

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: P331279-840

Luminaire Tested: **SA2XXDIP-C290D1080U840-4F0-1E-UDD-D**

Issue Date: 10/7/2019

Test Information

Test Method: LM-79-08
Report Number: P331279-840
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: SA2XXDIP-C290D1080U840-4F0-1E-UDD-D
Description: DEFINE 2 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 290 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER
UPLIGHT 1080 LUMENS PER FOOT, NO LENS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

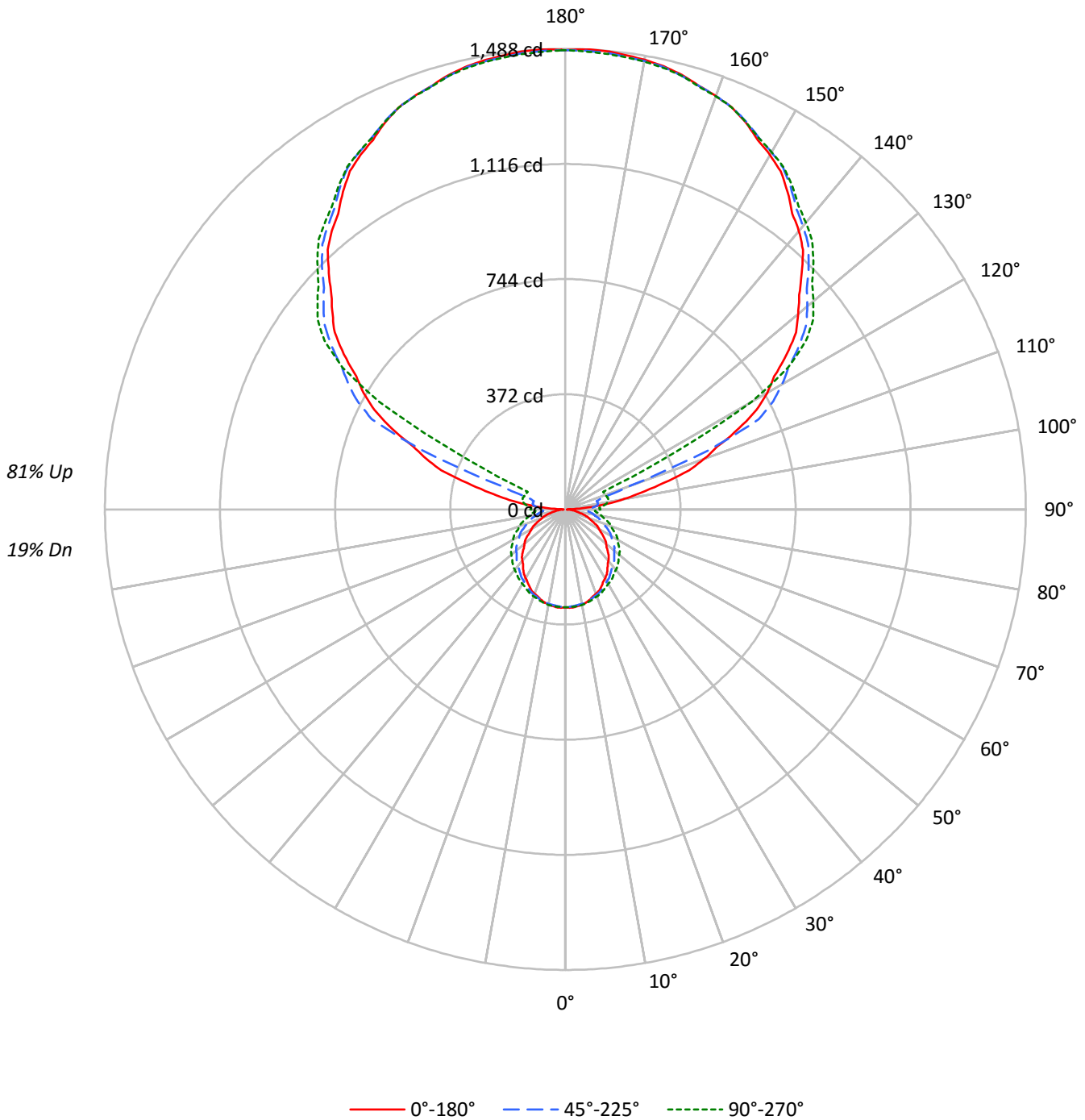
Lumens per Lamp: N/A
Luminaire Lumens: 5559.1 lumens
Efficiency: N/A
Efficacy: 131.7 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.31 / 1.42
Luminous Opening: Rectangular w/ Sides (W: 0.17' x L: 4' x H: 0.08')
CIE Type: Semi-Indirect

