

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: P331486-840

Luminaire Tested: **S122DIW-S290D1240U840-4F0-1E-UDD-D1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P331486-840
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-8,
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S122DIW-S290D1240U840-4F0-1E-UDD-D1
Description: DEFINE 2 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 290 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER
UPLIGHT 1240 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 5552.6 lumens
Efficiency: N/A
Efficacy: 119.2 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

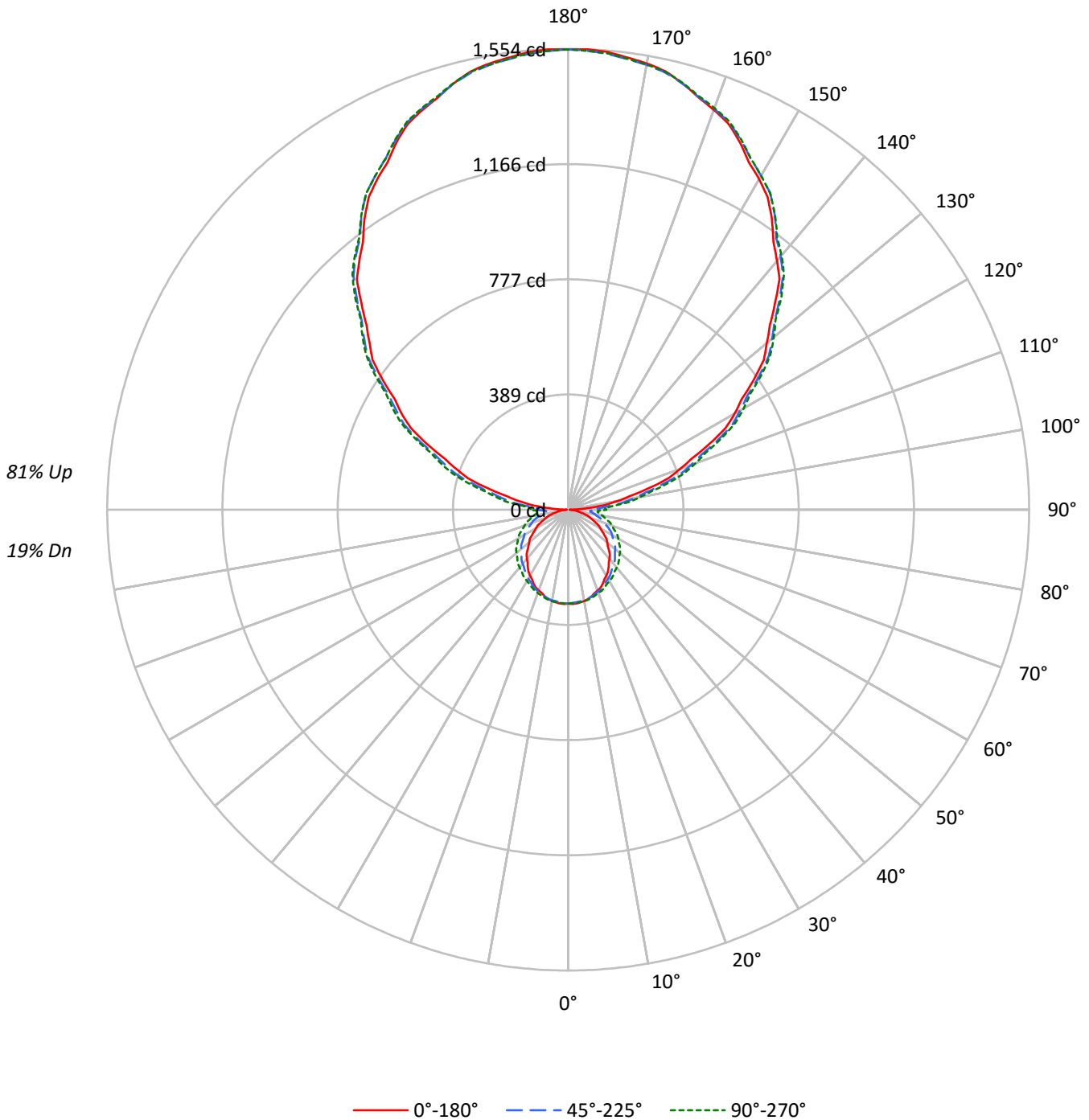
Input Watts (W): 46.6
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	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	63	72	66	61	57	50	46	43	34	32	31	21	19	18	12				
3	75	65	58	52	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°	81.0	1.5
90°-100°	149.9	2.7
100°-110°	343.0	6.2
110°-120°	546.9	9.8
120°-130°	700.3	12.6
130°-140°	776.3	14.0
140°-150°	756.5	13.6
150°-160°	633.6	11.4
160°-170°	420.3	7.6
170°-180°	146.9	2.6
0°-30°	246.3	4.4
0°-40°	405.1	7.3
0°-60°	741.7	13.4
0°-90°	1079.1	19.4
90°-120°	1039.7	18.7
90°-150°	3272.8	58.9
90°-180°	4474.0	80.6
0°-180°	5552.6	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	49	106	122	129	7
95°	72	106	136	153	157	81
105°	284	302	328	346	351	300
115°	526	539	556	568	570	520
125°	763	775	786	794	797	682
135°	986	1000	1008	1016	1016	762
145°	1197	1206	1214	1218	1215	747
155°	1368	1372	1376	1382	1379	630
165°	1489	1488	1488	1496	1490	420
175°	1549	1545	1542	1551	1544	147
180°	1552	1552	1552	1552	1552	



