

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: P331516-830

Luminaire Tested: **S122DIW-S485D1240U830-4F0-1E-UDD-D1**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P331516-830  
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-S485D1240U830-4F0-1E-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**

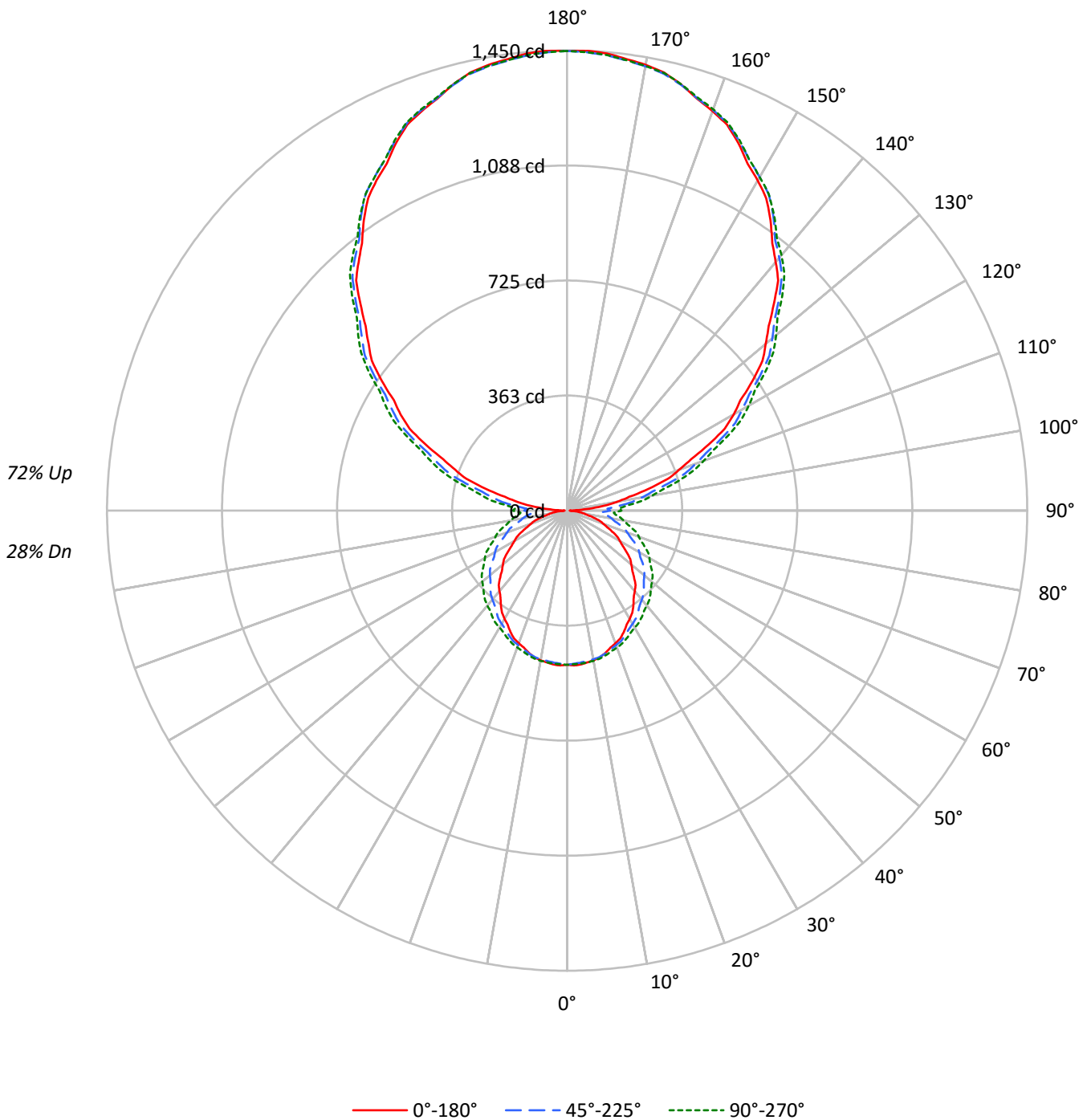
Lumens per Lamp: N/A  
Luminaire Lumens: 5908.3 lumens  
Efficiency: N/A  
Efficacy: 109.8 lumens/watt  
Spacing Criteria (0/90/45): 1.21 / 1.32 / 1.42  
Luminous Opening: Rectangular w/ Sides (W: 0.17' x L: 4' x H: 0.08')  
CIE Type: Semi-Indirect  
  
Input Watts (W): 53.8  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): 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°	7842	7842	7842
5°	7880	7549	7520
10°	7831	7327	7244
15°	7723	7090	6952
20°	7587	6836	6671
25°	7453	6592	6417
30°	7262	6342	6160
35°	7069	6100	5981
40°	6869	5895	5801
45°	6677	5709	5648
50°	6471	5541	5495
55°	6254	5363	5341
60°	5990	5177	5178
65°	5716	4959	4983
70°	5407	4723	4775
75°	5013	4495	4582
80°	4391	4260	4385
85°	3800	4054	4232



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	46.0	0.8
10°-20°	132.0	2.2
20°-30°	200.0	3.4
30°-40°	243.6	4.1
40°-50°	262.1	4.4
50°-60°	254.5	4.3
60°-70°	222.2	3.8
70°-80°	171.1	2.9
80°-90°	120.6	2.0
90°-100°	170.9	2.9
100°-110°	342.8	5.8
110°-120°	525.3	8.9
120°-130°	662.0	11.2
130°-140°	728.0	12.3
140°-150°	706.6	12.0
150°-160°	591.4	10.0
160°-170°	392.2	6.6
170°-180°	137.1	2.3
0°-30°	378.0	6.4
0°-40°	621.6	10.5
0°-60°	1138.1	19.3
0°-90°	1652.0	28.0
90°-120°	1039.0	17.6
90°-150°	3135.6	53.1
90°-180°	4256.0	72.0
0°-180°	5908.3	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	486	486	486	486	486	
5°	487	485	481	485	484	46
15°	465	466	466	472	472	131
25°	422	427	434	442	444	194
35°	364	376	389	404	410	227
45°	298	318	342	363	371	230
55°	229	255	291	315	325	204
65°	156	191	232	260	270	155
75°	87	126	171	200	210	92
85°	25	69	114	142	153	27
90°	8	65	136	160	171	8
95°	69	114	159	185	192	77
