

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: P331516-840

Luminaire Tested: **S122DIW-S485D1240U840-4F0-1E-UDD-D1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P331516-840
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-S485D1240U840-4F0-1E-UDD-D1
Description: DEFINE 2 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 485 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: 6330.4 lumens
Efficiency: N/A
Efficacy: 117.7 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.32 / 1.42
Luminous Opening: Rectangular w/ Sides (W: 0.17' x L: 4' x H: 0.08')
CIE Type: Semi-Indirect

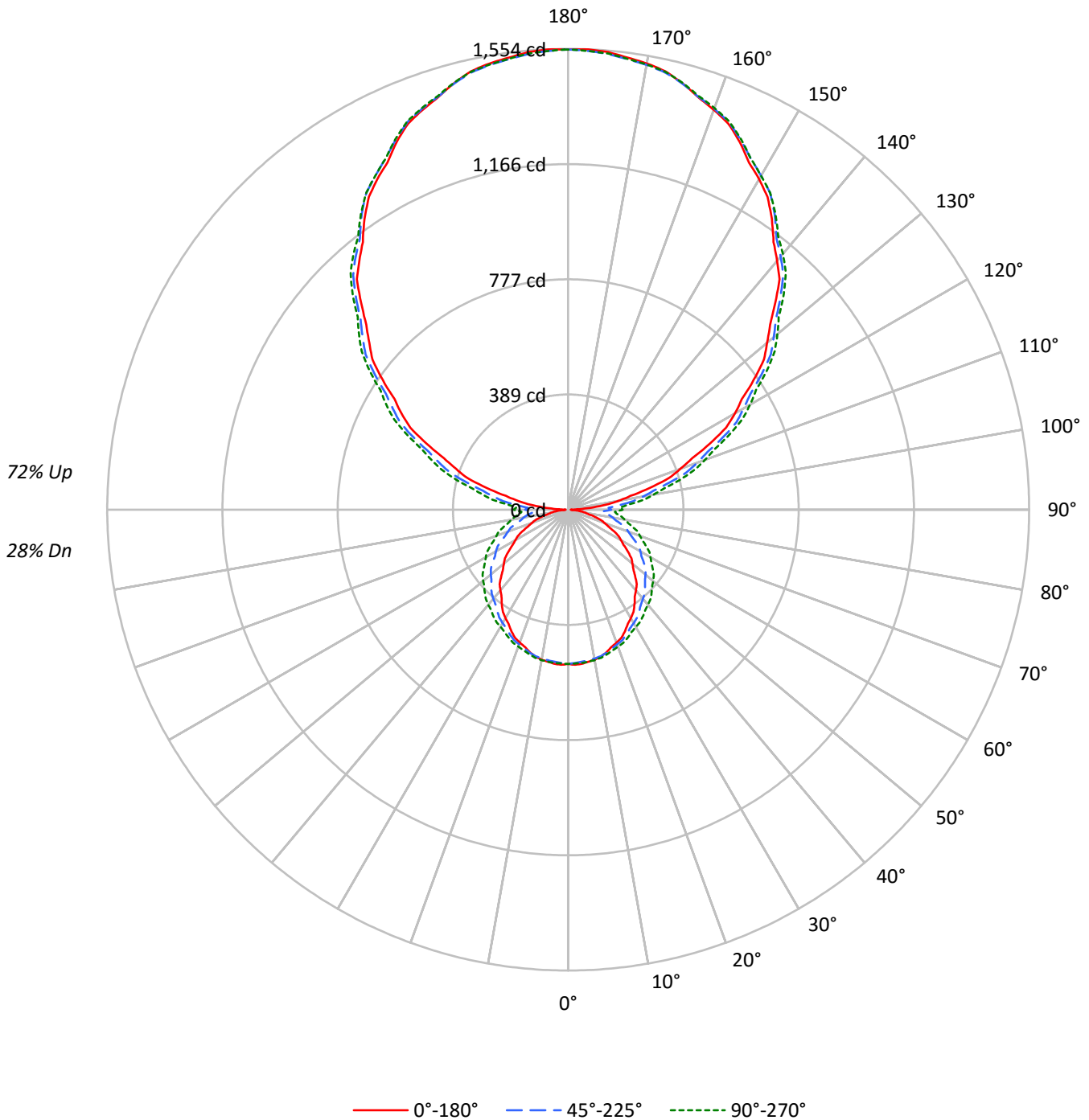
Input Watts (W): 53.8
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	102	102	102	102	91	91	91	91	71	71	71	53	53	53	36	36	36	28
1	92	87	83	80	82	78	75	72	61	59	56	45	43	42	30	29	29	22
2	83	76	70	64	74	68	63	58	53	49	46	39	37	34	26	25	23	18
3	76	66	59	53	67	59	53	48	46	42	38	34	31	29	23	21	19	14
4	69	58	51	44	61	52	46	40	41	36	32	30	27	24	20	18	17	12
5	63	52	44	38	56	46	39	34	36	31	27	27	23	21	18	16	14	10
6	58	46	38	32	52	41	35	29	33	27	24	24	21	18	16	14	12	9
7	54	41	34	28	48	37	30	26	29	24	21	22	18	16	15	13	11	8
8	50	37	30	25	44	34	27	22	27	22	18	20	16	14	14	11	10	7
9	46	34	27	22	41	31	24	20	24	19	16	18	15	12	13	10	9	6
10	43	31	24	19	38	28	22	18	22	18	14	17	13	11	12	9	8	6

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	8402	8402	8402
5°	8443	8088	8058
10°	8390	7850	7761
15°	8275	7596	7448
20°	8129	7324	7148
25°	7984	7062	6875
30°	7780	6794	6601
35°	7575	6536	6409
40°	7360	6315	6215
45°	7153	6118	6051
50°	6934	5937	5888
55°	6700	5744	5722
60°	6417	5546	5546
65°	6122	5313	5339
70°	5796	5061	5115
75°	5371	4816	4908
80°	4707	4564	4698
85°	4070	4346	4535



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	49.3	0.8
10°-20°	141.4	2.2
20°-30°	214.3	3.4
30°-40°	261.0	4.1
40°-50°	280.8	4.4
50°-60°	272.7	4.3
60°-70°	238.1	3.8
70°-80°	183.3	2.9
80°-90°	129.2	2.0
90°-100°	183.1	2.9
100°-110°	367.3	5.8
110°-120°	562.9	8.9
120°-130°	709.3	11.2
130°-140°	780.0	12.3
140°-150°	757.1	12.0
150°-160°	633.6	10.0
160°-170°	420.3	6.6
170°-180°	146.9	2.3
