

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: P331509-830

Luminaire Tested: **S122DIW-S485D970U830-4F0-1E-UDD-D**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P331509-830
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-2,
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S122DIW-S485D970U830-4F0-1E-UDD-D
Description: DEFINE 2 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 485 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER
UPLIGHT 970 LUMENS PER FOOT, NO LENS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 5503.6 lumens
Efficiency: N/A
Efficacy: 121.8 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

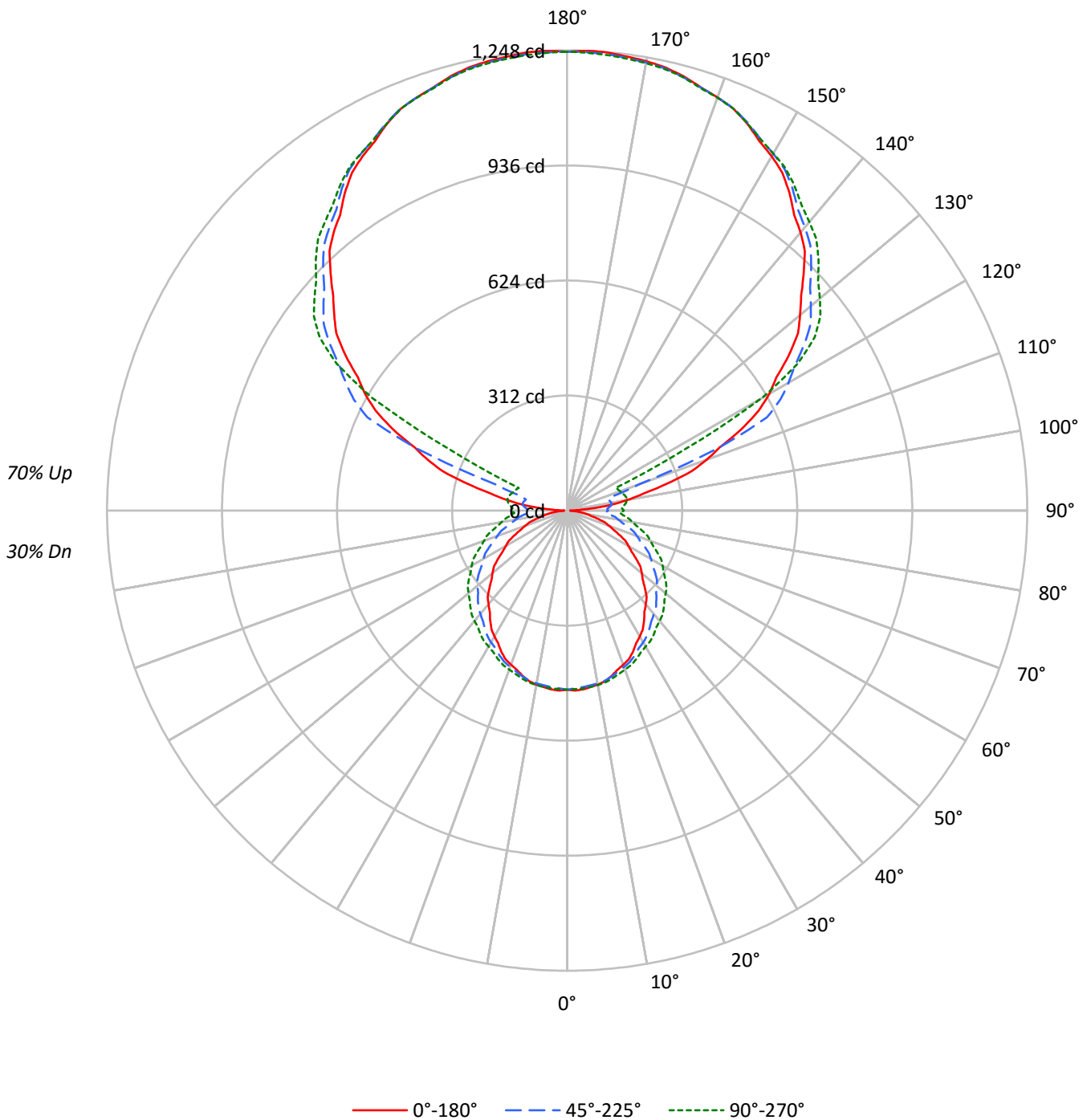
Input Watts (W): 45.2
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	50	30	10	0														
RCR																																						
0	102	102	102	102	92	92	92	92	72	72	72	54	54	54	38	38	38	30																				
1	92	88	84	80	83	79	75	72	62	59	57	46	45	43	32	31	30	23																				
2	84	76	70	65	75	68	63	58	54	50	47	40	38	35	27	26	25	19																				
3	76	67	59	53	68	60	53	48	47	42	39	35	32	29	24	22	20	16																				
4	69	59	51	45	62	53	46	41	41	37	33	31	28	25	21	19	17	13																				
5	64	52	44	38	57	47	40	34	37	32	28	28	24	21	19	17	15	11																				
