	18748	18589
15°	19005	18191	17668
20°	18699	17399	16526
25°	18387	16498	15419
30°	17952	15571	13998
35°	17527	14564	12751
40°	17102	13523	11310
45°	16600	12353	10003
50°	16088	11170	8721
55°	15564	9897	7491
60°	14951	8561	6219
65°	14258	7194	5662
70°	13430	5925	5207
75°	12420	5402	4860
80°	10962	4826	4426
85°	8633	3798	3798



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	111.9	2.7
10°-20°	307.2	7.4
20°-30°	431.5	10.4
30°-40°	470.5	11.4
40°-50°	432.6	10.4
50°-60°	339.7	8.2
60°-70°	221.5	5.3
70°-80°	114.2	2.8
80°-90°	31.8	0.8
90°-100°	96.7	2.3
100°-110°	328.1	7.9
110°-120°	348.5	8.4
120°-130°	286.9	6.9
130°-140°	230.4	5.6
140°-150°	174.1	4.2
150°-160°	122.4	3.0
160°-170°	72.0	1.7
170°-180°	23.4	0.6
0°-30°	850.6	20.5
0°-40°	1321.1	31.9
0°-60°	2093.4	50.5
0°-90°	2460.9	59.4
90°-120°	773.2	18.7
90°-150°	1464.6	35.3
90°-180°	1682.0	40.6
0°-180°	4143.3	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1196	1196	1196	1196	1196	
5°	1196	1190	1176	1185	1182	113
15°	1137	1124	1088	1068	1057	320
25°	1032	995	926	883	866	474
35°	889	832	739	673	647	556
45°	727	652	541	467	438	561
55°	553	467	352	289	266	494
65°	373	285	188	153	148	370
75°	199	126	87	79	78	211
85°	47	25	20	20	20	55
90°	0	6	16	15	15	3
95°	16	40	182	69	53	17
105°	57	86	344	616	524	60
115°	100	126	288	595	690	99
125°	140	165	277	482	559	124
135°	164	195	274	405	464	126
145°	187	215	272	338	370	117
155°	212	229	265	299	311	98
165°	232	238	253	269	273	65
175°	241	242	244	247	246	23
180°	242	242	242	242	242	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1195.5	1195.5	1195.5	1195.5	1195.5	1195.5	1195.5	1195.5	1195.5	1195.5	1195.5
2.5°	1199.8	1198.8	1197.8	1196.9	1196.0	1194.4	1192.3	1190.2	1188.1	1185.9	1187.9
5°	1195.5	1194.3	1193.0	1191.8	1190.7	1188.5	1185.4	1182.3	1179.1	1176.0	1178.1
7.5°	1183.1	1181.6	1180.1	1178.7	1177.1	1174.6	1170.9	1167.3	1163.6	1159.9	1160.6
10°	1172.7	1171.0	1169.4	1167.7	1166.0	1162.8	1158.0	1153.2	1148.3	1143.5	1142.8
12.5°	1159.8	1157.6	1155.6	1153.6	1151.4	1147.4	1141.2	1135.1	1128.9	1122.7	1121.4
15°	1137.0	1134.4	1131.7	1129.1	1126.4	1121.0	1112.9	1104.7	1096.5	1088.3	1083.8
17.5°	1109.1	1105.1	1101.1	1097.0	1093.0	1085.7	1075.2	1064.7	1054.3	1043.7	1038.4
20°	1088.3	1083.5	1078.7	1073.9	1069.1	1060.7	1048.6	1036.7	1024.7	1012.6	1006.6
22.5°	1065.8	1060.5	1055.1	1049.7	1044.3	1034.9	1021.2	1007.7	994.2	980.6	972.8
25°	1032.1	1024.4	1016.7	1009.0	1001.4	989.5	973.6	957.8	941.9	926.1	916.2
27.5°	991.4	983.0	974.7	966.3	958.0	944.9	926.9	909.1	891.1	873.3	861.8
30°	962.9	953.7	944.6	935.5	926.3	912.2	892.9	873.7	854.4	835.2	823.0
32.5°	935.1	924.5	913.8	903.1	892.4	877.3	857.7	838.0	818.5	798.8	784.9
35°	889.2	877.0	864.8	852.5	840.2	823.5	802.3	781.2	760.1	738.9	723.7