0°-30°	405.0	6.4
0°-40°	666.0	10.5
0°-60°	1219.4	19.3
0°-90°	1770.0	28.0
90°-120°	1113.2	17.6
90°-150°	3359.6	53.1
90°-180°	4560.0	72.0
0°-180°	6330.4	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	520	520	520	520	520	
5°	522	520	515	519	519	49
15°	498	499	499	506	505	140
25°	452	458	464	473	476	208
35°	390	403	417	433	439	244
45°	320	340	367	389	398	247
55°	245	273	311	338	348	219
65°	167	205	249	279	290	166
75°	93	135	183	214	226	98
85°	27	74	122	153	164	29
90°	9	69	145	172	183	9
95°	74	123	171	198	206	83
105°	285	312	353	381	390	302
115°	527	544	574	595	600	521
125°	764	776	796	811	818	682
135°	987	1001	1011	1025	1028	762
145°	1197	1206	1214	1219	1218	748
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°	520.4	520.4	520.4	520.4	520.4	520.4	520.4	520.4	520.4	520.4	520.4
2.5°	523.4	523.0	522.6	522.2	521.8	521.1	520.2	519.3	518.4	517.4	518.1
5°	521.9	521.4	520.9	520.4	519.9	519.2	518.2	517.2	516.1	515.1	516.1
7.5°	517.3	516.8	516.5	516.2	515.9	515.3	514.5	513.8	513.0	512.2	513.4
10°	513.6	513.3	512.9	512.6	512.3	511.9	511.4	510.9	510.4	509.9	511.2
12.5°	507.6	507.7	507.8	507.8	507.9	507.7	507.4	507.0	506.5	506.2	507.6
15°	497.8	498.1	498.5	498.8	499.1	499.3	499.3	499.3	499.3	499.3	500.8
17.5°	485.1	485.8	486.6	487.3	488.0	488.6	489.1	489.6	490.2	490.7	492.2
20°	476.7	477.5	478.4	479.2	480.0	480.8	481.4	482.1	482.8	483.4	485.2
22.5°	467.6	468.6	469.6	470.5	471.5	472.4	473.4	474.3	475.2	476.3	478.1
25°	452.5	453.7	454.8	456.1	457.2	458.6	460.1	461.6	463.1	464.5	466.6
27.5°	434.4	436.4	438.3	440.2	442.0	443.9	445.7	447.5	449.2	451.0	453.5
30°	422.3	424.5	426.7	428.9	431.1	433.2	435.5	437.6	439.8	441.9	444.6
32.5°	409.1	411.5	413.9	416.5	418.9	421.4	423.9	426.6	429.1	431.7	434.7
35°	389.9	392.7	395.7	398.5	401.3	404.3	407.5	410.7	413.8	417.1	420.7
37.5°	369.1	372.4	375.7	379.0	382.2	386.0	390.1	394.2	398.3	402.4	406.6
40°	355.3	358.9	362.6	366.3	370.0	374.1	378.6	383.1	387.7	392.2	396.6
42.5°	341.9	345.7	349.3	353.0	356.7	361.1	366.4	371.5	376.8	381.9	386.7
45°	319.8	324.3	328.8	333.4	337.9	343.1	348.9	354.8	360.7	366.6	371.7
47.5°	297.9	302.9	307.8	312.7	317.6	323.6	330.4	337.3	344.2	351.0	356.5