6	58	46	38	33	52	42	35	30	33	28	24	25	21	18	17	15	13	10																				
7	54	42	34	28	48	38	31	26	30	25	21	22	19	16	16	13	11	9																				
8	50	38	30	25	44	34	27	23	27	22	18	20	17	14	14	12	10	8																				
9	46	34	27	22	41	31	24	20	25	20	16	19	15	13	13	11	9	7																				
10	43	31	24	19	39	28	22	18	23	18	15	17	14	11	12	10	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	2.4
20°-30°	200.0	3.6
30°-40°	243.6	4.4
40°-50°	262.1	4.8
50°-60°	254.5	4.6
60°-70°	222.2	4.0
70°-80°	171.1	3.1
80°-90°	117.9	2.1
90°-100°	120.6	2.2
100°-110°	210.0	3.8
110°-120°	445.1	8.1
120°-130°	693.1	12.6
130°-140°	723.4	13.1
140°-150°	665.6	12.1
150°-160°	533.9	9.7
160°-170°	344.1	6.3
170°-180°	118.4	2.2
0°-30°	378.0	6.9
0°-40°	621.6	11.3
0°-60°	1138.1	20.7
0°-90°	1649.3	30.0
90°-120°	775.8	14.1
90°-150°	2857.9	51.9
90°-180°	3854.0	70.0
0°-180°	5503.6	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	59	111	142	154	7
95°	64	70	116	146	155	76
105°	277	310	116	149	161	297
115°	521	546	598	221	145	512
125°	734	747	785	809	819	654
135°	907	921	936	959	964	700
145°	1051	1051	1066	1075	1075	657
155°	1157	1150	1160	1165	1158	533
165°	1220	1215	1217	1222	1217	344
175°	1247	1242	1243	1248	1240	119
180°	1245	1245	1245	1245	1245	