105°	266	291	329	355	364	282
115°	492	508	536	555	560	486
125°	713	724	742	757	763	637
135°	921	934	944	957	959	711
145°	1117	1126	1133	1138	1137	698
155°	1277	1281	1284	1290	1287	588
165°	1390	1388	1388	1396	1391	392
175°	1446	1442	1440	1447	1441	137
180°	1448	1448	1448	1448	1448	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	485.7	485.7	485.7	485.7	485.7	485.7	485.7	485.7	485.7	485.7	485.7
2.5°	488.5	488.1	487.8	487.4	487.0	486.4	485.5	484.7	483.8	482.9	483.5
5°	487.1	486.6	486.2	485.7	485.2	484.6	483.6	482.7	481.7	480.8	481.7
7.5°	482.8	482.4	482.1	481.8	481.5	481.0	480.2	479.6	478.8	478.1	479.2
10°	479.4	479.1	478.7	478.4	478.2	477.8	477.3	476.8	476.4	475.9	477.1
12.5°	473.7	473.8	473.9	473.9	474.0	473.8	473.5	473.2	472.8	472.5	473.7
15°	464.6	464.9	465.2	465.5	465.8	466.0	466.0	466.0	466.0	466.0	467.4
17.5°	452.8	453.5	454.1	454.8	455.4	456.0	456.5	456.9	457.5	458.0	459.4
20°	444.9	445.6	446.5	447.2	448.0	448.7	449.3	450.0	450.6	451.2	452.9
22.5°	436.4	437.3	438.3	439.1	440.1	440.9	441.9	442.7	443.6	444.5	446.2
25°	422.4	423.5	424.5	425.7	426.7	428.0	429.4	430.8	432.3	433.6	435.5
27.5°	405.5	407.3	409.1	410.9	412.6	414.3	415.9	417.6	419.2	420.9	423.3
30°	394.2	396.2	398.2	400.3	402.4	404.4	406.4	408.4	410.5	412.5	415.0
32.5°	381.8	384.1	386.3	388.7	391.0	393.3	395.7	398.1	400.5	402.9	405.8
35°	363.9	366.6	369.3	371.9	374.6	377.4	380.3	383.3	386.3	389.3	392.7
37.5°	344.5	347.6	350.6	353.7	356.8	360.2	364.1	367.9	371.7	375.6	379.5
40°	331.6	335.0	338.5	341.9	345.3	349.1	353.4	357.6	361.8	366.1	370.1
42.5°	319.1	322.6	326.0	329.5	332.9	337.1	342.0	346.8	351.7	356.5	360.9
45°	298.5	302.7	306.9	311.1	315.4	320.2	325.6	331.1	336.7	342.1	346.9
47.5°	278.1	282.7	287.3	291.8	296.4	302.0	308.4	314.8	321.2	327.6	332.7
50°	264.0	268.8	273.7	278.5	283.3	289.3	296.3	303.4	310.5	317.4	322.8
52.5°	250.4	255.5	260.6	265.8	270.9	277.1	284.6	291.9	299.4	306.8	312.2
55°	228.8	234.4	240.1	245.6	251.3	258.2	266.4	274.5	282.6	290.7	296.3