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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°	9.3	16.1	22.8	29.6	36.4	43.6	51.4	59.3	67.1	74.8	78.9
90°	5.9	15.3	24.7	34.1	43.5	54.6	67.6	80.5	93.4	106.3	109.9
92.5°	27.6	35.5	43.6	51.7	59.8	67.8	75.5	83.3	91.1	98.9	103.0
95°	71.8	79.5	87.2	94.8	102.6	109.8	116.4	123.2	129.9	136.5	140.5
97.5°	127.6	134.4	141.3	148.0	154.9	161.8	168.7	175.7	182.7	189.8	193.5
100°	169.6	175.6	181.7	187.8	193.9	200.3	206.8	213.4	219.9	226.6	230.4
102.5°	213.2	218.4	223.8	229.0	234.4	240.3	247.0	253.7	260.3	267.0	270.8
105°	283.8	287.6	291.4	295.3	299.1	304.0	309.9	315.8	321.6	327.5	331.6
107.5°	355.5	359.1	362.7	366.4	370.1	374.5	379.5	384.6	389.7	394.8	398.4
110°	401.2	405.0	408.8	412.5	416.4	420.7	425.8	430.7	435.8	440.7	443.9



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	451.5	454.9	458.4	461.9	465.3	469.3	473.8	478.4	482.9	487.4	490.0
115°	525.6	528.5	531.4	534.2	537.0	540.5	544.5	548.6	552.5	556.5	559.3
117.5°	599.1	602.1	605.1	608.1	611.3	614.1	616.7	619.4	621.9	624.5	626.8
120°	648.2	651.0	653.7	656.4	659.1	661.5	663.2	664.9	666.7	668.4	671.3
122.5°	693.3	696.2	699.2	702.2	705.1	707.7	709.9	712.1	714.3	716.5	718.6
125°	763.1	765.6	768.2	770.8	773.5	776.0	778.4	780.7	783.2	785.6	787.4
127.5°	831.3	834.6	837.8	841.0	844.2	846.7	848.2	849.8	851.4	852.9	854.4
130°	874.3	878.0	881.7	885.3	889.1	891.6	893.2	894.7	896.4	897.9	899.8
132.5°	922.5	925.4	928.5	931.4	934.4	936.9	938.6	940.4	942.1	943.9	944.9
135°	986.4	989.7	992.9	996.0	999.3	1001.7	1003.3	1004.9	1006.4	1008.0	1010.0
137.5°	1054.3	1056.9	1059.4	1062.1	1064.7	1066.6	1067.8	1069.0	1070.2	1071.4	1073.1
140°	1095.1	1097.6	1100.1	1102.7	1105.2	1107.3	1108.9	1110.6	1112.3	1114.0	1115.6
142.5°	1137.0	1139.5	1142.1	1144.6	1147.1	1148.9	1149.9	1150.9	1152.0	1153.0	1154.6
145°	1196.8	1198.9	1200.9	1203.0	1205.0	1206.9	1208.6	1210.3	1212.1	1213.9	1214.8
147.5°	1250.5	1252.9	1255.4	1257.9	1260.3	1262.1	1263.2	1264.5	1265.6	1266.8	1267.5
150°	1287.2	1288.9	1290.7	1292.4	1294.1	1295.7	1296.8	1298.0	1299.1	1300.3	1301.1
152.5°	1319.7	1321.4	1323.1	1324.8	1326.7	1328.2	1329.6	1331.0	1332.4	1333.8	1334.9
155°	1368.4	1369.3	1370.1	1371.0	1371.9	1372.7	1373.6	1374.4	1375.3	1376.2	1377.7
157.5°	1410.0	1410.6	1411.2	1411.8	1412.3	1412.9	1413.4	1413.9	1414.4	1415.0	1416.9
160°	1435.1	1435.7	1436.3	1436.9	1437.4	1437.9	1438.1	1438.5	1438.8	1439.1	1440.8
162.5°	1458.1	1458.3	1458.4	1458.5	1458.6	1458.9	1459.2	1459.5	1459.8	1460.1	1462.0
165°	1488.8	1488.5	1488.2	1487.9	1487.6	1487.5	1487.5	1487.5	1487.5	1487.5	1489.6
167.5°	1514.5	1513.6	1512.8	1511.9	1511.0	1510.6	1510.5	1510.5	1510.4	1510.3	1512.4
170°	1528.1	1527.2	1526.4	1525.5	1524.6	1524.1	1523.8	1523.5	1523.2	1522.9	1524.9
172.5°	1537.5	1536.7	1535.8	1534.9	1534.1	1533.5	1533.2	1532.9	1532.6	1532.3	1534.4
175°	1549.0	1548.2	1547.3	1546.4	1545.6	1544.9	1544.3	1543.7	1543.1	1542.5	1544.6
177.5°	1553.8	1553.1	1552.4	1551.7	1551.0	1550.4	1549.9	1549.4	1549.0	1548.5	1549.9
180°	1551.7	1551.7	1551.7	1551.7	1551.7	1551.7	1551.7	1551.7	1551.7	1551.7	1551.7



