

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: P331283

Luminaire Tested: **SA2XXDIP-C290D1080U835-4F0-1E-UDD-F1**

Issue Date: 10/7/2019

Test Information

Test Method: LM-79-08
Report Number: P331283
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-C290D1080U835-4F0-1E-UDD-F1
Description: DEFINE 2 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 290 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
UPLIGHT 1080 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

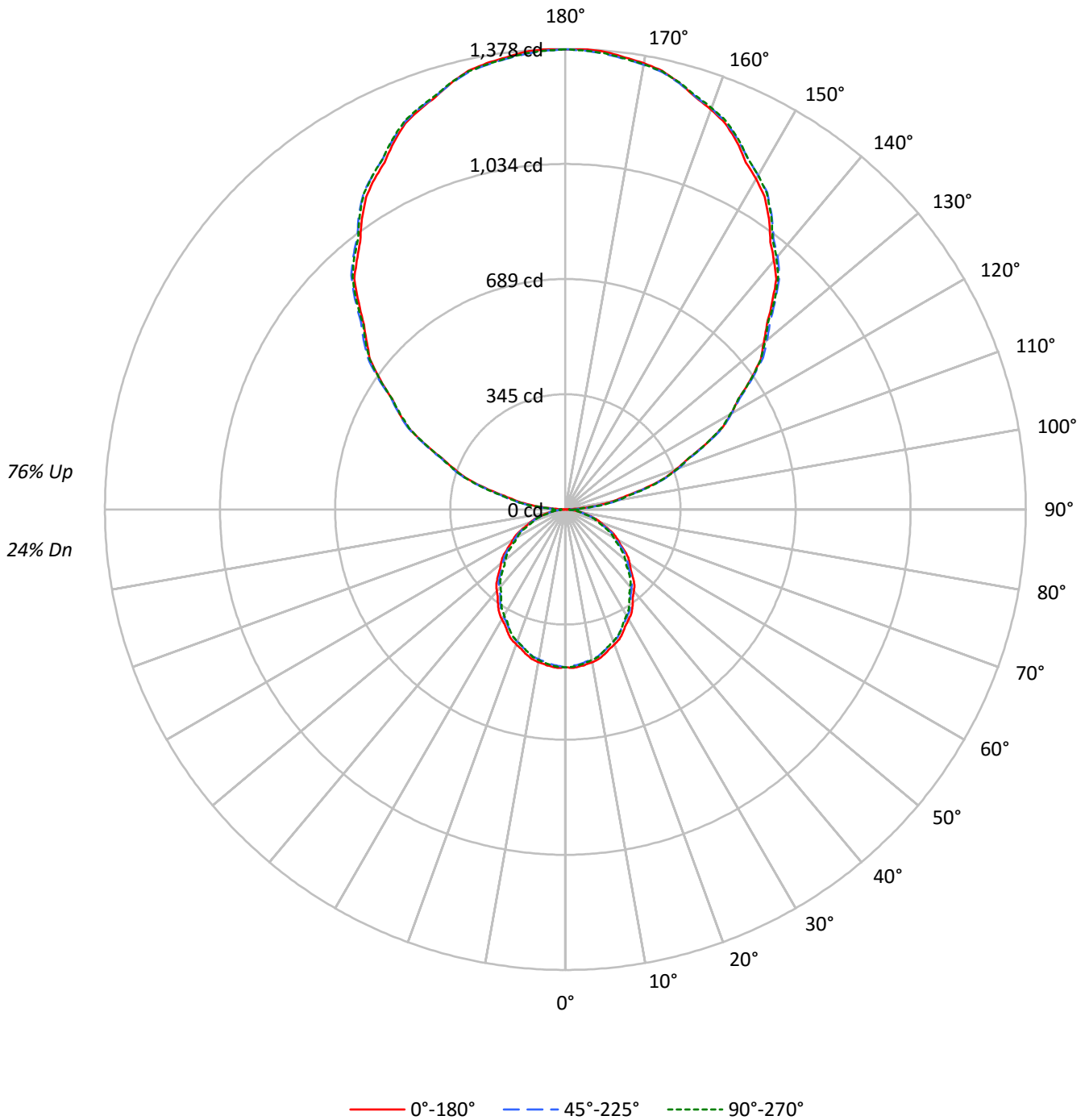
Lumens per Lamp: N/A
Luminaire Lumens: 5056.3 lumens
Efficiency: N/A
Efficacy: 119.8 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.3
Luminous Opening: Rectangular (W 0.17' x L: 4' x H: 0')
CIE Type: Semi-Indirect