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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°	13.9	23.8	33.5	43.3	53.1	63.1	73.4	83.7	94.1	104.4	111.0
90°	7.9	19.2	30.4	41.8	53.1	64.5	76.1	87.8	99.3	110.9	118.2
92.5°	24.7	32.9	41.2	49.4	57.7	67.0	77.5	87.8	98.3	108.8	115.4
95°	64.2	64.9	65.7	66.4	67.2	73.0	83.7	94.5	105.3	116.1	123.0
97.5°	121.1	109.1	97.0	84.9	72.8	72.9	85.1	97.4	109.6	121.9	128.5
100°	164.4	142.7	121.1	99.4	77.9	73.0	85.2	97.4	109.5	121.7	129.1
102.5°	211.3	210.8	210.3	209.8	209.2	199.1	179.1	159.1	139.2	119.2	127.0
105°	277.3	287.9	298.4	309.0	319.4	301.5	255.0	208.5	162.0	115.5	123.2
107.5°	353.4	361.8	370.3	378.8	387.3	362.6	304.9	247.1	189.5	131.7	134.7
110°	401.8	409.2	416.4	423.8	431.1	409.7	359.5	309.3	259.2	209.0	194.0



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	447.9	454.2	460.6	466.9	473.3	473.0	466.0	459.0	451.9	445.0	377.0
115°	520.7	525.8	530.9	536.0	541.2	549.8	561.8	573.8	585.9	597.9	509.9
117.5°	585.0	589.9	594.8	599.7	604.7	612.2	622.1	632.1	642.0	652.0	634.1
120°	632.5	636.2	639.8	643.5	647.1	653.8	663.6	673.5	683.3	693.2	700.0
122.5°	672.9	676.3	679.8	683.2	686.5	693.1	702.9	712.8	722.6	732.4	738.1
125°	733.6	736.2	738.9	741.4	744.0	749.7	758.6	767.3	776.2	784.9	790.6
127.5°	789.3	792.0	794.8	797.5	800.2	805.0	811.9	818.7	825.6	832.5	838.4
130°	824.5	827.6	830.7	833.7	836.8	841.0	846.5	852.0	857.5	863.0	868.9
132.5°	860.6	863.2	865.7	868.3	870.9	874.5	879.3	884.0	888.7	893.4	899.0
135°	906.7	909.9	913.1	916.3	919.5	922.8	926.2	929.5	932.9	936.3	941.6
137.5°	954.1	956.3	958.6	960.7	963.0	965.4	968.2	970.9	973.6	976.4	981.2
140°	985.1	986.6	988.0	989.4	990.9	992.9	995.3	997.9	1000.4	1002.9	1007.2
142.5°	1011.1	1012.3	1013.6	1014.9	1016.2	1018.1	1020.7	1023.3	1025.9	1028.4	1032.1
145°	1051.0	1050.8	1050.7	1050.5	1050.3	1051.9	1055.3	1058.7	1062.1	1065.5	1067.8
147.5°	1086.6	1085.7	1085.0	1084.2	1083.5	1084.8	1088.2	1091.5	1094.9	1098.3	1099.4
150°	1109.6	1108.1	1106.7	1105.4	1104.0	1104.8	1108.1	1111.3	1114.5	1117.7	1118.9
152.5°	1129.1	1127.5	1125.9	1124.4	1122.8	1123.5	1126.5	1129.6	1132.7	1135.7	1136.9
155°	1157.3	1155.5	1153.7	1151.9	1150.1	1150.4	1152.8	1155.2	1157.6	1160.0	1161.2
157.5°	1179.5	1178.0	1176.4	1174.9	1173.4	1173.5	1175.2	1176.9	1178.5	1180.2	1181.6
160°	1192.4	1191.3	1190.1	1188.8	1187.6	1187.6	1188.8	1190.1	1191.3	1192.4	1193.6
162.5°	1204.0	1202.8	1201.6	1200.3	1199.2	1199.1	1200.1	1201.2	1202.2	1203.2	1204.6
165°	1219.5	1218.2	1217.0	1215.9	1214.7	1214.4	1214.9	1215.5	1216.2	1216.7	1218.1
167.5°	1231.0	1229.7	1228.6	1227.4	1226.2	1225.9	1226.4	1227.0	1227.6	1228.1	1229.5
170°	1237.5	1236.2	1235.1	1233.9	1232.7	1232.3	1232.7	1233.0	1233.5	1233.9	1235.3
172.5°	1241.8	1240.6	1239.3	1238.2	1237.0	1236.6	1237.0	1237.4	1237.7	1238.2	1239.6
175°	1247.4	1245.9	1244.5	1243.2	1241.8	1241.2	1241.7	1242.1	1242.5	1242.8	1244.3
177.5°	1248.3	1247.2	1246.0	1244.9	1243.8	1243.3	1243.5	1243.6	1243.8	1244.0	1245.1
180°	1244.6	1244.6	1244.6	1244.6	1244.6	1244.6	1244.6	1244.6	1244.6	1244.6	1244.6