57.5°	207.4	213.8	220.1	226.4	232.8	240.1	248.4	256.7	264.9	273.2	279.4
60°	192.2	198.9	205.7	212.4	219.0	226.9	235.8	244.7	253.6	262.6	268.5
62.5°	178.6	185.6	192.7	199.6	206.6	214.5	223.4	232.3	241.3	250.2	256.5
65°	156.3	163.9	171.6	179.3	186.9	195.4	204.6	213.9	223.1	232.3	238.7
67.5°	135.7	143.7	151.7	159.8	167.8	176.4	186.0	195.4	204.8	214.2	220.7
70°	121.1	129.2	137.3	145.4	153.6	162.5	172.2	181.9	191.6	201.3	208.0
72.5°	107.5	115.9	124.3	132.7	141.1	150.2	160.0	169.8	179.6	189.5	196.1
75°	86.6	95.4	104.1	112.8	121.6	131.0	141.0	151.0	161.1	171.1	177.8
77.5°	66.4	75.5	84.6	93.8	103.0	112.6	122.8	133.0	143.2	153.4	160.0
80°	52.8	62.3	71.9	81.4	91.0	100.9	111.0	121.1	131.3	141.5	148.1
82.5°	41.6	51.0	60.3	69.7	79.2	89.1	99.3	109.6	119.9	130.3	136.8
85°	25.4	35.1	44.8	54.5	64.1	74.0	84.0	94.0	104.1	114.0	120.6
87.5°	14.0	24.0	34.0	43.9	53.9	64.6	75.8	86.9	98.1	109.3	115.6
90°	8.3	20.5	32.9	45.2	57.6	71.7	87.8	103.7	119.7	135.7	141.4
92.5°	28.3	39.0	49.9	60.7	71.5	82.6	93.6	104.6	115.6	126.7	133.0
95°	69.2	79.3	89.4	99.3	109.4	119.4	129.4	139.3	149.2	159.2	165.1
97.5°	121.0	130.0	138.9	147.8	156.7	166.3	176.3	186.3	196.3	206.4	212.2
100°	160.1	168.1	176.1	184.0	192.0	200.8	210.3	219.9	229.5	239.0	244.9
102.5°	200.7	207.6	214.7	221.7	228.8	237.0	246.6	256.1	265.6	275.2	281.1
105°	266.3	271.6	277.0	282.3	287.7	294.7	303.4	312.1	320.7	329.4	335.5
107.5°	333.1	337.9	342.8	347.6	352.4	358.7	366.5	374.3	382.1	389.8	395.4
110°	375.6	380.3	385.1	389.8	394.6	400.8	408.5	416.1	423.8	431.5	436.5



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	422.5	426.8	431.0	435.3	439.5	445.2	452.2	459.3	466.4	473.4	477.9
115°	491.6	495.0	498.4	501.7	505.1	510.0	516.5	523.0	529.5	536.0	540.4
117.5°	559.9	563.2	566.5	569.8	573.1	577.2	582.2	587.2	592.2	597.2	601.2
120°	605.9	608.7	611.4	614.3	617.1	620.5	624.5	628.7	632.7	636.8	641.2
122.5°	647.9	650.7	653.7	656.5	659.3	662.9	667.3	671.7	676.0	680.3	684.0
125°	712.7	715.1	717.6	720.0	722.5	725.8	730.0	734.1	738.4	742.5	745.9
127.5°	776.5	779.4	782.4	785.3	788.2	791.3	794.3	797.4	800.4	803.5	806.3