37.5°	843.4	830.0	816.5	803.0	789.5	771.5	749.0	726.4	703.9	681.3	664.6
40°	811.4	797.0	782.5	768.1	753.7	734.8	711.5	688.2	664.9	641.6	624.4
42.5°	778.5	763.3	748.1	733.0	717.7	698.1	674.0	649.9	625.8	601.7	584.1
45°	727.0	710.9	694.8	678.7	662.6	641.9	616.7	591.4	566.1	541.0	523.8
47.5°	676.8	659.7	642.7	625.6	608.5	586.9	560.9	534.8	508.7	482.7	465.8
50°	640.5	623.4	606.3	589.2	572.2	550.4	524.0	497.5	471.1	444.7	428.0
52.5°	605.0	587.1	569.3	551.5	533.6	511.8	485.9	460.0	434.1	408.3	392.2
55°	552.9	534.1	515.4	496.6	477.8	455.4	429.5	403.5	377.6	351.6	337.2
57.5°	499.4	480.1	460.9	441.6	422.5	400.4	375.4	350.4	325.5	300.5	287.3
60°	463.0	443.8	424.6	405.4	386.1	364.1	339.3	314.5	289.8	265.1	252.8
62.5°	427.5	408.3	389.1	369.8	350.6	329.2	305.6	282.0	258.4	234.7	223.1
65°	373.2	353.8	334.3	314.8	295.4	274.8	253.2	231.5	209.9	188.3	180.1
67.5°	320.9	301.6	282.3	262.9	243.5	224.1	204.7	185.2	165.8	146.3	142.5
70°	284.5	265.8	247.0	228.3	209.5	191.8	175.3	158.7	142.1	125.5	123.1
72.5°	249.9	232.0	213.9	196.0	178.0	162.3	149.0	135.7	122.4	109.1	107.0
75°	199.1	182.2	165.4	148.5	131.8	119.3	111.0	102.9	94.7	86.6	84.9
77.5°	149.1	134.3	119.5	104.8	90.0	80.7	76.7	72.8	68.9	64.9	63.9
80°	117.9	105.7	93.4	81.1	68.9	61.6	59.1	56.7	54.3	51.9	51.0
82.5°	89.4	79.8	70.2	60.7	51.1	45.5	43.9	42.2	40.6	39.0	38.4
85°	46.6	41.5	36.4	31.4	26.3	23.5	22.7	22.0	21.3	20.5	20.5
87.5°	13.9	12.7	11.5	10.2	8.8	8.3	8.8	9.5	10.0	10.1	9.8
90°	0.5	1.9	3.8	4.6	5.5	7.0	9.3	12.6	15.3	15.8	15.3
92.5°	5.7	8.2	11.5	13.6	16.7	21.1	31.6	46.4	59.6	60.4	51.0
95°	16.3	18.1	22.7	27.0	34.4	45.6	66.9	107.4	161.3	182.3	159.5
97.5°	26.5	29.0	33.9	40.3	48.8	61.5	88.4	144.7	234.3	311.1	326.4
100°	35.8	37.2	41.4	48.8	58.1	71.2	95.8	152.5	252.9	367.3	434.2
102.5°	44.4	45.4	49.6	57.0	66.7	79.7	102.5	152.9	245.9	369.2	474.4
105°	56.7	58.6	61.8	68.8	79.0	92.0	113.9	155.3	232.0	344.5	468.2
107.5°	70.1	71.6	74.8	81.2	91.3	104.4	125.6	161.7	225.1	318.1	427.4
110°	79.0	80.9	83.7	89.8	99.5	113.0	133.5	166.9	223.6	305.5	401.7



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	87.2	89.1	92.2	97.9	107.3	121.2	140.9	172.5	224.0	297.3	383.8
115°	100.0	102.3	105.1	110.6	119.9	132.5	152.5	180.8	226.0	288.3	361.7
117.5°	113.2	115.0	117.8	122.8	131.7	144.7	163.2	189.8	229.3	283.9	347.8
120°	121.3	123.2	126.0	130.2	139.5	152.5	170.6	195.8	231.5	281.3	340.4
122.5°	129.1	130.7	133.5	138.0	147.3	160.7	177.7	201.0	234.2	279.8	334.0
125°	139.5	140.9	143.7	149.3	158.6	171.5	188.3	209.2	238.1	277.1	325.0
127.5°	147.7	149.5	153.4	159.6	168.5	181.9	198.2	217.0	242.1	275.6	316.7
130°	152.5	154.3	159.0	165.5	174.8	187.8	204.2	221.8	245.0	274.8	311.0
132.5°	156.9	159.2	164.2	171.1	180.8	193.8	209.3	226.7	248.0	274.4	306.6