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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°	117.5	124.1	130.7	135.1	137.1	139.2	141.3	143.4
90°	125.5	132.7	140.0	144.8	147.0	149.3	151.6	153.8
92.5°	122.1	128.7	135.3	139.8	141.9	143.9	146.1	148.2
95°	130.0	137.0	143.8	148.2	149.9	151.6	153.2	154.9
97.5°	135.1	141.7	148.3	152.6	154.7	156.7	158.8	161.0
100°	136.5	143.9	151.3	156.1	158.2	160.3	162.4	164.6
102.5°	134.7	142.4	150.2	155.2	157.5	159.8	162.0	164.4
105°	130.8	138.5	146.2	151.3	153.8	156.4	158.8	161.4
107.5°	137.7	140.7	143.7	146.5	149.0	151.6	154.1	156.6
110°	179.0	164.0	148.9	142.7	145.2	147.8	150.2	152.8



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CATALOG NUMBER: S122DIW-S485D970U830-4F0-1E-UDD-D

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	309.0	241.0	173.0	140.2	142.5	144.9	147.2	149.6
115°	422.0	334.0	246.0	195.7	183.0	170.3	157.6	145.0
117.5°	616.4	598.6	580.8	549.0	503.3	457.5	411.8	366.0
120°	706.8	713.6	720.4	711.1	685.8	660.5	635.2	609.9
122.5°	743.8	749.5	755.2	756.1	752.3	748.6	744.8	741.0
125°	796.3	801.8	807.5	811.2	813.3	815.3	817.3	819.4
127.5°	844.3	850.3	856.2	859.9	861.4	862.9	864.4	865.9
130°	874.9	880.8	886.8	890.3	891.4	892.4	893.4	894.5
132.5°	904.5	910.0	915.5	918.8	919.8	920.9	921.9	923.0
135°	946.9	952.2	957.4	960.5	961.4	962.2	963.1	963.9
137.5°	986.0	990.9	995.7	998.3	998.7	999.1	999.5	999.8
140°	1011.5	1015.8	1020.1	1022.3	1022.2	1022.1	1022.1	1022.0
142.5°	1035.8	1039.3	1043.0	1044.7	1044.5	1044.3	1044.1	1044.0
145°	1070.2	1072.4	1074.8	1075.8	1075.6	1075.4	1075.3	1075.0
147.5°	1100.5	1101.7	1102.9	1103.2	1102.8	1102.3	1101.8	1101.4
150°	1120.1	1121.2	1122.5	1122.6	1121.6	1120.6	1119.6	1118.6
152.5°	1138.1	1139.3	1140.5	1140.5	1139.2	1137.8	1136.5	1135.2
155°	1162.4	1163.6	1164.8	1164.6	1163.0	1161.4	1159.8	1158.2
157.5°	1182.9	1184.3	1185.6	1185.5	1183.9	1182.4	1180.8	1179.3
160°	1194.9	1196.0	1197.2	1197.1	1195.7	1194.3	1193.0	1191.6
162.5°	1206.0	1207.3	1208.7	1208.5	1206.7	1205.0	1203.3	1201.6
165°	1219.6	1221.0	1222.4	1222.4	1221.0	1219.6	1218.1	1216.7
167.5°	1230.9	1232.3	1233.7	1233.5	1231.7	1229.9	1228.1	1226.3
170°	1236.7	1238.0	1239.4	1239.3	1237.5	1235.7	1233.9	1232.1
172.5°	1241.0	1242.4	1243.8	1243.6	1241.8	1240.0	1238.2	1236.4
175°	1245.7	1247.1	1248.5	1248.2	1246.1	1244.2	1242.2	1240.2
177.5°	1246.2	1247.3	1248.4	1248.3	1246.8	1245.4	1244.0	1242.6
180°	1244.6	1244.6	1244.6	1244.6	1244.6	1244.6	1244.6	1244.6

(END OF REPORT)