Input Watts (W): 42.2
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	50	30	10	0	
RCR																						
0	101	101	101	101	90	90	90	90	69	69	69	50	50	50	32	32	32	24				24
1	92	88	84	81	82	78	75	72	60	58	56	44	42	41	28	28	27				20	
2	84	77	71	66	74	68	63	59	53	49	46	38	36	34	25	24	23				17	
3	76	67	60	55	67	60	54	49	46	42	39	34	31	29	22	21	19				14	
4	70	59	52	46	62	53	47	42	41	37	33	30	27	25	20	18	17				12	
5	64	53	45	39	56	47	41	36	37	32	28	27	24	21	18	16	14				11	
6	59	47	39	34	52	42	36	31	33	28	25	24	21	19	16	14	13				9	
7	54	42	35	29	48	38	31	27	30	25	21	22	19	16	15	13	11				8	
8	50	38	31	26	44	34	28	23	27	22	19	20	17	14	13	11	10				7	
9	46	35	28	23	41	31	25	21	25	20	17	18	15	13	12	10	9				7	
10	43	32	25	20	38	29	23	18	23	18	15	17	14	12	11	10	8				6	

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	7627	7627	7627
5°	7656	7546	7592
10°	7612	7470	7507
15°	7517	7373	7366
20°	7383	7228	7220
25°	7251	7049	7049
30°	7081	6885	6825
35°	6922	6688	6589
40°	6721	6492	6367
45°	6524	6295	6140
50°	6310	6094	5878
55°	6086	5858	5638
60°	5838	5574	5370
65°	5570	5295	5051
70°	5231	4952	4716
75°	4760	4560	4448
80°	4221	4100	3887
85°	3446	3279	2946



