

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: P331714-830

Luminaire Tested: **SA2XXRDIP-C865D530U830-4F0-1E-UDD-F**

Issue Date: 10/7/2019

Test Information

Test Method: LM-79-08
Report Number: P331714-830
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-2,
Test Lab: INNOVATION CENTER
Issue Date: 10/7/2019
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: SA2XXRDIP-C865D530U830-4F0-1E-UDD-F
Description: DEFINE 2 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 865 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED
HOUSING
UPLIGHT 530 LUMENS PER FOOT, NO LENS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

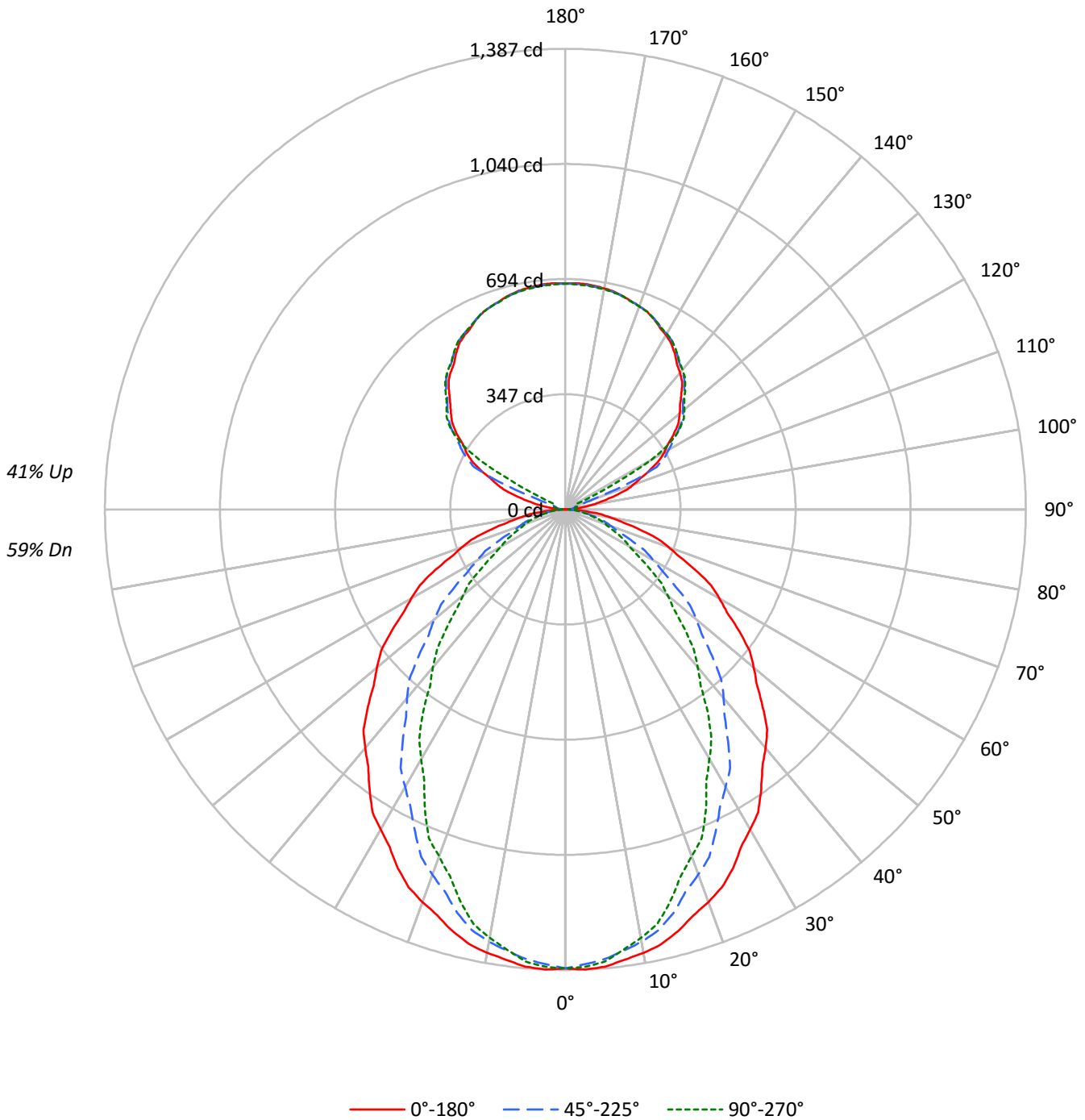
Lumens per Lamp: N/A
Luminaire Lumens: 4836.3 lumens
Efficiency: N/A
Efficacy: 99.1 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular (W 0.17' x L: 4' x H: 0')
CIE Type: General Diffuse