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										
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	100	100	100	100	88	88	88	88	66	66	66	46	46	46	28	28	28	19																				
1	90	86	82	78	79	76	73	70	57	55	53	40	38	37	24	23	22	15																				
2	82	75	69	64	72	66	61	57	50	46	43	34	32	31	21	19	18	12																				
3	75	65	58	53	65	58	52	47	43	39	36	30	28	25	18	17	15	10																				
4	68	58	50	44	60	51	44	39	38	34	30	27	24	22	16	14	13	8																				
5	62	51	43	37	55	45	38	33	34	29	26	24	21	18	14	13	11	7																				
6	57	45	38	32	50	40	34	29	31	26	22	21	18	16	13	11	10	6																				
7	53	41	33	28	46	36	30	25	27	23	19	19	16	14	12	10	9	6																				
8	49	37	29	24	43	33	26	22	25	20	17	18	14	12	11	9	8	5																				
9	45	33	26	21	40	30	23	19	23	18	15	16	13	11	10	8	7	4																				
10	42	30	23	19	37	27	21	17	21	16	13	15	12	10	9	7	6	4																				

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	5112	5112	5112
5°	5137	4921	4901
10°	5105	4774	4722
15°	5033	4621	4531
20°	4944	4456	4348
25°	4857	4297	4181
30°	4733	4133	4015
35°	4608	3975	3898
40°	4476	3840	3780
45°	4351	3721	3681
50°	4218	3612	3581
55°	4076	3496	3482
60°	3902	3373	3374
65°	3723	3232	3247
70°	3523	3079	3110
75°	3270	2929	2984
80°	2861	2776	2858
85°	2484	2642	2759



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	30.0	0.5
10°-20°	86.0	1.5
20°-30°	130.3	2.3
30°-40°	158.8	2.9
40°-50°	170.8	3.1
50°-60°	165.9	3.0
60°-70°	144.8	2.6
70°-80°	111.5	2.0
80°-90°	78.5	1.4
90°-100°	101.0	1.8
100°-110°	219.1	3.9
110°-120°	510.0	9.2
120°-130°	814.7	14.7
130°-140°	857.5	15.4
140°-150°	792.6	14.3
150°-160°	636.4	11.4
160°-170°	410.1	7.4
170°-180°	141.2	2.5
0°-30°	246.3	4.4
0°-40°	405.1	7.3
0°-60°	741.7	13.3
0°-90°	1076.5	19.4
90°-120°	830.2	14.9
90°-150°	3294.9	59.3
90°-180°	4483.0	80.6
0°-180°	5559.1	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	317	317	317	317	317	
5°	318	316	313	316	316	30
15°	303	304	304	308	307	85
25°	275	278	283	288	289	127
35°	237	245	254	263	267	148
45°	194	207	223	237	242	150
55°	149	166	190	205	212	133
65°	102	125	151	170	176	101
75°	56	82	112	130	137	60
85°	17	45	74	93	100	18
90°	6	44	82	105	113	6
95°	73	62	95	116	122	88
105°	329	357	105	132	142	351
115°	619	644	690	229	134	609
125°	874	889	923	942	950	779
135°	1080	1097	1112	1131	1134	834
145°	1253	1253	1270	1280	1277	783
155°	1380	1371	1383	1388	1381	635
165°	1454	1448	1450	1457	1450	410
175°	1487	1480	1482	1488	1478	141
180°	1484	1484	1484	1484	1484	