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	44.4	0.9
10°-20°	125.0	2.5
20°-30°	183.7	3.6
30°-40°	213.4	4.2
40°-50°	213.2	4.2
50°-60°	185.9	3.7
60°-70°	137.5	2.7
70°-80°	77.9	1.5
80°-90°	26.4	0.5
90°-100°	87.2	1.7
100°-110°	270.9	5.4
110°-120°	463.1	9.2
120°-130°	608.9	12.0
130°-140°	683.5	13.5
140°-150°	670.1	13.3
150°-160°	562.1	11.1
160°-170°	372.8	7.4
170°-180°	130.3	2.6
0°-30°	353.2	7.0
0°-40°	566.6	11.2
0°-60°	965.7	19.1
0°-90°	1207.4	23.9
90°-120°	821.2	16.2
90°-150°	2783.7	55.1
90°-180°	3849.0	76.1
0°-180°	5056.3	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	472	472	472	472	472	
5°	472	470	466	469	468	45
15°	450	447	441	443	441	127
25°	407	403	396	396	396	187
35°	351	346	339	337	334	219
45°	286	282	276	271	269	220
55°	216	213	208	203	200	193
65°	146	143	139	135	132	144
75°	76	75	73	71	71	82
85°	19	18	18	16	16	21
90°	1	16	41	39	40	4
95°	60	72	74	74	72	69
105°	250	253	256	258	258	264
115°	465	471	469	468	465	459
125°	676	686	683	680	678	604
135°	875	887	890	888	885	675
145°	1062	1070	1077	1078	1073	663
155°	1214	1217	1221	1226	1223	558
165°	1321	1320	1320	1327	1322	372
175°	1374	1371	1368	1376	1370	130
180°	1376	1376	1376	1376	1376	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	472.4	472.4	472.4	472.4	472.4	472.4	472.4	472.4	472.4	472.4	472.4
2.5°	474.6	474.2	473.8	473.4	473.0	472.4	471.5	470.6	469.7	468.8	469.6
5°	472.4	472.0	471.6	471.2	470.8	470.1	469.0	467.9	466.7	465.6	466.4
7.5°	468.3	467.6	467.0	466.4	465.8	464.9	463.8	462.6	461.5	460.4	461.2
10°	464.3	463.6	462.9	462.2	461.4	460.5	459.3	458.1	456.9	455.6	456.4
12.5°	458.8	458.2	457.6	456.9	456.3	455.4	454.2	453.0	451.8	450.6	451.1
15°	449.7	449.1	448.5	447.9	447.3	446.4	445.0	443.7	442.4	441.1	441.5
17.5°	438.1	437.5	436.9	436.3	435.7	434.7	433.4	432.0	430.7	429.4	429.8
20°	429.7	429.1	428.5	427.9	427.3	426.3	424.9	423.5	422.1	420.7	421.0
22.5°	421.4	420.5	419.7	418.8	418.0	416.9	415.6	414.2	412.9	411.6	411.6
25°	407.0	406.2	405.4	404.6	403.8	402.5	400.8	399.1	397.4	395.7	395.9
27.5°	390.7	390.0	389.2	388.5	387.8	386.7	385.4	384.0	382.7	381.3	381.0
30°	379.8	379.0	378.2	377.4	376.5	375.4	373.9	372.4	370.8	369.3	369.0
32.5°	368.1	367.5	366.9	366.2	365.6	364.4	362.8	361.3	359.7	358.1	357.5
35°	351.2	350.1	349.1	348.1	347.1	345.8	344.2	342.6	341.0	339.3	338.7
37.5°	332.0	331.1	330.2	329.3	328.4	327.2	325.6	324.0	322.3	320.7	320.0
40°	318.9	318.1	317.3	316.5	315.7	314.5	312.8	311.2	309.6	308.0	307.1
42.5°	306.2	305.4	304.6	303.8	303.0	301.7	300.1	298.5	296.9	295.3	294.3
45°	285.7	285.0	284.3	283.6	282.9	281.8	280.3	278.8	277.3	275.7	274.6
47.5°	265.4	264.7	264.1	263.4	262.7	261.6	260.0	258.5	256.9	255.3	254.1
50°	251.2	250.7	250.2	249.7	249.2	248.2	246.8	245.4	244.0	242.6	241.2
52.5°	237.4	236.7	236.1	235.4	234.7	233.7	232.4	231.1	229.7	228.4	227.2
55°	216.2	215.6	215.0	214.4	213.8	212.9	211.7	210.5	209.3	208.1	206.8
57.5°	195.0	194.5	194.0	193.5	193.0	192.1	190.8	189.5	188.1	186.8	185.6
60°	180.8	180.4	180.0	179.6	179.2	178.3	176.9	175.5	174.0	172.6	171.5
62.5°	167.0	166.3	165.7	165.1	164.4	163.5	162.4	161.4	160.3	159.2	158.1
65°	145.8	145.2	144.6	144.0	143.4	142.6	141.6	140.6	139.6	138.6	137.6
67.5°	124.3	123.8	123.3	122.8	122.4	121.7	120.7	119.8	118.9	118.0	117.3
70°	110.8	110.4	110.0	109.6	109.2	108.6	107.7	106.8	105.8	104.9	104.2
72.5°	97.0	96.6	96.2	95.8	95.4	94.9	94.3	93.8	93.2	92.6	91.9
75°	76.3	76.1	75.9	75.7	75.5	75.2	74.7	74.1	73.6	73.1	72.5
77.5°	57.8	57.4	57.1	56.8	56.4	56.1	55.9	55.7	55.5	55.3	55.0
80°	45.4	45.3	45.2	45.1	45.0	44.9	44.7	44.5	44.3	44.1	43.8
82.5°	33.8	33.8	33.8	33.7	33.7	33.6	33.5	33.4	33.3	33.2	32.8
85°	18.6	18.5	18.4	18.3	18.2	18.1	18.0	17.9	17.8	17.7	17.4
87.5°	6.8	7.2	7.7	8.1	8.6	9.3	10.3	11.3	12.2	13.2	12.9
90°	1.2	4.3	7.4	10.5	13.6	17.9	23.6	29.3	35.0	40.7	40.1
92.5°	20.7	22.9	25.2	27.5	29.8	31.6	32.9	34.3	35.6	36.9	37.0
95°	60.4	63.0	65.6	68.1	70.7	72.3	72.8	73.3	73.8	74.3	74.3
97.5°	110.4	112.6	114.9	117.2	119.4	121.1	122.0	123.0	124.0	125.0	125.0
100°	147.5	149.6	151.7	153.7	155.8	157.2	158.0	158.7	159.5	160.3	160.3
102.5°	186.6	188.2	189.9	191.5	193.2	194.5	195.5	196.4	197.4	198.4	198.6
105°	249.7	250.5	251.3	252.1	252.8	253.5	254.0	254.5	255.0	255.5	256.1
107.5°	313.4	314.5	315.7	316.8	317.9	318.5	318.5	318.5	318.5	318.5	318.7
110°	354.3	355.8	357.4	358.9	360.5	361.3	361.3	361.3	361.3	361.3	361.3