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	88	88	88	76	76	76	64	64	64	59
1	100	96	92	89	93	90	87	84	78	76	74	68	66	64	58	56	55	51
2	92	85	79	74	85	79	74	70	69	65	62	60	57	55	51	49	47	43
3	84	75	68	62	78	70	64	59	62	57	53	54	50	47	46	43	41	37
4	77	67	59	53	72	63	56	51	55	50	45	48	44	41	42	38	36	33
5	71	60	52	46	66	56	49	44	50	44	40	43	39	36	38	34	32	29
6	66	54	46	40	61	51	44	38	45	39	35	40	35	32	34	31	28	25
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	30	38	32	28	33	29	25	29	26	23	21
9	53	41	33	28	50	39	32	27	35	29	25	31	26	23	27	23	21	19
10	50	38	31	26	46	36	29	25	32	27	23	28	24	21	25	22	19	17

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	22315	22315	22315
5°	22400	22034	22156
10°	22228	21674	21489
15°	21972	21031	20425
20°	21618	20113	19105
25°	21257	19073	17826
30°	20752	18000	16183
35°	20262	16837	14741
40°	19770	15633	13076
45°	19192	14280	11565
50°	18600	12913	10083
55°	17990	11443	8659
60°	17286	9894	7188
65°	16485	8313	6548
70°	15526	6850	6019
75°	14361	6245	5614
80°	12673	5579	5114
85°	9967	4409	4409