TEST NUMBER: P331279-840

CATALOG NUMBER: SA2XXDIP-C290D1080U840-4F0-1E-UDD-D

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	316.6	316.6	316.6	316.6	316.6	316.6	316.6	316.6	316.6	316.6	316.6
2.5°	318.4	318.1	317.9	317.6	317.4	317.0	316.4	315.9	315.3	314.7	315.1
5°	317.5	317.2	316.9	316.6	316.2	315.8	315.2	314.6	314.0	313.4	314.0
7.5°	314.6	314.4	314.2	314.0	313.8	313.5	313.0	312.6	312.0	311.5	312.4
10°	312.5	312.3	312.0	311.8	311.6	311.3	311.0	310.7	310.4	310.1	310.9
12.5°	308.7	308.8	308.8	308.9	308.9	308.8	308.6	308.4	308.1	307.9	308.7
15°	302.8	303.0	303.2	303.4	303.6	303.7	303.7	303.7	303.7	303.7	304.6
17.5°	295.1	295.5	295.9	296.4	296.8	297.2	297.5	297.8	298.1	298.5	299.4
20°	289.9	290.4	290.9	291.4	292.0	292.5	292.9	293.3	293.7	294.1	295.2
22.5°	284.5	285.0	285.6	286.2	286.8	287.4	287.9	288.5	289.1	289.6	290.7
25°	275.3	276.0	276.7	277.4	278.1	278.9	279.8	280.7	281.7	282.6	283.8
27.5°	264.3	265.4	266.6	267.7	268.9	270.0	271.0	272.2	273.3	274.4	275.9
30°	256.9	258.2	259.5	260.8	262.2	263.6	264.9	266.2	267.5	268.8	270.4
32.5°	248.8	250.3	251.8	253.3	254.8	256.3	257.9	259.4	261.1	262.6	264.5
35°	237.2	238.9	240.7	242.4	244.1	245.9	247.9	249.8	251.8	253.7	255.9
37.5°	224.5	226.5	228.5	230.6	232.5	234.8	237.3	239.7	242.3	244.8	247.3
40°	216.1	218.3	220.6	222.8	225.0	227.5	230.2	233.1	235.8	238.5	241.2
42.5°	208.0	210.3	212.5	214.7	217.0	219.6	222.9	226.0	229.1	232.3	235.2
45°	194.5	197.2	200.1	202.8	205.5	208.6	212.3	215.8	219.3	223.0	226.1
47.5°	181.2	184.2	187.2	190.2	193.2	196.8	201.0	205.1	209.3	213.5	216.8
50°	172.1	175.2	178.3	181.5	184.7	188.5	193.2	197.7	202.3	206.9	210.4
52.5°	163.2	166.5	169.9	173.2	176.5	180.6	185.4	190.3	195.1	200.0	203.5
55°	149.1	152.8	156.4	160.1	163.8	168.2	173.6	178.8	184.2	189.5	193.2
57.5°	135.1	139.3	143.4	147.5	151.7	156.4	161.9	167.2	172.7	178.1	182.1
60°	125.2	129.7	134.0	138.4	142.8	147.8	153.7	159.5	165.3	171.1	175.0
62.5°	116.4	121.0	125.5	130.1	134.6	139.8	145.6	151.4	157.2	163.1	167.1
65°	101.8	106.8	111.8	116.8	121.8	127.3	133.3	139.4	145.4	151.4	155.6
67.5°	88.5	93.7	98.9	104.1	109.4	115.0	121.2	127.3	133.5	139.7	143.9
70°	78.9	84.2	89.5	94.8	100.1	105.9	112.2	118.6	124.9	131.2	135.6
72.5°	70.1	75.5	81.0	86.4	92.0	97.9	104.3	110.7	117.1	123.5	127.8
75°	56.5	62.1	67.9	73.5	79.3	85.3	91.9	98.5	104.9	111.5	115.8
77.5°	43.2	49.2	55.1	61.1	67.2	73.4	80.1	86.6	93.3	99.9	104.3
80°	34.4	40.6	46.9	53.0	59.3	65.7	72.3	79.0	85.5	92.2	96.4
82.5°	27.1	33.2	39.4	45.4	51.6	58.1	64.7	71.5	78.2	84.8	89.2
85°	16.6	22.8	29.2	35.4	41.8	48.2	54.7	61.3	67.8	74.3	78.6
87.5°	9.2	15.9	22.4	29.0	35.6	42.3	49.3	56.1	63.1	70.0	74.4
90°	5.7	14.2	22.7	31.3	39.8	48.3	56.8	65.1	73.6	82.0	87.3
92.5°	26.0	31.2	36.5	41.7	47.0	53.2	60.5	67.7	74.9	82.2	86.7
95°	73.4	70.4	67.3	64.2	61.1	63.5	71.3	79.1	86.8	94.6	99.7
97.5°	141.7	123.8	105.8	88.0	70.0	65.9	75.6	85.3	95.1	104.8	109.6
100°	193.2	164.3	135.4	106.5	77.6	68.0	77.8	87.6	97.4	107.0	112.7
102.5°	249.5	246.1	242.6	239.1	235.6	219.7	191.4	163.0	134.6	106.2	112.4
105°	328.6	338.8	348.9	359.0	369.1	344.3	284.4	224.6	164.8	104.9	111.1
107.5°	419.4	427.5	435.7	443.8	451.9	419.5	346.5	273.5	200.4	127.3	128.2
110°	477.4	484.4	491.5	498.6	505.6	477.2	413.2	349.2	285.3	221.4	200.8