130°	816.6	819.9	823.3	826.7	830.1	833.1	835.8	838.6	841.3	844.1	847.3
132.5°	861.6	864.3	867.0	869.7	872.4	875.2	877.8	880.4	883.1	885.7	888.2
135°	921.0	924.0	927.0	929.9	932.9	935.5	937.5	939.7	941.8	943.9	946.9
137.5°	984.3	986.7	989.1	991.6	993.9	995.8	997.2	998.6	1000.0	1001.5	1004.1
140°	1022.4	1024.7	1027.0	1029.3	1031.6	1033.6	1035.2	1036.9	1038.6	1040.2	1042.7
142.5°	1061.5	1063.8	1066.1	1068.4	1070.6	1072.3	1073.3	1074.3	1075.3	1076.3	1078.5
145°	1117.0	1119.0	1120.9	1122.8	1124.6	1126.4	1128.0	1129.6	1131.3	1132.9	1134.2
147.5°	1167.2	1169.4	1171.7	1174.0	1176.3	1178.0	1179.0	1180.2	1181.2	1182.3	1183.0
150°	1201.4	1203.0	1204.7	1206.3	1207.9	1209.3	1210.3	1211.4	1212.5	1213.6	1214.4
152.5°	1231.7	1233.3	1234.9	1236.5	1238.2	1239.6	1241.0	1242.3	1243.6	1244.9	1245.9
155°	1277.1	1278.0	1278.7	1279.6	1280.4	1281.2	1282.0	1282.8	1283.6	1284.5	1285.8
157.5°	1316.0	1316.5	1317.1	1317.7	1318.1	1318.7	1319.2	1319.7	1320.1	1320.7	1322.5
160°	1339.4	1340.0	1340.6	1341.1	1341.6	1342.1	1342.3	1342.6	1342.8	1343.1	1344.7
162.5°	1360.9	1361.1	1361.2	1361.3	1361.4	1361.6	1361.9	1362.2	1362.4	1362.7	1364.5
165°	1389.6	1389.3	1389.0	1388.7	1388.5	1388.4	1388.4	1388.4	1388.4	1388.4	1390.3
167.5°	1413.5	1412.7	1411.9	1411.1	1410.2	1409.9	1409.8	1409.8	1409.7	1409.6	1411.6
170°	1426.3	1425.4	1424.7	1423.8	1423.0	1422.5	1422.2	1421.9	1421.6	1421.4	1423.2
172.5°	1435.0	1434.3	1433.4	1432.6	1431.8	1431.3	1431.0	1430.7	1430.4	1430.1	1432.1
175°	1445.8	1445.0	1444.2	1443.3	1442.6	1441.9	1441.3	1440.8	1440.2	1439.6	1441.6
177.5°	1450.2	1449.5	1448.9	1448.2	1447.6	1447.1	1446.6	1446.1	1445.8	1445.3	1446.6
180°	1448.2	1448.2	1448.2	1448.2	1448.2	1448.2	1448.2	1448.2	1448.2	1448.2	1448.2



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	485.7	485.7	485.7	485.7	485.7	485.7	485.7	485.7
2.5°	484.2	484.7	485.4	485.6	485.3	485.1	484.8	484.6
5°	482.7	483.6	484.6	484.9	484.7	484.7	484.5	484.3
7.5°	480.3	481.5	482.6	483.1	483.0	482.8	482.6	482.5