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	129.4	2.7
10°-20°	355.2	7.3
20°-30°	498.8	10.3
30°-40°	543.9	11.2
40°-50°	500.1	10.3
50°-60°	392.8	8.1
60°-70°	256.1	5.3
70°-80°	132.0	2.7
80°-90°	35.9	0.7
90°-100°	22.7	0.5
100°-110°	83.2	1.7
110°-120°	222.3	4.6
120°-130°	366.9	7.6
130°-140°	390.2	8.1
140°-150°	362.7	7.5
150°-160°	291.6	6.0
160°-170°	187.9	3.9
170°-180°	64.7	1.3
0°-30°	983.3	20.3
0°-40°	1527.2	31.6
0°-60°	2420.1	50.0
0°-90°	2844.1	58.8
90°-120°	328.1	6.8
90°-150°	1447.9	29.9
90°-180°	1992.0	41.2
0°-180°	4836.3	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1382	1382	1382	1382	1382	
5°	1382	1375	1360	1370	1367	131
15°	1314	1299	1258	1235	1222	370
25°	1193	1151	1071	1021	1001	548
35°	1028	962	854	778	748	643
45°	840	754	625	540	506	649
55°	639	539	406	334	308	571
65°	432	330	218	177	171	428
75°	230	145	100	92	90	244
85°	54	29	24	24	24	63
90°	0	6	10	12	13	4
95°	32	17	19	22	21	39
105°	150	156	30	35	37	160
115°	283	291	304	86	40	278
125°	400	406	416	419	421	356
135°	495	502	507	512	511	382
145°	574	574	582	585	583	359
155°	632	628	634	636	632	291
165°	666	663	664	668	664	188
175°	681	678	679	682	677	65
180°	680	680	680	680	680	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1382.1	1382.1	1382.1	1382.1	1382.1	1382.1	1382.1	1382.1	1382.1	1382.1	1382.1
2.5°	1387.0	1385.9	1384.8	1383.7	1382.6	1380.8	1378.4	1375.9	1373.5	1371.0	1373.3
5°	1382.1	1380.6	1379.2	1377.8	1376.5	1373.9	1370.4	1366.8	1363.1	1359.5	1362.0
7.5°	1367.7	1366.0	1364.3	1362.6	1360.8	1357.9	1353.7	1349.4	1345.2	1341.0	1341.7
10°	1355.8	1353.8	1351.9	1349.9	1347.9	1344.3	1338.7	1333.1	1327.6	1322.0	1321.2
12.5°	1340.8	1338.3	1336.0	1333.6	1331.2	1326.4	1319.3	1312.2	1305.0	1298.0	1296.5
15°	1314.5	1311.5	1308.3	1305.3	1302.2	1296.0	1286.6	1277.1	1267.6	1258.2	1252.9
17.5°	1282.2	1277.5	1272.9	1268.2	1263.6	1255.2	1243.0	1230.9	1218.8	1206.6	1200.4
20°	1258.2	1252.6	1247.1	1241.5	1236.0	1226.2	1212.3	1198.4	1184.6	1170.6	1163.7
22.5°	1232.2	1226.0	1219.7	1213.5	1207.3	1196.4	1180.6	1165.0	1149.3	1133.6	1124.6
25°	1193.2	1184.3	1175.4	1166.5	1157.6	1144.0	1125.6	1107.3	1088.9	1070.6	1059.2
27.5°	1146.1	1136.4	1126.8	1117.1	1107.5	1092.3	1071.6	1050.9	1030.2	1009.6	996.3
30°	1113.1	1102.6	1092.0	1081.5	1070.9	1054.5	1032.3	1010.0	987.8	965.5	951.4
32.5°	1081.1	1068.7	1056.4	1044.1	1031.7	1014.3	991.6	968.8	946.2	923.5	907.4
35°	1028.0	1013.9	999.8	985.5	971.4	952.1	927.6	903.1	878.7	854.2	836.7
37.5°	975.1	959.5	944.0	928.3	912.8	891.9	865.9	839.8	813.8	787.7	768.4
40°	938.0	921.3	904.7	888.0	871.3	849.5	822.6	795.6	768.6	741.7	721.9
42.5°	900.0	882.4	864.9	847.3	829.7	807.0	779.2	751.3	723.5	695.6	675.2
45°	840.5	821.8	803.2	784.6	766.0	742.1	712.9	683.7	654.5	625.4	605.6
47.5°	782.4	762.7	743.0	723.2	703.5	678.5	648.5	618.3	588.1	558.1	538.5
50°	740.5	720.7	701.0	681.2	661.5	636.3	605.8	575.1	544.6	514.1	494.8
52.5°	699.4	678.7	658.2	637.5	616.9	591.6	561.8	531.8	501.9	472.0	453.5
55°	639.1	617.5	595.8	574.1	552.4	526.5	496.5	466.5	436.5	406.5	389.8
57.5°	577.3	555.1	532.8	510.6	488.4	462.9	433.9	405.1	376.3	347.4	332.2
60°	535.3	513.0	490.9	468.6	446.4	420.9	392.3	363.6	335.1	306.4	292.3
62.5°	494.3	472.0	449.8	427.5	405.3	380.6	353.3	326.0	298.7	271.4	257.9
65°	431.5	409.0	386.4	363.9	341.5	317.6	292.7	267.7	242.6	217.6	208.2
67.5°	371.0	348.6	326.3	303.9	281.5	259.1	236.7	214.1	191.6	169.1	164.8
70°	328.9	307.3	285.6	263.9	242.2	221.8	202.6	183.4	164.3	145.1	142.3
72.5°	288.9	268.2	247.3	226.6	205.8	187.7	172.3	156.8	141.5	126.1	123.8
75°	230.2	210.7	191.2	171.7	152.3	137.9	128.4	118.9	109.5	100.1	98.1
77.5°	172.4	155.2	138.2	121.1	104.1	93.3	88.7	84.2	79.6	75.0	73.9
80°	136.3	122.2	108.0	93.8	79.6	71.2	68.3	65.6	62.8	60.0	58.9
82.5°	103.3	92.3	81.2	70.1	59.1	52.6	50.7	48.8	46.9	45.1	44.4
85°	53.8	48.0	42.1	36.3	30.4	27.1	26.3	25.4	24.6	23.8	23.8
87.5°	16.1	14.6	13.0	11.5	10.0	9.2	9.4	9.6	9.8	10.0	9.9
90°	0.5	1.7	2.9	4.1	5.3	6.3	7.3	8.1	9.0	9.8	10.4
92.5°	9.9	9.8	9.7	9.6	9.5	9.7	10.1	10.6	10.9	11.4	11.7
95°	32.0	28.4	24.8	21.1	17.5	16.1	16.9	17.6	18.4	19.2	19.7
97.5°	63.4	53.3	43.2	33.0	22.8	18.6	20.4	22.1	23.9	25.6	26.1
100°	87.1	72.1	57.1	42.1	27.1	20.6	22.4	24.3	26.2	28.0	28.9
102.5°	113.0	109.9	106.7	103.5	100.4	91.0	75.5	59.9	44.4	28.8	30.0
105°	149.5	152.8	156.1	159.4	162.7	149.4	119.5	89.7	59.9	30.0	31.2
107.5°	191.1	193.8	196.4	199.1	201.7	185.1	149.4	113.6	77.8	42.0	40.8
110°	217.9	220.2	222.5	224.8	227.1	212.4	180.9	149.3	117.6	86.1	75.1



