

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: P331560

Luminaire Tested: **S122DIW-S865D435U835-4F0-1E-UDD-F1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P331560
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-S865D435U835-4F0-1E-UDD-F1
Description: DEFINE 2 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 865 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
UPLIGHT 435 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

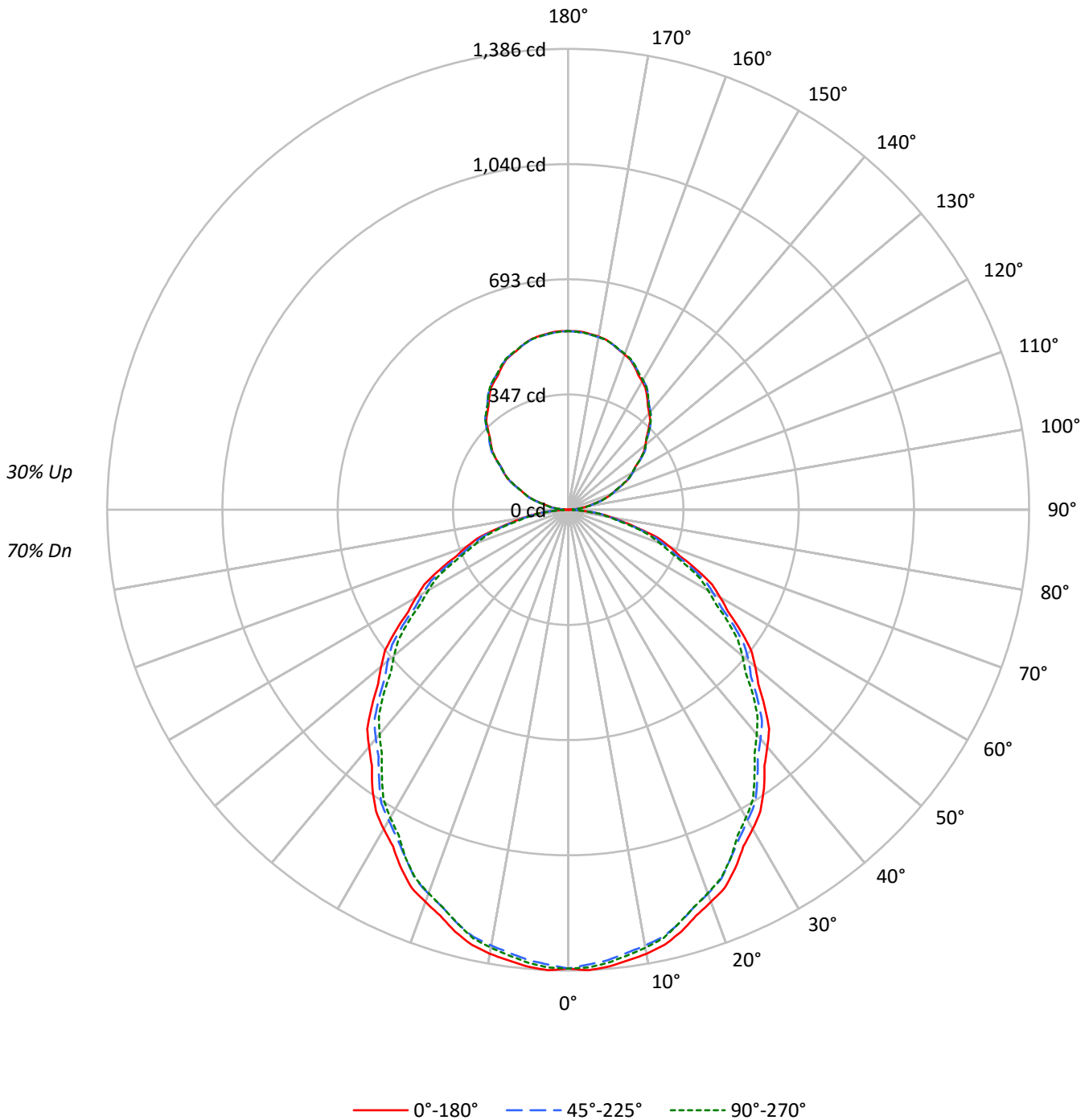
Lumens per Lamp: N/A
Luminaire Lumens: 5014.3 lumens
Efficiency: N/A
Efficacy: 108.5 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.3
Luminous Opening: Rectangular (W 0.17' x L: 4' x H: 0')
CIE Type: Semi-Direct