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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°	82.9	86.9	91.0	93.7	95.1	96.4	97.9	99.2
90°	113.4	116.8	120.4	122.9	124.4	125.9	127.4	129.0
92.5°	107.1	111.2	115.3	118.1	119.4	120.6	121.9	123.2
95°	144.3	148.1	152.1	154.3	154.9	155.6	156.2	156.8
97.5°	197.2	201.1	204.8	207.2	208.4	209.5	210.7	211.9
100°	234.1	237.9	241.7	244.0	244.8	245.6	246.5	247.3
102.5°	274.8	278.7	282.7	285.0	285.9	286.7	287.5	288.3
105°	335.8	340.0	344.2	346.8	347.9	349.0	350.1	351.2
107.5°	402.0	405.8	409.4	411.1	410.9	410.6	410.4	410.2
110°	447.3	450.5	453.7	455.6	455.8	456.1	456.3	456.6



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CATALOG NUMBER: S122DIW-S290D1240U840-4F0-1E-UDD-D1

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	492.5	495.0	497.7	499.2	499.7	500.1	500.6	501.1
115°	562.1	564.8	567.6	569.2	569.4	569.6	569.9	570.1
117.5°	629.1	631.5	633.8	635.0	635.2	635.4	635.5	635.7
120°	674.1	677.0	679.8	681.4	681.7	681.9	682.2	682.4
122.5°	720.6	722.8	724.8	726.0	726.3	726.6	727.0	727.3
125°	789.3	791.2	793.0	794.4	795.0	795.6	796.2	796.8
127.5°	856.0	857.4	858.9	859.6	859.6	859.5	859.5	859.5
130°	901.6	903.5	905.3	906.2	905.7	905.4	905.0	904.7
132.5°	946.0	947.2	948.3	948.7	948.6	948.5	948.4	948.3
135°	1011.8	1013.6	1015.5	1016.3	1016.3	1016.2	1016.2	1016.1
137.5°	1074.7	1076.3	1078.0	1078.5	1078.1	1077.6	1077.1	1076.7
140°	1117.2	1118.8	1120.4	1121.1	1120.4	1119.9	1119.3	1118.8
142.5°	1156.1	1157.6	1159.1	1159.6	1159.0	1158.3	1157.7	1157.1
145°	1215.7	1216.6	1217.5	1217.6	1216.9	1216.3	1215.6	1215.0
147.5°	1268.2	1268.9	1269.6	1269.6	1268.7	1267.9	1267.0	1266.2
150°	1302.0	1302.9	1303.7	1303.7	1302.9	1302.0	1301.1	1300.3
152.5°	1336.1	1337.1	1338.2	1338.2	1337.1	1336.1	1334.9	1333.8
155°	1379.2	1380.6	1382.0	1382.3	1381.5	1380.6	1379.7	1378.9
157.5°	1419.0	1420.9	1422.9	1423.2	1421.8	1420.4	1419.0	1417.5
160°	1442.6	1444.3	1446.0	1446.3	1445.2	1444.0	1442.9	1441.7
162.5°	1464.0	1465.9	1467.9	1468.2	1466.8	1465.4	1464.0	1462.7
165°	1491.6	1493.6	1495.7	1495.9	1494.5	1493.1	1491.6	1490.2
167.5°	1514.4	1516.4	1518.4	1518.7	1517.2	1515.7	1514.2	1512.7
170°	1526.9	1528.9	1531.1	1531.2	1529.4	1527.7	1525.9	1524.2
172.5°	1536.4	1538.4	1540.4	1540.5	1538.8	1537.1	1535.4	1533.6
175°	1546.6	1548.6	1550.6	1550.8	1549.0	1547.3	1545.6	1543.8
177.5°	1551.4	1552.8	1554.1	1554.1	1552.8	1551.4	1549.9	1548.5
180°	1551.7	1551.7	1551.7	1551.7	1551.7	1551.7	1551.7	1551.7

(END OF REPORT)