10°	478.3	479.6	480.9	481.5	481.3	481.1	481.0	480.8
12.5°	474.9	476.3	477.5	478.1	477.9	477.7	477.6	477.4
15°	468.8	470.2	471.6	472.2	472.1	471.9	471.7	471.6
17.5°	460.9	462.4	463.8	464.6	464.6	464.6	464.6	464.6
20°	454.7	456.4	458.1	458.9	458.9	458.9	458.9	458.9
22.5°	447.9	449.6	451.4	452.3	452.6	452.8	453.1	453.4
25°	437.3	439.2	441.1	442.3	442.8	443.3	443.7	444.2
27.5°	425.7	428.1	430.5	431.8	432.2	432.5	432.8	433.2
30°	417.5	420.0	422.5	424.0	424.4	424.9	425.4	425.8
32.5°	408.7	411.5	414.4	416.3	417.2	418.0	418.9	419.7
35°	396.2	399.6	403.0	405.3	406.4	407.5	408.6	409.7
37.5°	383.2	387.1	390.9	393.3	394.5	395.7	396.8	398.0
40°	374.2	378.2	382.3	385.0	386.4	387.9	389.3	390.7
42.5°	365.3	369.8	374.2	377.2	378.5	379.9	381.4	382.8
45°	351.9	356.7	361.5	364.7	366.3	367.9	369.4	371.0
47.5°	337.7	342.8	347.9	351.3	353.0	354.7	356.5	358.2
50°	328.1	333.4	338.7	342.2	344.0	345.7	347.4	349.1
52.5°	317.6	323.1	328.6	332.2	334.0	335.9	337.7	339.6
55°	302.0	307.6	313.2	317.1	319.1	321.1	323.2	325.2
57.5°	285.4	291.4	297.6	301.6	303.7	305.8	307.8	309.9
60°	274.5	280.4	286.3	290.4	292.6	294.8	297.0	299.2
62.5°	262.8	269.1	275.4	279.7	281.7	283.8	285.9	287.9
65°	245.2	251.6	258.0	262.2	264.2	266.3	268.2	270.3
67.5°	227.2	233.7	240.2	244.5	246.6	248.7	250.9	253.0
70°	214.8	221.5	228.2	232.5	234.4	236.3	238.2	240.1
72.5°	202.7	209.3	215.9	220.4	222.5	224.8	227.1	229.3
75°	184.5	191.2	197.9	202.4	204.3	206.4	208.4	210.5
77.5°	166.7	173.4	180.1	184.5	186.7	188.9	191.1	193.3
80°	154.7	161.2	167.8	172.1	174.4	176.5	178.7	180.9
82.5°	143.4	150.0	156.5	160.8	162.9	164.9	167.0	169.1
85°	127.1	133.7	140.3	144.7	146.8	149.1	151.3	153.4
87.5°	121.9	128.2	134.4	138.6	140.6	142.7	144.8	146.8
90°	147.1	152.9	158.5	162.5	164.7	166.7	168.9	171.1
92.5°	139.2	145.4	151.7	155.8	157.7	159.7	161.6	163.5
95°	171.1	177.0	182.9	186.6	187.9	189.3	190.6	191.9
97.5°	218.0	223.8	229.5	233.4	235.2	237.0	238.7	240.5
100°	250.6	256.4	262.2	265.8	267.3	268.7	270.1	271.6
102.5°	286.9	292.8	298.7	302.4	303.8	305.3	306.7	308.2