Input Watts (W): 46.2
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				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	112	112	112	112	106	106	106	106	94	94	94	84	84	84	75	75	75	70
1	102	98	94	90	97	93	89	86	83	80	78	74	72	70	66	64	63	59
2	93	85	79	74	88	81	75	71	73	68	64	65	62	59	58	55	53	49
3	85	75	68	61	80	71	65	59	64	59	54	58	53	50	51	48	45	42
4	78	67	58	52	73	63	56	50	57	51	46	51	47	43	46	42	39	36
5	72	60	51	45	67	57	49	43	51	45	40	46	41	37	41	37	34	31
6	66	54	45	39	62	51	43	38	46	40	35	42	37	33	38	33	30	27
7	61	48	40	34	58	46	39	33	42	36	31	38	33	29	34	30	27	24
8	57	44	36	31	54	42	35	30	38	32	28	35	30	26	32	27	24	22
9	53	40	33	27	50	39	31	27	35	29	25	32	27	23	29	25	22	20
10	50	37	30	25	47	36	29	24	33	27	23	30	25	21	27	23	20	18

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	22281	22281	22281
5°	22366	22044	22174
10°	22233	21820	21930
15°	21959	21538	21514
20°	21569	21113	21089
25°	21180	20591	20591
30°	20681	20113	19939
35°	20217	19537	19249
40°	19633	18963	18598
45°	19057	18393	17938
50°	18432	17799	17166
55°	17779	17106	16473
60°	17053	16281	15684
65°	16275	15461	14751
70°	15286	14469	13780
75°	13905	13325	12994
80°	12338	11967	11353
85°	10078	9596	8596