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	532.4	538.6	544.7	550.8	556.9	553.9	541.6	529.4	517.1	504.7	421.0
115°	619.1	624.3	629.4	634.6	639.9	647.7	658.2	668.8	679.3	689.9	582.5
117.5°	696.2	701.5	706.7	712.0	717.2	724.1	732.4	740.7	749.1	757.4	733.7
120°	752.9	756.8	760.8	764.8	768.8	775.0	783.4	791.7	800.1	808.5	814.2
122.5°	800.9	804.9	808.8	812.7	816.7	822.9	831.4	839.9	848.4	857.0	861.4
125°	873.7	876.8	879.9	883.0	886.1	891.5	899.4	907.2	914.9	922.7	927.2
127.5°	940.1	943.4	946.7	950.1	953.4	958.1	964.1	970.1	976.1	982.1	987.0
130°	982.1	985.8	989.6	993.3	996.9	1001.2	1006.0	1010.8	1015.5	1020.3	1025.3
132.5°	1025.1	1028.2	1031.4	1034.5	1037.6	1041.4	1045.6	1049.9	1054.2	1058.4	1063.1
135°	1080.5	1084.3	1088.0	1091.9	1095.7	1099.2	1102.4	1105.5	1108.7	1111.9	1116.4
137.5°	1136.9	1139.5	1142.2	1144.9	1147.5	1150.2	1153.2	1156.0	1158.9	1161.7	1166.0
140°	1173.9	1175.7	1177.4	1179.2	1181.0	1183.4	1186.2	1189.0	1191.8	1194.7	1198.5
142.5°	1204.8	1206.4	1208.0	1209.6	1211.2	1213.6	1216.6	1219.6	1222.6	1225.8	1229.0
145°	1252.8	1252.5	1252.3	1252.1	1251.8	1253.7	1257.8	1261.8	1266.0	1270.0	1272.2
147.5°	1295.2	1294.2	1293.3	1292.4	1291.5	1293.0	1297.1	1301.0	1305.0	1309.1	1310.4
150°	1322.6	1320.9	1319.3	1317.6	1316.0	1317.0	1320.8	1324.6	1328.5	1332.2	1333.7
152.5°	1345.7	1343.9	1342.0	1340.2	1338.4	1339.2	1342.8	1346.5	1350.1	1353.7	1355.1
155°	1379.5	1377.4	1375.2	1373.0	1370.9	1371.3	1374.1	1377.0	1379.9	1382.7	1384.1
157.5°	1405.9	1404.1	1402.3	1400.5	1398.7	1398.8	1400.8	1402.7	1404.7	1406.7	1408.4
160°	1421.4	1420.0	1418.5	1417.0	1415.6	1415.6	1417.0	1418.5	1420.0	1421.4	1422.8
162.5°	1435.1	1433.7	1432.2	1430.8	1429.4	1429.3	1430.5	1431.8	1433.0	1434.2	1435.8
165°	1453.6	1452.1	1450.7	1449.3	1447.8	1447.4	1448.1	1449.0	1449.7	1450.4	1452.0
167.5°	1467.3	1465.9	1464.4	1463.0	1461.6	1461.2	1461.9	1462.5	1463.2	1463.9	1465.5
170°	1475.0	1473.6	1472.2	1470.8	1469.4	1468.8	1469.4	1469.8	1470.3	1470.8	1472.4
172.5°	1480.2	1478.7	1477.3	1475.9	1474.5	1474.0	1474.5	1474.9	1475.4	1475.9	1477.5
175°	1486.8	1485.2	1483.5	1481.9	1480.2	1479.6	1480.1	1480.6	1481.0	1481.5	1483.2
177.5°	1487.9	1486.6	1485.2	1483.9	1482.6	1482.0	1482.2	1482.4	1482.6	1482.8	1484.1
180°	1483.6	1483.6	1483.6	1483.6	1483.6	1483.6	1483.6	1483.6	1483.6	1483.6	1483.6