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	398.9	400.4	402.0	403.5	405.1	405.8	405.5	405.3	405.1	404.9	404.3
115°	464.6	466.2	467.7	469.3	470.8	471.3	470.8	470.3	469.8	469.3	469.0
117.5°	530.1	532.2	534.3	536.3	538.4	538.7	537.3	535.8	534.4	532.9	532.3
120°	573.8	575.9	578.0	580.0	582.1	582.1	580.0	578.0	575.9	573.8	573.8
122.5°	613.8	616.3	618.7	621.2	623.7	624.2	622.8	621.3	619.9	618.4	617.8
125°	676.0	678.4	680.7	683.0	685.3	686.1	685.3	684.6	683.8	683.0	682.2
127.5°	736.7	739.6	742.6	745.5	748.4	749.5	748.5	747.6	746.7	745.7	744.8
130°	774.8	778.1	781.5	784.8	788.2	789.6	789.1	788.6	788.1	787.6	787.0
132.5°	817.5	820.3	823.0	825.7	828.5	829.9	830.0	830.1	830.2	830.3	829.2
135°	874.7	877.5	880.4	883.2	886.0	887.7	888.2	888.7	889.3	889.8	889.5
137.5°	934.8	937.2	939.5	941.8	944.1	945.6	946.3	947.0	947.6	948.3	948.1
140°	971.1	973.4	975.7	978.1	980.4	982.2	983.5	984.8	986.1	987.3	987.3
142.5°	1008.3	1010.6	1012.9	1015.2	1017.5	1019.1	1020.0	1020.9	1021.8	1022.7	1022.9
145°	1061.7	1063.5	1065.3	1067.1	1068.9	1070.6	1072.1	1073.7	1075.2	1076.8	1077.0
147.5°	1109.3	1111.5	1113.6	1115.8	1118.0	1119.6	1120.6	1121.7	1122.7	1123.7	1124.3
150°	1141.8	1143.4	1144.9	1146.5	1148.0	1149.3	1150.4	1151.4	1152.4	1153.5	1154.2
152.5°	1170.6	1172.2	1173.7	1175.3	1176.8	1178.2	1179.5	1180.7	1182.0	1183.2	1184.2
155°	1213.9	1214.6	1215.4	1216.2	1217.0	1217.7	1218.5	1219.3	1220.1	1220.8	1222.1
157.5°	1250.8	1251.3	1251.8	1252.3	1252.9	1253.3	1253.8	1254.3	1254.7	1255.2	1257.0
160°	1273.1	1273.6	1274.1	1274.6	1275.2	1275.5	1275.8	1276.1	1276.3	1276.6	1278.1
162.5°	1293.5	1293.6	1293.7	1293.8	1294.0	1294.1	1294.4	1294.6	1294.9	1295.2	1296.9
165°	1320.7	1320.5	1320.2	1319.9	1319.7	1319.6	1319.6	1319.6	1319.6	1319.6	1321.4
167.5°	1343.5	1342.7	1341.9	1341.2	1340.4	1340.0	1339.9	1339.9	1339.8	1339.8	1341.6
170°	1355.6	1354.8	1354.0	1353.2	1352.5	1352.0	1351.7	1351.4	1351.2	1350.9	1352.7
172.5°	1363.9	1363.2	1362.4	1361.6	1360.8	1360.3	1360.1	1359.8	1359.5	1359.3	1361.1
175°	1374.2	1373.4	1372.6	1371.8	1371.1	1370.4	1369.9	1369.4	1368.9	1368.3	1370.2
177.5°	1378.3	1377.7	1377.1	1376.5	1375.9	1375.3	1374.9	1374.5	1374.1	1373.7	1374.9
180°	1376.5	1376.5	1376.5	1376.5	1376.5	1376.5	1376.5	1376.5	1376.5	1376.5	1376.5