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	243.1	245.2	247.1	249.2	251.2	248.4	240.5	232.7	224.9	217.2	177.2
115°	282.9	284.6	286.5	288.4	290.3	292.6	295.3	298.0	300.8	303.5	252.9
117.5°	318.4	320.5	322.5	324.6	326.7	328.7	330.5	332.4	334.3	336.1	324.0
120°	344.3	345.9	347.6	349.2	350.9	352.7	354.7	356.7	358.5	360.5	361.8
122.5°	366.4	368.1	369.9	371.6	373.2	375.2	377.3	379.5	381.6	383.8	384.6
125°	399.9	401.3	402.7	404.2	405.6	407.4	409.4	411.5	413.6	415.7	416.4
127.5°	430.3	431.9	433.5	435.0	436.6	438.2	439.7	441.3	442.8	444.4	445.4
130°	449.6	451.3	453.1	454.9	456.6	458.1	459.3	460.4	461.7	462.9	464.1
132.5°	469.3	470.7	472.2	473.7	475.2	476.5	477.8	479.0	480.1	481.4	482.4
135°	494.8	496.6	498.3	500.1	501.8	503.2	504.2	505.2	506.1	507.1	508.2
137.5°	520.8	521.9	523.1	524.3	525.6	526.8	527.9	529.0	530.1	531.2	532.3
140°	537.6	538.5	539.4	540.3	541.1	542.2	543.4	544.6	545.7	547.0	548.0
142.5°	551.8	552.6	553.4	554.1	555.0	556.0	557.4	558.7	560.2	561.6	562.4
145°	574.0	573.9	573.8	573.7	573.6	574.5	576.4	578.2	580.0	581.9	582.7
147.5°	593.4	593.0	592.6	592.2	591.7	592.5	594.3	596.2	597.9	599.8	600.4
150°	606.0	605.2	604.5	603.7	602.9	603.4	605.2	606.9	608.7	610.4	611.1
152.5°	616.6	615.8	614.9	614.1	613.2	613.6	615.3	617.0	618.6	620.3	620.9
155°	632.1	631.1	630.1	629.1	628.1	628.3	629.6	630.9	632.3	633.6	634.2
157.5°	644.1	643.4	642.5	641.7	640.8	640.9	641.8	642.7	643.7	644.6	645.3
160°	651.3	650.6	650.0	649.3	648.7	648.7	649.3	650.0	650.6	651.3	652.0
162.5°	657.5	656.9	656.2	655.5	655.0	654.9	655.4	656.0	656.6	657.1	657.9
165°	666.0	665.3	664.7	664.0	663.4	663.3	663.5	663.8	664.2	664.5	665.3
167.5°	672.3	671.7	671.0	670.3	669.7	669.5	669.8	670.1	670.4	670.7	671.5
170°	675.8	675.2	674.6	673.9	673.3	673.0	673.3	673.4	673.6	673.9	674.7
172.5°	678.3	677.6	676.9	676.3	675.6	675.3	675.6	675.8	676.0	676.3	677.0
175°	681.3	680.5	679.8	679.0	678.2	678.0	678.2	678.3	678.5	678.8	679.6
177.5°	681.7	681.2	680.5	680.0	679.3	679.0	679.1	679.2	679.3	679.4	680.0
180°	679.8	679.8	679.8	679.8	679.8	679.8	679.8	679.8	679.8	679.8	679.8