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	316.6	316.6	316.6	316.6	316.6	316.6	316.6	316.6
2.5°	315.5	315.9	316.3	316.5	316.3	316.1	316.0	315.8
5°	314.6	315.2	315.8	316.0	315.9	315.8	315.7	315.6
7.5°	313.1	313.8	314.6	314.9	314.8	314.7	314.6	314.5
10°	311.7	312.6	313.4	313.8	313.7	313.6	313.5	313.4
12.5°	309.5	310.3	311.1	311.5	311.4	311.3	311.2	311.1
15°	305.5	306.5	307.4	307.8	307.7	307.6	307.5	307.4
17.5°	300.4	301.3	302.3	302.8	302.8	302.8	302.8	302.8
20°	296.3	297.4	298.5	299.1	299.1	299.1	299.1	299.1
22.5°	292.0	293.1	294.2	294.8	295.0	295.1	295.3	295.5
25°	285.1	286.3	287.5	288.2	288.5	288.8	289.1	289.4
27.5°	277.4	279.0	280.5	281.4	281.7	281.9	282.1	282.4
30°	272.1	273.8	275.4	276.3	276.6	276.9	277.2	277.5
32.5°	266.3	268.2	270.1	271.4	271.9	272.5	273.0	273.5
35°	258.2	260.4	262.7	264.2	264.9	265.6	266.3	267.0
37.5°	249.7	252.3	254.8	256.4	257.1	257.9	258.6	259.3
40°	243.9	246.5	249.1	251.0	251.9	252.8	253.7	254.6
42.5°	238.1	241.0	243.9	245.8	246.7	247.6	248.5	249.4
45°	229.2	232.5	235.6	237.7	238.7	239.7	240.8	241.8
47.5°	220.2	223.4	226.7	228.9	230.0	231.2	232.3	233.4
50°	213.8	217.3	220.8	223.1	224.2	225.3	226.4	227.5
52.5°	207.0	210.6	214.1	216.5	217.7	218.9	220.2	221.3
55°	196.8	200.5	204.2	206.6	207.9	209.3	210.7	212.0
57.5°	186.0	190.0	193.9	196.5	197.9	199.2	200.6	202.0
60°	178.8	182.8	186.6	189.2	190.7	192.1	193.6	195.0
62.5°	171.3	175.4	179.6	182.3	183.6	184.9	186.3	187.6
65°	159.8	163.9	168.1	170.9	172.2	173.5	174.8	176.1
67.5°	148.0	152.3	156.5	159.4	160.7	162.1	163.5	164.9
70°	140.0	144.3	148.8	151.6	152.8	154.0	155.2	156.4
72.5°	132.1	136.4	140.7	143.6	145.0	146.5	148.0	149.5
75°	120.3	124.6	129.1	131.9	133.2	134.5	135.8	137.1
77.5°	108.7	113.0	117.3	120.3	121.7	123.1	124.5	125.9
80°	100.8	105.0	109.4	112.2	113.6	115.0	116.4	117.9
82.5°	93.4	97.8	102.0	104.8	106.1	107.6	108.9	110.2
85°	82.9	87.2	91.5	94.3	95.7	97.1	98.6	100.0
87.5°	78.8	83.2	87.6	90.5	91.9	93.3	94.7	96.0
90°	92.6	97.9	103.1	106.6	108.3	110.0	111.7	113.4
92.5°	91.4	96.0	100.6	103.7	105.2	106.7	108.3	109.8
95°	104.7	109.9	114.9	118.0	118.9	119.9	120.9	121.9
97.5°	114.3	119.1	123.7	126.8	128.4	129.9	131.3	132.8
100°	118.5	124.1	129.8	133.4	135.0	136.6	138.3	139.9
102.5°	118.6	124.7	130.9	134.9	136.6	138.5	140.3	142.1
105°	117.3	123.5	129.7	133.8	135.9	137.9	140.1	142.2
107.5°	128.9	129.7	130.4	131.8	133.9	135.9	138.0	140.1
110°	180.2	159.6	139.0	129.8	131.8	133.9	135.9	138.0