50°	282.9	288.0	293.3	298.4	303.6	309.9	317.5	325.1	332.6	340.1	345.9
52.5°	268.3	273.8	279.2	284.8	290.2	296.9	304.9	312.8	320.7	328.7	334.5
55°	245.1	251.2	257.2	263.2	269.2	276.6	285.4	294.1	302.8	311.4	317.5
57.5°	222.2	229.0	235.8	242.6	249.4	257.2	266.1	275.0	283.9	292.8	299.3
60°	205.9	213.1	220.4	227.5	234.7	243.1	252.7	262.2	271.8	281.3	287.7
62.5°	191.4	198.8	206.4	213.9	221.4	229.8	239.3	248.9	258.5	268.0	274.8
65°	167.4	175.6	183.9	192.1	200.3	209.3	219.2	229.1	239.0	248.9	255.8
67.5°	145.4	154.0	162.6	171.2	179.8	189.0	199.2	209.3	219.4	229.5	236.5
70°	129.8	138.5	147.1	155.8	164.6	174.1	184.5	194.9	205.3	215.7	222.9
72.5°	115.2	124.2	133.2	142.2	151.2	161.0	171.5	182.0	192.5	203.0	210.2
75°	92.8	102.2	111.5	120.9	130.3	140.4	151.1	161.8	172.6	183.3	190.5
77.5°	71.1	80.9	90.7	100.5	110.4	120.7	131.6	142.5	153.4	164.3	171.5
80°	56.6	66.8	77.1	87.3	97.5	108.1	119.0	129.8	140.7	151.6	158.6
82.5°	44.5	54.6	64.6	74.7	84.8	95.4	106.4	117.4	128.5	139.6	146.5
85°	27.2	37.6	48.0	58.4	68.7	79.3	90.0	100.7	111.5	122.2	129.3
87.5°	15.0	25.8	36.5	47.1	57.8	69.2	81.2	93.1	105.1	117.1	123.9
90°	8.9	22.0	35.2	48.5	61.7	76.9	94.0	111.1	128.3	145.4	151.5
92.5°	30.3	41.8	53.4	65.0	76.6	88.5	100.3	112.1	123.9	135.7	142.5
95°	74.1	84.9	95.7	106.4	117.2	127.9	138.7	149.3	159.9	170.6	176.9
97.5°	129.7	139.3	148.9	158.3	167.9	178.1	188.8	199.7	210.4	221.2	227.3
100°	171.6	180.1	188.6	197.1	205.7	215.1	225.3	235.6	245.9	256.1	262.4
102.5°	215.0	222.5	230.0	237.5	245.1	254.0	264.2	274.4	284.6	294.9	301.1
105°	285.3	291.0	296.8	302.5	308.2	315.8	325.1	334.4	343.7	352.9	359.4
107.5°	356.9	362.0	367.3	372.4	377.6	384.4	392.6	401.0	409.4	417.7	423.6
110°	402.4	407.5	412.6	417.7	422.8	429.4	437.7	445.9	454.0	462.3	467.7



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	452.7	457.3	461.8	466.4	470.9	477.0	484.5	492.1	499.7	507.3	512.0
115°	526.7	530.4	534.0	537.6	541.2	546.4	553.4	560.4	567.3	574.3	579.0
117.5°	599.9	603.4	606.9	610.5	614.0	618.4	623.8	629.1	634.5	639.9	644.1
120°	649.1	652.2	655.1	658.1	661.2	664.8	669.1	673.6	677.9	682.3	687.0