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	129.8	2.6
10°-20°	365.1	7.3
20°-30°	536.7	10.7
30°-40°	623.4	12.4
40°-50°	622.7	12.4
50°-60°	543.1	10.8
60°-70°	401.6	8.0
70°-80°	227.4	4.5
80°-90°	63.3	1.3
90°-100°	34.0	0.7
100°-110°	105.7	2.1
110°-120°	180.6	3.6
120°-130°	237.5	4.7
130°-140°	266.6	5.3
140°-150°	261.4	5.2
150°-160°	219.2	4.4
160°-170°	145.4	2.9
170°-180°	50.8	1.0
0°-30°	1031.6	20.6
0°-40°	1655.0	33.0
0°-60°	2820.8	56.3
0°-90°	3513.1	70.1
90°-120°	320.3	6.4
90°-150°	1085.7	21.7
90°-180°	1501.0	29.9
0°-180°	5014.3	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1380	1380	1380	1380	1380	
5°	1380	1374	1360	1370	1368	131
15°	1314	1305	1288	1293	1287	370
25°	1189	1178	1156	1158	1156	547
35°	1026	1012	991	983	977	640
45°	835	825	806	791	786	644
55°	632	623	608	592	585	565
65°	426	418	405	393	386	421
75°	223	220	214	206	208	238
85°	54	53	52	48	46	62
90°	0	6	16	15	15	4
95°	24	28	29	29	28	27
105°	97	99	100	101	101	103
115°	181	184	183	182	181	179
125°	264	267	266	265	265	236
135°	341	346	347	346	345	263
145°	414	417	420	420	419	259
155°	473	475	476	478	477	218
165°	515	515	515	518	516	145
175°	536	535	534	537	534	51
180°	537	537	537	537	537	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1380.0	1380.0	1380.0	1380.0	1380.0	1380.0	1380.0	1380.0	1380.0	1380.0	1380.0
2.5°	1386.4	1385.2	1384.0	1382.9	1381.7	1379.8	1377.2	1374.6	1372.0	1369.4	1371.8
5°	1380.0	1378.8	1377.7	1376.5	1375.3	1373.1	1369.9	1366.6	1363.4	1360.1	1362.5
7.5°	1367.8	1366.0	1364.2	1362.3	1360.5	1357.9	1354.6	1351.3	1348.0	1344.7	1347.1
10°	1356.1	1354.1	1352.0	1349.9	1347.9	1345.1	1341.5	1338.0	1334.5	1330.9	1333.3
12.5°	1340.2	1338.4	1336.6	1334.7	1332.9	1330.2	1326.7	1323.1	1319.6	1316.1	1317.7
15°	1313.7	1311.9	1310.1	1308.4	1306.6	1303.8	1300.0	1296.1	1292.3	1288.5	1289.6
17.5°	1279.7	1277.9	1276.2	1274.4	1272.6	1269.8	1265.9	1262.0	1258.1	1254.2	1255.6
20°	1255.3	1253.5	1251.8	1250.0	1248.2	1245.3	1241.1	1237.0	1232.9	1228.8	1229.6
22.5°	1230.9	1228.4	1225.9	1223.4	1221.0	1217.8	1213.9	1210.0	1206.1	1202.2	1202.4
25°	1188.9	1186.6	1184.2	1181.9	1179.5	1175.8	1170.8	1165.8	1160.8	1155.8	1156.4
27.5°	1141.2	1139.1	1136.9	1134.8	1132.7	1129.6	1125.7	1121.7	1117.8	1113.8	1113.0
30°	1109.3	1107.0	1104.6	1102.3	1099.9	1096.5	1092.1	1087.7	1083.2	1078.8	1077.9
32.5°	1075.4	1073.5	1071.6	1069.7	1067.8	1064.5	1059.9	1055.2	1050.6	1045.9	1044.3
35°	1025.7	1022.8	1019.8	1016.9	1013.9	1010.1	1005.4	1000.7	995.9	991.2	989.5
37.5°	969.7	967.1	964.5	961.9	959.4	955.7	951.0	946.3	941.5	936.8	934.6
40°	931.5	929.2	926.8	924.4	922.1	918.5	913.8	909.1	904.4	899.7	897.0
42.5°	894.4	892.0	889.6	887.3	884.9	881.4	876.7	872.0	867.2	862.5	859.6
45°	834.6	832.6	830.5	828.5	826.4	823.1	818.7	814.3	809.9	805.5	802.2
47.5°	775.2	773.3	771.3	769.4	767.4	764.1	759.5	754.9	750.3	745.7	742.3
50°	733.8	732.3	730.9	729.4	727.9	725.1	721.0	716.8	712.7	708.6	704.5
52.5°	693.5	691.5	689.6	687.6	685.7	682.8	678.9	675.0	671.1	667.2	663.8
55°	631.6	629.9	628.1	626.3	624.5	621.9	618.4	614.8	611.3	607.7	604.2
57.5°	569.5	568.1	566.7	565.3	563.9	561.2	557.3	553.4	549.5	545.6	542.2
60°	528.1	526.9	525.8	524.6	523.4	520.8	516.6	512.5	508.4	504.2	501.0
62.5°	487.8	485.9	484.0	482.1	480.2	477.7	474.5	471.3	468.1	465.0	462.0
65°	426.0	424.2	422.4	420.6	418.9	416.5	413.6	410.6	407.7	404.7	402.1
67.5°	363.1	361.6	360.2	358.8	357.4	355.4	352.7	350.0	347.4	344.7	342.7
70°	323.8	322.6	321.4	320.2	319.1	317.1	314.5	311.8	309.2	306.5	304.5
72.5°	283.4	282.3	281.1	279.9	278.7	277.3	275.6	273.9	272.1	270.4	268.4
75°	222.9	222.3	221.7	221.2	220.6	219.5	218.1	216.6	215.1	213.6	211.9
77.5°	168.8	167.8	166.8	165.8	164.8	164.0	163.4	162.8	162.2	161.6	160.7
80°	132.7	132.4	132.1	131.8	131.5	131.1	130.5	129.9	129.3	128.7	127.8
82.5°	98.7	98.7	98.6	98.5	98.5	98.3	97.9	97.6	97.2	96.9	95.7
85°	54.4	54.1	53.8	53.5	53.2	52.9	52.6	52.3	52.0	51.8	50.9
87.5°	19.2	19.0	18.7	18.5	18.3	18.1	18.1	18.1	18.1	18.0	17.3
90°	0.5	1.7	2.9	4.1	5.3	7.0	9.2	11.4	13.6	15.9	15.7
92.5°	8.1	9.0	9.8	10.7	11.6	12.3	12.8	13.4	13.9	14.4	14.4
95°	23.6	24.6	25.6	26.6	27.6	28.2	28.4	28.6	28.8	29.0	29.0
97.5°	43.0	43.9	44.8	45.7	46.6	47.2	47.6	48.0	48.4	48.7	48.7
100°	57.5	58.3	59.1	60.0	60.8	61.3	61.6	61.9	62.2	62.5	62.5
102.5°	72.8	73.4	74.0	74.7	75.3	75.9	76.2	76.6	77.0	77.4	77.5
105°	97.4	97.7	98.0	98.3	98.6	98.9	99.1	99.3	99.5	99.7	99.9
107.5°	122.2	122.7	123.1	123.6	124.0	124.2	124.2	124.2	124.2	124.2	124.3
110°	138.2	138.8	139.4	140.0	140.6	140.9	140.9	140.9	140.9	140.9	140.9