135°	163.6	165.5	171.1	178.1	188.7	201.8	216.7	232.9	251.5	273.9	300.4
137.5°	170.0	172.2	177.8	185.2	195.8	207.9	222.7	237.7	254.7	273.8	296.0
140°	174.8	176.7	182.3	189.7	199.9	212.1	226.0	240.4	256.2	273.4	293.4
142.5°	179.7	181.2	186.4	193.8	203.7	215.0	228.6	242.6	257.3	273.4	290.8
145°	186.9	188.7	193.4	200.4	209.7	219.9	232.4	245.5	258.5	272.5	287.3
147.5°	194.7	196.1	200.6	207.0	214.7	223.8	235.6	247.1	258.9	270.8	283.8
150°	199.9	201.3	205.0	211.1	218.1	226.4	237.1	247.9	258.5	269.7	280.9
152.5°	205.1	205.8	209.5	214.8	221.4	229.0	238.6	248.2	257.8	267.8	278.3
155°	212.5	213.0	215.7	220.9	226.0	232.9	240.8	248.7	256.7	264.6	273.4
157.5°	218.6	219.1	221.4	225.8	229.9	235.7	242.4	248.7	254.5	261.2	268.8
160°	222.7	223.1	225.0	228.8	232.4	237.6	243.2	248.7	253.4	259.0	265.5
162.5°	226.8	226.5	228.4	231.4	234.7	238.7	243.5	248.3	252.3	257.1	262.5
165°	231.5	231.1	232.0	234.8	237.1	239.9	244.1	247.4	250.1	253.4	257.6
167.5°	235.5	234.9	235.7	237.5	239.2	240.9	244.0	246.7	248.0	250.1	252.7
170°	238.1	237.1	237.6	239.0	239.9	241.3	243.6	246.0	246.9	248.3	250.1
172.5°	239.5	239.0	238.7	240.1	240.7	241.7	243.3	244.8	245.4	246.1	247.5
175°	241.3	240.8	240.4	241.3	241.3	241.7	242.7	243.6	243.2	243.6	244.1
177.5°	242.1	241.4	241.0	241.7	241.7	241.7	242.1	242.9	242.1	241.7	242.1
180°	241.7	241.7	241.7	241.7	241.7	241.7	241.7	241.7	241.7	241.7	241.7



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1195.5	1195.5	1195.5	1195.5	1195.5	1195.5	1195.5	1195.5
2.5°	1189.8	1191.7	1193.6	1194.4	1194.0	1193.6	1193.3	1192.9
5°	1180.3	1182.4	1184.6	1185.4	1184.6	1183.9	1183.2	1182.4
7.5°	1161.2	1161.8	1162.5	1162.1	1160.9	1159.7	1158.4	1157.2
10°	1142.1	1141.3	1140.6	1139.5	1138.1	1136.7	1135.2	1133.8
12.5°	1120.1	1118.8	1117.5	1115.7	1113.3	1110.9	1108.5	1106.1
15°	1079.2	1074.6	1070.1	1066.6	1064.2	1061.8	1059.4	1057.0
17.5°	1032.9	1027.4	1022.1	1017.2	1013.1	1009.0	1004.9	1000.7
20°	1000.6	994.6	988.6	982.9	977.6	972.3	967.0	961.8
22.5°	965.2	957.4	949.7	943.8	939.9	935.9	932.0	928.1
25°	906.4	896.5	886.6	879.9	876.3	872.7	869.1	865.5
27.5°	850.3	838.8	827.3	818.7	813.0	807.2	801.5	795.8
30°	810.7	798.4	786.1	776.7	770.3	763.8	757.3	750.8
32.5°	770.9	756.8	742.9	732.8	726.8	720.6	714.5	708.4
35°	708.6	693.5	678.3	668.1	662.8	657.5	652.2	646.9
37.5°	648.0	631.3	614.7	603.2	597.2	591.1	585.1	579.0
40°	607.4	590.4	573.2	561.6	555.4	549.1	542.8	536.6
42.5°	566.5	548.8	531.2	519.3	513.2	507.2	501.1	495.0
45°	506.8	489.8	472.6	461.2	455.4	449.7	443.9	438.1
47.5°	448.7	431.8	414.8	403.7	398.5	393.2	388.0	382.8
50°	411.5	394.8	378.3	367.5	362.4	357.3	352.3	347.2
52.5°	376.3	360.3	344.2	333.9	329.2	324.6	319.9	315.3
55°	322.8	308.3	293.9	284.4	279.8	275.2	270.7	266.1
57.5°	274.1	260.9	247.7	239.1	235.3	231.4	227.6	223.7