105°	341.5	347.4	353.5	357.3	359.1	360.8	362.5	364.2
107.5°	400.9	406.3	411.8	414.7	415.2	415.7	416.1	416.6
110°	441.5	446.5	451.5	454.5	455.3	456.3	457.1	458.1





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CATALOG NUMBER: S122DIW-S485D1240U830-4F0-1E-UDD-D1

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	482.2	486.5	490.9	493.6	494.7	495.9	497.0	498.1
115°	544.8	549.2	553.6	556.3	557.2	558.2	559.0	560.0
117.5°	605.1	609.1	613.1	615.5	616.2	617.1	617.8	618.6
120°	645.5	650.0	654.3	657.0	657.9	658.8	659.7	660.6
122.5°	687.6	691.2	694.7	697.0	697.9	698.8	699.6	700.5
125°	749.4	752.8	756.2	758.5	759.6	760.7	761.9	763.0
127.5°	809.3	812.2	815.1	816.8	817.3	817.8	818.3	818.8
130°	850.6	853.8	857.0	858.7	858.8	858.9	859.1	859.3
132.5°	890.6	893.0	895.4	896.8	897.2	897.6	898.0	898.3
135°	949.9	952.9	955.9	957.7	958.1	958.6	959.0	959.4
137.5°	1006.7	1009.4	1012.1	1013.4	1013.3	1013.3	1013.3	1013.3
140°	1045.3	1047.7	1050.3	1051.4	1051.3	1051.1	1050.9	1050.8
142.5°	1080.7	1082.9	1085.1	1086.1	1085.8	1085.5	1085.2	1085.1
145°	1135.4	1136.5	1137.7	1138.2	1137.9	1137.6	1137.3	1137.0
147.5°	1183.7	1184.5	1185.2	1185.2	1184.6	1183.9	1183.3	1182.6
150°	1215.2	1216.1	1216.8	1216.8	1216.1	1215.2	1214.4	1213.6
152.5°	1247.0	1247.9	1249.0	1249.0	1247.9	1247.0	1245.9	1244.9
155°	1287.2	1288.5	1289.9	1290.2	1289.4	1288.5	1287.7	1286.9
157.5°	1324.4	1326.2	1328.0	1328.3	1327.0	1325.7	1324.4	1323.0
160°	1346.4	1348.0	1349.6	1349.9	1348.9	1347.7	1346.7	1345.6
162.5°	1366.4	1368.2	1370.1	1370.4	1369.0	1367.7	1366.4	1365.2
165°	1392.1	1394.0	1396.0	1396.2	1394.9	1393.5	1392.1	1390.8
167.5°	1413.4	1415.3	1417.2	1417.5	1416.1	1414.7	1413.2	1411.8
170°	1425.1	1427.0	1429.0	1429.1	1427.5	1425.9	1424.2	1422.6
172.5°	1434.0	1435.9	1437.8	1437.8	1436.2	1434.6	1433.0	1431.3
175°	1443.5	1445.4	1447.3	1447.5	1445.8	1444.2	1442.6	1440.9
177.5°	1447.9	1449.3	1450.5	1450.5	1449.3	1447.9	1446.6	1445.3
180°	1448.2	1448.2	1448.2	1448.2	1448.2	1448.2	1448.2	1448.2

(END OF REPORT)