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	155.6	156.2	156.8	157.4	158.0	158.3	158.2	158.1	158.0	157.9	157.7
115°	181.2	181.8	182.4	183.0	183.6	183.8	183.6	183.4	183.2	183.0	182.9
117.5°	206.8	207.6	208.4	209.2	210.0	210.1	209.6	209.0	208.4	207.9	207.6
120°	223.8	224.6	225.4	226.2	227.0	227.0	226.2	225.4	224.6	223.8	223.8
122.5°	239.4	240.4	241.3	242.3	243.3	243.5	242.9	242.3	241.8	241.2	241.0
125°	263.7	264.6	265.5	266.4	267.3	267.6	267.3	267.0	266.7	266.4	266.1
127.5°	287.3	288.5	289.6	290.8	291.9	292.3	292.0	291.6	291.2	290.9	290.5
130°	302.2	303.5	304.8	306.1	307.4	308.0	307.8	307.6	307.4	307.2	307.0
132.5°	318.9	319.9	321.0	322.1	323.1	323.7	323.7	323.8	323.8	323.8	323.4
135°	341.2	342.3	343.4	344.5	345.6	346.2	346.4	346.6	346.8	347.0	346.9
137.5°	364.6	365.5	366.4	367.3	368.2	368.8	369.1	369.4	369.6	369.9	369.8
140°	378.8	379.7	380.6	381.5	382.4	383.1	383.6	384.1	384.6	385.1	385.1
142.5°	393.3	394.2	395.1	396.0	396.9	397.5	397.8	398.2	398.5	398.9	399.0
145°	414.1	414.8	415.5	416.2	416.9	417.6	418.2	418.8	419.4	420.0	420.1
147.5°	432.7	433.5	434.4	435.2	436.1	436.7	437.1	437.5	437.9	438.3	438.5
150°	445.4	446.0	446.6	447.2	447.8	448.3	448.7	449.1	449.5	449.9	450.2
152.5°	456.6	457.2	457.8	458.4	459.0	459.6	460.0	460.5	461.0	461.5	461.9
155°	473.4	473.7	474.0	474.4	474.7	475.0	475.3	475.6	475.9	476.2	476.7
157.5°	487.9	488.1	488.3	488.5	488.7	488.8	489.0	489.2	489.4	489.6	490.3
160°	496.6	496.8	497.0	497.2	497.4	497.5	497.6	497.7	497.8	497.9	498.5
162.5°	504.5	504.6	504.6	504.6	504.7	504.8	504.9	505.0	505.1	505.2	505.8
165°	515.1	515.0	514.9	514.8	514.7	514.7	514.7	514.7	514.7	514.7	515.4
167.5°	524.0	523.7	523.4	523.1	522.8	522.6	522.6	522.6	522.6	522.6	523.3
170°	528.7	528.4	528.1	527.8	527.5	527.3	527.2	527.1	527.0	526.9	527.6
172.5°	532.0	531.7	531.4	531.1	530.8	530.6	530.5	530.4	530.3	530.2	530.9
175°	536.0	535.7	535.4	535.1	534.8	534.5	534.3	534.1	533.9	533.7	534.4
177.5°	537.6	537.4	537.1	536.9	536.6	536.4	536.3	536.1	535.9	535.8	536.3
180°	536.9	536.9	536.9	536.9	536.9	536.9	536.9	536.9	536.9	536.9	536.9