122.5°	694.2	697.2	700.3	703.4	706.4	710.2	715.0	719.6	724.3	728.9	732.9
125°	763.6	766.2	768.8	771.4	774.1	777.6	782.1	786.6	791.1	795.6	799.2
127.5°	831.9	835.1	838.3	841.4	844.6	847.8	851.0	854.3	857.6	860.9	863.9
130°	874.9	878.5	882.1	885.8	889.4	892.6	895.5	898.5	901.4	904.4	907.9
132.5°	923.1	926.0	928.9	931.8	934.7	937.7	940.5	943.3	946.1	949.0	951.6
135°	986.7	990.0	993.2	996.3	999.6	1002.3	1004.5	1006.8	1009.1	1011.3	1014.5
137.5°	1054.6	1057.1	1059.8	1062.4	1064.9	1066.9	1068.4	1070.0	1071.5	1073.0	1075.8
140°	1095.4	1097.9	1100.3	1102.8	1105.3	1107.4	1109.1	1111.0	1112.8	1114.5	1117.2
142.5°	1137.3	1139.8	1142.3	1144.7	1147.1	1148.9	1149.9	1151.0	1152.1	1153.2	1155.5
145°	1196.8	1198.9	1200.9	1203.0	1205.0	1206.9	1208.6	1210.3	1212.1	1213.9	1215.2
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°	520.4	520.4	520.4	520.4	520.4	520.4	520.4	520.4
2.5°	518.8	519.4	520.1	520.3	520.0	519.8	519.5	519.2
5°	517.2	518.2	519.2	519.6	519.4	519.3	519.1	518.9
7.5°	514.6	515.8	517.1	517.6	517.5	517.3	517.1	516.9
10°	512.5	513.8	515.2	515.8	515.6	515.4	515.3	515.1
12.5°	508.9	510.3	511.6	512.2	512.0	511.8	511.7	511.5
15°	502.3	503.8	505.3	505.9	505.8	505.6	505.4	505.3
17.5°	493.8	495.4	497.0	497.8	497.8	497.8	497.8	497.8
20°	487.2	489.0	490.8	491.7	491.7	491.7	491.7	491.7
22.5°	479.9	481.7	483.6	484.6	484.9	485.1	485.4	485.7
25°	468.6	470.6	472.6	473.9	474.4	474.9	475.4	475.9
27.5°	456.2	458.7	461.2	462.6	463.0	463.4	463.7	464.1
30°	447.4	450.0	452.7	454.2	454.7	455.2	455.8	456.3
32.5°	437.9	440.9	444.0	446.1	447.0	447.9	448.8	449.7
35°	424.4	428.2	431.8	434.2	435.5	436.6	437.8	439.0
37.5°	410.6	414.8	418.8	421.4	422.7	423.9	425.2	426.5
40°	400.9	405.3	409.6	412.5	414.0	415.6	417.1	418.6
42.5°	391.4	396.2	400.9	404.1	405.6	407.1	408.6	410.1
45°	377.0	382.1	387.3	390.7	392.4	394.2	395.8	397.5
47.5°	361.8	367.3	372.7	376.4	378.2	380.0	381.9	383.7
50°	351.5	357.2	362.9	366.7	368.6	370.4	372.2	374.1
52.5°	340.3	346.2	352.0	355.9	357.9	359.9	361.8	363.9
55°	323.6	329.6	335.6	339.7	341.9	344.1	346.3	348.4
57.5°	305.8	312.3	318.8	323.2	325.4	327.6	329.8	332.0
60°	294.1	300.4	306.8	311.1	313.5	315.9	318.2	320.5