TEST NUMBER: P331279-840

CATALOG NUMBER: SA2XXDIP-C290D1080U840-4F0-1E-UDD-D

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	337.3	253.5	169.8	128.8	130.7	132.6	134.4	136.3
115°	475.1	367.7	260.3	198.5	182.5	166.4	150.4	134.4
117.5°	710.0	686.3	662.6	623.1	567.6	512.2	456.9	401.4
120°	819.9	825.6	831.3	818.6	787.6	756.5	725.4	694.3
122.5°	866.0	870.4	874.8	874.4	869.2	863.9	858.6	853.3
125°	931.6	936.0	940.4	943.4	945.1	946.7	948.4	950.0
127.5°	992.1	997.0	1002.0	1005.0	1006.0	1007.0	1008.0	1009.2
130°	1030.5	1035.5	1040.6	1043.4	1044.0	1044.5	1045.1	1045.7
132.5°	1067.6	1072.3	1076.9	1079.4	1080.1	1080.7	1081.2	1081.8
135°	1121.0	1125.4	1129.9	1132.4	1132.8	1133.1	1133.4	1133.8
137.5°	1170.2	1174.5	1178.6	1180.7	1180.6	1180.4	1180.3	1180.2
140°	1202.2	1206.0	1209.8	1211.4	1210.8	1210.2	1209.6	1209.1
142.5°	1232.2	1235.5	1238.8	1240.1	1239.4	1238.7	1238.1	1237.4
145°	1274.6	1276.9	1279.1	1279.9	1279.2	1278.6	1277.9	1277.2
147.5°	1311.7	1313.0	1314.3	1314.6	1313.8	1313.1	1312.3	1311.6
150°	1335.1	1336.6	1338.0	1338.1	1336.9	1335.7	1334.5	1333.3
152.5°	1356.6	1358.1	1359.5	1359.4	1357.8	1356.2	1354.6	1353.1
155°	1385.5	1387.0	1388.5	1388.2	1386.2	1384.4	1382.5	1380.6
157.5°	1410.0	1411.6	1413.2	1413.1	1411.3	1409.4	1407.5	1405.6
160°	1424.2	1425.6	1427.0	1426.9	1425.3	1423.6	1422.0	1420.3
162.5°	1437.4	1439.1	1440.8	1440.5	1438.5	1436.4	1434.3	1432.3
165°	1453.7	1455.3	1457.0	1457.0	1455.3	1453.7	1452.0	1450.4
167.5°	1467.2	1468.8	1470.6	1470.3	1468.1	1466.0	1463.9	1461.7
170°	1474.1	1475.7	1477.4	1477.1	1475.0	1472.9	1470.8	1468.5
172.5°	1479.3	1480.9	1482.6	1482.4	1480.2	1478.0	1475.9	1473.7
175°	1484.8	1486.5	1488.1	1487.8	1485.4	1483.0	1480.7	1478.2
177.5°	1485.4	1486.7	1488.1	1487.9	1486.2	1484.5	1482.8	1481.1
180°	1483.6	1483.6	1483.6	1483.6	1483.6	1483.6	1483.6	1483.6

(END OF REPORT)