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1380.0	1380.0	1380.0	1380.0	1380.0	1380.0	1380.0	1380.0
2.5°	1374.1	1376.5	1378.8	1379.8	1379.3	1378.8	1378.4	1377.9
5°	1364.8	1367.2	1369.6	1370.4	1369.9	1369.3	1368.7	1368.1
7.5°	1349.4	1351.8	1354.2	1355.0	1354.4	1353.7	1353.1	1352.4
10°	1335.6	1338.0	1340.4	1341.1	1340.2	1339.3	1338.4	1337.6
12.5°	1319.4	1321.0	1322.7	1323.2	1322.5	1321.9	1321.2	1320.6
15°	1290.8	1292.0	1293.2	1293.0	1291.6	1290.1	1288.6	1287.1
17.5°	1256.9	1258.3	1259.7	1259.6	1258.2	1256.8	1255.4	1254.0
20°	1230.5	1231.4	1232.3	1232.1	1231.0	1229.8	1228.6	1227.4
22.5°	1202.6	1202.7	1202.9	1202.7	1201.9	1201.2	1200.5	1199.8
25°	1157.0	1157.5	1158.1	1158.1	1157.5	1157.0	1156.4	1155.8
27.5°	1112.1	1111.2	1110.3	1109.2	1107.7	1106.3	1104.9	1103.5
30°	1077.0	1076.2	1075.3	1074.2	1073.1	1071.9	1070.7	1069.5
32.5°	1042.7	1041.1	1039.5	1038.1	1037.0	1035.8	1034.6	1033.4
35°	987.7	985.9	984.2	982.5	981.1	979.6	978.1	976.6
37.5°	932.5	930.3	928.1	926.3	924.9	923.5	922.1	920.6
40°	894.4	891.7	889.1	887.1	886.0	884.8	883.6	882.4
42.5°	856.7	853.8	851.0	848.7	847.0	845.4	843.7	842.1
45°	799.0	795.7	792.5	790.3	789.1	787.9	786.7	785.6
47.5°	738.9	735.5	732.1	729.5	727.8	726.1	724.4	722.7
50°	700.3	696.2	692.1	689.3	687.8	686.3	684.9	683.4
52.5°	660.3	656.9	653.5	650.8	648.9	646.9	645.0	643.0
55°	600.7	597.1	593.6	591.1	589.6	588.1	586.7	585.2
57.5°	538.7	535.2	531.7	529.4	528.3	527.2	526.1	524.9
60°	497.8	494.5	491.3	489.2	488.3	487.4	486.5	485.7
62.5°	458.9	455.9	452.9	450.9	449.7	448.6	447.5	446.4
65°	399.4	396.8	394.1	392.0	390.6	389.1	387.6	386.1
67.5°	340.6	338.5	336.5	334.9	333.7	332.5	331.3	330.1
70°	302.4	300.3	298.3	296.6	295.5	294.3	293.1	291.9
72.5°	266.3	264.2	262.2	260.7	259.7	258.8	257.8	256.9
75°	210.1	208.3	206.6	206.0	206.6	207.2	207.7	208.3
77.5°	159.9	159.0	158.1	157.2	156.4	155.6	154.8	153.9
80°	126.9	126.1	125.2	124.4	123.8	123.3	122.7	122.1
82.5°	94.6	93.5	92.4	91.8	91.6	91.5	91.4	91.3
85°	50.0	49.1	48.2	47.6	47.3	47.0	46.7	46.4
87.5°	16.5	15.8	15.0	14.6	14.3	14.1	13.9	13.7
90°	15.5	15.3	15.1	15.0	15.1	15.2	15.3	15.4
92.5°	14.5	14.5	14.6	14.6	14.6	14.6	14.7	14.7
95°	29.0	29.0	29.0	28.9	28.7	28.5	28.3	28.1
97.5°	48.7	48.7	48.7	48.7	48.7	48.7	48.7	48.7
100°	62.5	62.5	62.5	62.5	62.4	62.3	62.2	62.1
102.5°	77.5	77.6	77.7	77.7	77.6	77.5	77.4	77.3
105°	100.1	100.3	100.5	100.6	100.6	100.6	100.6	100.6
107.5°	124.4	124.5	124.6	124.4	123.9	123.4	123.0	122.5
110°	140.9	140.9	140.9	140.7	140.4	140.1	139.8	139.5