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1382.1	1382.1	1382.1	1382.1	1382.1	1382.1	1382.1	1382.1
2.5°	1375.5	1377.7	1379.9	1380.8	1380.4	1379.9	1379.5	1379.0
5°	1364.5	1367.0	1369.5	1370.4	1369.5	1368.7	1367.8	1367.0
7.5°	1342.5	1343.1	1343.9	1343.5	1342.1	1340.7	1339.2	1337.8
10°	1320.3	1319.5	1318.6	1317.4	1315.7	1314.1	1312.4	1310.7
12.5°	1295.0	1293.5	1291.9	1289.9	1287.0	1284.3	1281.5	1278.7
15°	1247.6	1242.4	1237.1	1233.0	1230.3	1227.5	1224.7	1221.9
17.5°	1194.1	1187.8	1181.6	1176.0	1171.2	1166.5	1161.7	1156.9
20°	1156.8	1149.8	1142.8	1136.3	1130.2	1124.1	1117.9	1111.9
22.5°	1115.8	1106.8	1097.9	1091.1	1086.6	1081.9	1077.4	1072.9
25°	1047.8	1036.4	1025.0	1017.2	1013.0	1008.9	1004.8	1000.6
27.5°	983.0	969.7	956.4	946.5	939.9	933.2	926.6	920.0
30°	937.2	923.0	908.8	898.0	890.5	883.0	875.5	868.0
32.5°	891.2	875.0	858.8	847.2	840.2	833.1	826.0	819.0
35°	819.2	801.7	784.2	772.4	766.3	760.2	754.0	747.9
37.5°	749.1	729.8	710.6	697.4	690.4	683.3	676.4	669.4
40°	702.2	682.5	662.7	649.2	642.1	634.8	627.5	620.4
42.5°	654.9	634.4	614.1	600.3	593.3	586.4	579.3	572.3
45°	585.9	566.2	546.4	533.2	526.5	519.9	513.2	506.5
47.5°	518.8	499.2	479.6	466.7	460.7	454.6	448.6	442.5
50°	475.7	456.5	437.3	424.8	419.0	413.1	407.3	401.4
52.5°	435.0	416.5	397.9	386.1	380.6	375.2	369.9	364.5
55°	373.2	356.5	339.8	328.8	323.5	318.2	312.9	307.6
57.5°	316.9	301.6	286.3	276.4	272.0	267.5	263.1	258.6
60°	278.1	263.9	249.7	240.4	235.9	231.5	227.1	222.6
62.5°	244.4	230.9	217.4	209.2	206.6	204.0	201.2	198.6
65°	198.7	189.3	179.8	174.7	173.8	173.1	172.2	171.4
67.5°	160.4	156.1	151.7	149.1	148.3	147.3	146.5	145.6
70°	139.5	136.8	133.9	132.1	130.9	129.8	128.7	127.5
72.5°	121.4	119.0	116.7	115.3	114.5	113.9	113.2	112.5
75°	96.1	94.3	92.3	91.1	90.9	90.6	90.3	90.0
77.5°	72.9	71.7	70.6	69.8	69.4	68.9	68.5	68.1
80°	57.8	56.7	55.6	55.0	55.0	55.0	55.0	55.0
82.5°	43.7	43.0	42.3	42.0	42.0	42.0	42.0	42.0
85°	23.8	23.8	23.8	23.8	23.8	23.8	23.8	23.8
87.5°	9.7	9.6	9.5	9.5	9.5	9.6	9.6	9.6
90°	10.9	11.5	12.1	12.4	12.6	12.8	13.1	13.3
92.5°	12.0	12.3	12.5	12.7	12.9	13.0	13.2	13.3
95°	20.3	20.8	21.4	21.6	21.5	21.4	21.3	21.1
97.5°	26.6	27.0	27.4	27.7	27.8	28.0	28.1	28.3
100°	29.8	30.6	31.6	32.0	32.3	32.5	32.7	33.0
102.5°	31.1	32.2	33.4	34.1	34.4	34.7	35.0	35.3
105°	32.4	33.6	34.8	35.6	36.1	36.5	36.9	37.4
107.5°	39.6	38.4	37.1	36.8	37.1	37.6	38.0	38.5
110°	64.2	53.3	42.3	37.1	37.5	38.0	38.5	38.8