62.5°	281.6	288.3	295.1	299.6	301.8	304.1	306.3	308.5
65°	262.7	269.5	276.4	280.9	283.1	285.3	287.4	289.6
67.5°	243.5	250.3	257.3	262.0	264.2	266.5	268.8	271.0
70°	230.1	237.3	244.5	249.1	251.2	253.2	255.2	257.2
72.5°	217.2	224.3	231.4	236.1	238.4	240.9	243.3	245.7
75°	197.7	204.9	212.1	216.8	218.9	221.2	223.3	225.5
77.5°	178.6	185.8	193.0	197.7	200.1	202.4	204.8	207.1
80°	165.7	172.7	179.8	184.4	186.8	189.1	191.5	193.8
82.5°	153.6	160.7	167.6	172.3	174.5	176.7	178.9	181.2
85°	136.2	143.3	150.4	155.0	157.3	159.8	162.1	164.4
87.5°	130.6	137.3	144.0	148.6	150.7	152.9	155.1	157.3
90°	157.6	163.8	169.9	174.1	176.4	178.6	181.0	183.3
92.5°	149.2	155.8	162.5	166.9	169.0	171.1	173.1	175.2
95°	183.3	189.7	196.0	200.0	201.4	202.8	204.2	205.6
97.5°	233.6	239.7	245.9	250.0	252.0	253.9	255.8	257.7
100°	268.5	274.7	280.9	284.8	286.4	287.9	289.4	291.0
102.5°	307.4	313.8	320.0	324.0	325.5	327.1	328.6	330.2
105°	365.9	372.2	378.7	382.8	384.8	386.6	388.4	390.2
107.5°	429.5	435.4	441.2	444.3	444.8	445.4	445.9	446.4
110°	473.0	478.4	483.7	487.0	487.9	488.9	489.8	490.8



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CATALOG NUMBER: S122DIW-S485D1240U840-4F0-1E-UDD-D1

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	516.6	521.3	525.9	528.9	530.1	531.3	532.5	533.7
115°	583.7	588.4	593.2	596.0	597.0	598.0	599.0	600.0
117.5°	648.3	652.6	656.9	659.4	660.2	661.2	662.0	662.8
120°	691.7	696.4	701.0	703.9	704.9	705.9	706.8	707.8
122.5°	736.7	740.5	744.4	746.8	747.7	748.7	749.6	750.5
125°	802.9	806.6	810.2	812.6	813.9	815.1	816.3	817.5
127.5°	867.1	870.2	873.3	875.1	875.7	876.3	876.8	877.3
130°	911.3	914.7	918.2	920.0	920.1	920.3	920.5	920.7
132.5°	954.2	956.7	959.4	960.9	961.3	961.7	962.1	962.5
135°	1017.7	1021.0	1024.2	1026.1	1026.5	1027.0	1027.5	1027.9
137.5°	1078.6	1081.5	1084.4	1085.8	1085.7	1085.7	1085.7	1085.7
140°	1119.9	1122.6	1125.3	1126.5	1126.4	1126.2	1126.0	1125.9
142.5°	1157.9	1160.2	1162.7	1163.7	1163.4	1163.1	1162.8	1162.6
145°	1216.5	1217.7	1219.0	1219.5	1219.2	1218.9	1218.5	1218.2
147.5°	1268.3	1269.1	1269.8	1269.9	1269.2	1268.5	1267.8	1267.1
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)