TEST NUMBER: P331560

CATALOG NUMBER: S122DIW-S865D435U835-4F0-1E-UDD-F1

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	157.5	157.2	157.0	156.7	156.5	156.3	156.1	155.9
115°	182.8	182.7	182.6	182.4	182.1	181.8	181.5	181.2
117.5°	207.4	207.1	206.9	206.6	206.3	206.0	205.7	205.4
120°	223.8	223.8	223.8	223.7	223.4	223.1	222.8	222.5
122.5°	240.7	240.5	240.2	240.0	239.8	239.6	239.3	239.1
125°	265.8	265.5	265.2	265.0	264.9	264.8	264.7	264.6
127.5°	290.1	289.8	289.4	289.1	288.7	288.4	288.1	287.8
130°	306.8	306.6	306.4	306.1	305.7	305.3	304.9	304.5
132.5°	323.0	322.5	322.1	321.7	321.4	321.0	320.7	320.4
135°	346.8	346.7	346.6	346.4	346.1	345.8	345.5	345.2
137.5°	369.7	369.6	369.6	369.3	368.9	368.5	368.1	367.7
140°	385.1	385.1	385.1	384.9	384.5	384.1	383.7	383.3
142.5°	399.0	399.1	399.2	399.0	398.6	398.2	397.8	397.4
145°	420.2	420.3	420.4	420.2	419.8	419.4	419.0	418.6
147.5°	438.7	439.0	439.2	439.1	438.7	438.3	437.9	437.6
150°	450.5	450.8	451.1	451.1	450.8	450.5	450.2	449.9
152.5°	462.2	462.6	463.0	463.0	462.6	462.2	461.9	461.5
155°	477.2	477.7	478.2	478.3	478.0	477.7	477.4	477.1
157.5°	490.9	491.6	492.3	492.4	491.9	491.4	491.0	490.5
160°	499.1	499.7	500.3	500.4	500.0	499.6	499.2	498.8
162.5°	506.5	507.2	507.9	508.0	507.5	507.0	506.5	506.1
165°	516.1	516.8	517.5	517.6	517.1	516.6	516.1	515.6
167.5°	524.0	524.7	525.4	525.5	524.9	524.4	523.9	523.4
170°	528.3	529.0	529.7	529.8	529.2	528.6	528.0	527.4
172.5°	531.6	532.3	533.0	533.0	532.4	531.8	531.2	530.6
175°	535.1	535.8	536.5	536.6	536.0	535.4	534.8	534.2
177.5°	536.8	537.2	537.7	537.7	537.2	536.8	536.3	535.8
180°	536.9	536.9	536.9	536.9	536.9	536.9	536.9	536.9

(END OF REPORT)