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CATALOG NUMBER: SA2XXRDIP-C865D530U830-4F0-1E-UDD-F

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	137.3	97.5	57.6	37.9	38.2	38.5	38.9	39.2
115°	202.3	151.7	101.0	71.8	63.9	56.1	48.2	40.3
117.5°	311.7	299.4	287.2	268.2	242.2	216.4	190.6	164.7
120°	363.2	364.5	365.8	359.1	344.3	329.6	314.8	300.0
122.5°	385.3	386.2	386.9	385.9	383.0	380.1	377.3	374.4
125°	417.2	417.9	418.7	419.2	419.6	419.9	420.3	420.6
127.5°	446.6	447.7	448.8	449.4	449.5	449.6	449.6	449.7
130°	465.2	466.5	467.7	468.3	468.1	468.0	467.9	467.8
132.5°	483.4	484.5	485.5	485.9	485.8	485.7	485.6	485.5
135°	509.3	510.4	511.5	512.0	511.7	511.5	511.3	511.0
137.5°	533.4	534.4	535.6	535.8	535.5	535.1	534.8	534.4
140°	548.9	549.9	550.9	551.1	550.5	550.1	549.5	548.9
142.5°	563.4	564.2	565.1	565.3	564.8	564.2	563.6	563.1
145°	583.4	584.2	584.9	585.0	584.6	584.0	583.4	582.9
147.5°	601.0	601.5	602.1	602.1	601.7	601.2	600.8	600.3
150°	611.7	612.4	613.0	613.1	612.6	612.0	611.4	611.0
152.5°	621.6	622.3	622.9	622.8	622.2	621.4	620.7	620.0
155°	634.9	635.6	636.2	636.0	635.2	634.3	633.5	632.5
157.5°	646.0	646.8	647.5	647.5	646.6	645.7	644.9	644.0
160°	652.5	653.2	653.8	653.8	653.1	652.3	651.5	650.7
162.5°	658.6	659.4	660.2	660.1	659.1	658.2	657.2	656.3
165°	666.1	666.8	667.6	667.6	666.8	666.1	665.3	664.5
167.5°	672.2	673.1	673.8	673.7	672.7	671.8	670.7	669.8
170°	675.4	676.2	676.9	676.8	675.8	674.9	673.9	672.9
172.5°	677.8	678.5	679.3	679.2	678.3	677.2	676.3	675.2
175°	680.3	681.1	681.8	681.7	680.6	679.5	678.4	677.3
177.5°	680.6	681.3	681.8	681.7	681.0	680.1	679.4	678.6
180°	679.8	679.8	679.8	679.8	679.8	679.8	679.8	679.8

(END OF REPORT)