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	472.4	472.4	472.4	472.4	472.4	472.4	472.4	472.4
2.5°	470.4	471.2	472.0	472.4	472.2	472.0	471.9	471.7
5°	467.3	468.1	468.9	469.2	469.0	468.8	468.6	468.4
7.5°	462.0	462.8	463.6	463.9	463.7	463.4	463.2	463.0
10°	457.3	458.1	458.9	459.1	458.8	458.5	458.2	457.9
12.5°	451.7	452.2	452.8	453.0	452.8	452.5	452.3	452.1
15°	441.9	442.3	442.7	442.7	442.2	441.7	441.2	440.7
17.5°	430.3	430.8	431.2	431.2	430.7	430.3	429.8	429.3
20°	421.3	421.6	421.9	421.8	421.4	421.0	420.6	420.2
22.5°	411.7	411.8	411.8	411.7	411.5	411.2	411.0	410.8
25°	396.1	396.3	396.5	396.5	396.3	396.1	395.9	395.7
27.5°	380.7	380.4	380.1	379.7	379.2	378.7	378.3	377.8
30°	368.7	368.4	368.1	367.8	367.4	367.0	366.6	366.1
32.5°	357.0	356.4	355.9	355.4	355.0	354.6	354.2	353.8
35°	338.1	337.5	336.9	336.4	335.9	335.4	334.9	334.3
37.5°	319.2	318.5	317.7	317.1	316.6	316.1	315.7	315.2
40°	306.2	305.3	304.4	303.7	303.3	302.9	302.5	302.1
42.5°	293.3	292.3	291.3	290.5	290.0	289.4	288.9	288.3
45°	273.5	272.4	271.3	270.5	270.1	269.7	269.3	268.9
47.5°	253.0	251.8	250.6	249.7	249.2	248.6	248.0	247.4
50°	239.8	238.3	236.9	236.0	235.5	235.0	234.5	234.0
52.5°	226.1	224.9	223.7	222.8	222.1	221.5	220.8	220.1
55°	205.6	204.4	203.2	202.4	201.9	201.3	200.8	200.3
57.5°	184.4	183.2	182.0	181.2	180.9	180.5	180.1	179.7
60°	170.4	169.3	168.2	167.5	167.2	166.9	166.6	166.3
62.5°	157.1	156.1	155.1	154.4	154.0	153.6	153.2	152.8
65°	136.7	135.8	134.9	134.2	133.7	133.2	132.7	132.2
67.5°	116.6	115.9	115.2	114.6	114.2	113.8	113.4	113.0
70°	103.5	102.8	102.1	101.6	101.2	100.7	100.3	99.9
72.5°	91.2	90.5	89.8	89.2	88.9	88.6	88.3	87.9
75°	71.9	71.3	70.7	70.5	70.7	70.9	71.1	71.3
77.5°	54.7	54.4	54.1	53.8	53.5	53.3	53.0	52.7
80°	43.5	43.2	42.9	42.6	42.4	42.2	42.0	41.8
82.5°	32.4	32.0	31.6	31.4	31.4	31.3	31.3	31.3
85°	17.1	16.8	16.5	16.3	16.2	16.1	16.0	15.9
87.5°	12.5	12.2	11.8	11.6	11.6	11.6	11.6	11.5
90°	39.6	39.1	38.6	38.5	38.7	39.0	39.2	39.5
92.5°	37.1	37.2	37.4	37.4	37.5	37.5	37.6	37.6
95°	74.3	74.3	74.3	74.1	73.6	73.1	72.5	72.0
97.5°	125.0	125.0	125.0	125.0	124.9	124.9	124.8	124.8
100°	160.3	160.3	160.3	160.2	159.9	159.7	159.4	159.1
102.5°	198.8	199.0	199.2	199.2	198.9	198.7	198.4	198.2
105°	256.6	257.1	257.6	257.9	257.9	257.9	257.9	257.9
107.5°	318.9	319.1	319.3	318.8	317.7	316.5	315.3	314.1
110°	361.3	361.3	361.3	360.9	360.1	359.3	358.5	357.8