60°	240.5	228.3	216.0	208.0	204.1	200.2	196.4	192.6
62.5°	211.4	199.7	188.0	181.0	178.7	176.4	174.1	171.8
65°	171.9	163.7	155.6	151.1	150.3	149.7	149.0	148.2
67.5°	138.8	135.0	131.3	129.0	128.2	127.4	126.7	126.0
70°	120.7	118.3	115.9	114.2	113.2	112.3	111.3	110.3
72.5°	105.0	103.0	100.9	99.7	99.1	98.5	97.9	97.3
75°	83.2	81.5	79.8	78.8	78.6	78.4	78.1	77.9
77.5°	63.0	62.0	61.1	60.4	60.0	59.6	59.3	58.9
80°	50.0	49.1	48.1	47.6	47.6	47.6	47.6	47.6
82.5°	37.8	37.2	36.6	36.4	36.4	36.4	36.4	36.4
85°	20.5	20.5	20.5	20.5	20.5	20.5	20.5	20.5
87.5°	9.5	9.1	9.1	9.1	9.1	9.1	9.1	9.1
90°	14.8	13.9	14.8	15.3	15.3	15.3	15.3	15.3
92.5°	40.5	34.8	30.9	28.0	27.6	26.2	26.5	25.8
95°	121.8	93.4	73.9	63.7	57.6	54.0	52.5	53.0
97.5°	284.3	232.6	182.3	148.7	126.5	115.0	108.3	104.4
100°	424.5	366.9	303.1	246.9	208.3	188.3	174.8	166.5
102.5°	516.4	503.4	456.8	397.1	355.2	321.1	304.3	292.9
105°	564.9	617.4	623.5	608.1	579.4	550.5	530.5	524.0
107.5°	529.9	609.1	657.5	680.0	683.5	682.0	678.0	669.4
110°	499.9	583.0	642.5	680.7	700.7	709.6	713.7	713.2



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CATALOG NUMBER: SA2XXRDIP-C865D530U930-4F0-1E-UDD-F4

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	472.3	552.2	615.8	659.5	687.3	702.1	710.0	712.5
115°	438.5	510.1	571.0	618.9	651.8	673.3	685.3	689.5
117.5°	412.9	475.8	531.1	576.0	609.7	632.3	645.0	648.5
120°	400.3	458.0	507.3	549.6	582.1	604.0	617.4	622.1
122.5°	390.3	443.1	489.8	528.0	557.2	578.7	590.7	594.6
125°	375.7	423.5	464.5	499.4	526.4	544.0	555.6	559.4
127.5°	361.3	404.6	443.2	475.4	498.9	515.4	525.5	528.5
130°	352.0	392.0	428.7	459.3	482.2	498.0	507.3	510.9
132.5°	343.1	380.1	413.8	442.6	465.0	480.9	489.4	492.8
135°	330.6	361.3	392.0	418.0	438.0	453.3	461.7	463.6
137.5°	320.7	346.3	370.6	393.4	411.6	424.8	432.1	434.9
140°	314.3	336.6	358.0	378.5	393.4	405.4	412.4	415.2
142.5°	309.1	328.1	346.5	363.6	377.7	388.7	394.9	395.5
145°	301.7	317.1	331.5	345.0	356.1	364.0	368.7	370.1
147.5°	296.1	308.2	319.4	329.3	338.5	344.8	348.0	348.8
150°	292.0	302.2	312.0	320.3	327.3	332.9	335.7	336.1
152.5°	287.9	297.4	305.7	312.9	318.4	323.3	325.3	325.4
155°	282.3	289.7	296.6	301.7	306.9	310.1	312.0	311.0
157.5°	275.7	281.8	287.7	291.7	295.3	298.1	298.9	298.9
160°	271.5	276.6	281.8	285.0	288.3	290.6	291.1	291.1
162.5°	267.4	271.8	276.2	278.7	281.9	283.6	284.0	283.6
165°	261.3	264.6	267.8	269.7	271.5	273.4	273.4	273.0
167.5°	255.4	258.0	260.2	261.9	262.7	263.7	263.7	263.1
170°	252.5	253.9	255.8	256.7	257.1	258.5	258.0	257.1
172.5°	249.2	250.1	251.6	252.2	252.7	253.3	252.8	252.3
175°	245.5	246.0	246.5	246.9	246.9	247.4	246.9	246.0
177.5°	242.9	242.9	243.3	243.3	243.3	243.3	242.9	242.1
180°	241.7	241.7	241.7	241.7	241.7	241.7	241.7	241.7

(END OF REPORT)