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CATALOG NUMBER: SA2XXDIP-C290D1080U835-4F0-1E-UDD-F1

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	403.7	403.1	402.5	401.9	401.3	400.7	400.2	399.6
115°	468.8	468.5	468.2	467.7	467.0	466.2	465.4	464.6
117.5°	531.7	531.1	530.5	529.8	529.0	528.2	527.4	526.7
120°	573.8	573.8	573.8	573.4	572.7	571.9	571.1	570.3
122.5°	617.2	616.6	615.9	615.4	614.8	614.2	613.7	613.1
125°	681.5	680.7	679.9	679.4	679.1	678.9	678.6	678.4
127.5°	743.9	742.9	742.0	741.1	740.3	739.5	738.7	737.8
130°	786.5	786.0	785.5	784.7	783.7	782.6	781.6	780.6
132.5°	828.0	826.9	825.8	824.8	824.0	823.1	822.3	821.5
135°	889.3	889.0	888.7	888.2	887.4	886.7	885.9	885.1
137.5°	947.9	947.7	947.5	946.9	945.8	944.8	943.8	942.7
140°	987.3	987.3	987.3	986.8	985.8	984.8	983.7	982.7
142.5°	1023.1	1023.3	1023.5	1023.1	1022.0	1021.0	1020.0	1018.9
145°	1077.3	1077.6	1077.8	1077.4	1076.4	1075.4	1074.3	1073.3
147.5°	1124.9	1125.4	1126.0	1125.8	1124.8	1123.8	1122.8	1121.9
150°	1155.0	1155.8	1156.6	1156.6	1155.8	1155.0	1154.2	1153.5
152.5°	1185.2	1186.1	1187.1	1187.1	1186.1	1185.2	1184.2	1183.2
155°	1223.4	1224.7	1226.0	1226.2	1225.5	1224.7	1223.9	1223.1
157.5°	1258.7	1260.5	1262.2	1262.5	1261.2	1260.0	1258.8	1257.5
160°	1279.7	1281.2	1282.8	1283.0	1282.0	1281.0	1279.9	1278.9
162.5°	1298.7	1300.4	1302.2	1302.4	1301.2	1300.0	1298.7	1297.5
165°	1323.2	1325.0	1326.8	1327.0	1325.8	1324.5	1323.2	1321.9
167.5°	1343.4	1345.2	1347.0	1347.2	1345.9	1344.5	1343.2	1341.9
170°	1354.5	1356.3	1358.1	1358.3	1356.7	1355.2	1353.6	1352.1
172.5°	1362.9	1364.7	1366.5	1366.6	1365.1	1363.5	1362.0	1360.4
175°	1372.0	1373.8	1375.6	1375.7	1374.2	1372.6	1371.1	1369.5
177.5°	1376.2	1377.4	1378.6	1378.6	1377.4	1376.2	1374.9	1373.7
180°	1376.5	1376.5	1376.5	1376.5	1376.5	1376.5	1376.5	1376.5

(END OF REPORT)