

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: P331522-935

Luminaire Tested: **S122DIW-S485D1440U935-4F0-1E-UDD-D1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P331522-935
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-S485D1440U935-4F0-1E-UDD-D1
Description: DEFINE 2 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 485 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER
UPLIGHT 1440 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 5999.8 lumens
Efficiency: N/A
Efficacy: 99.0 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

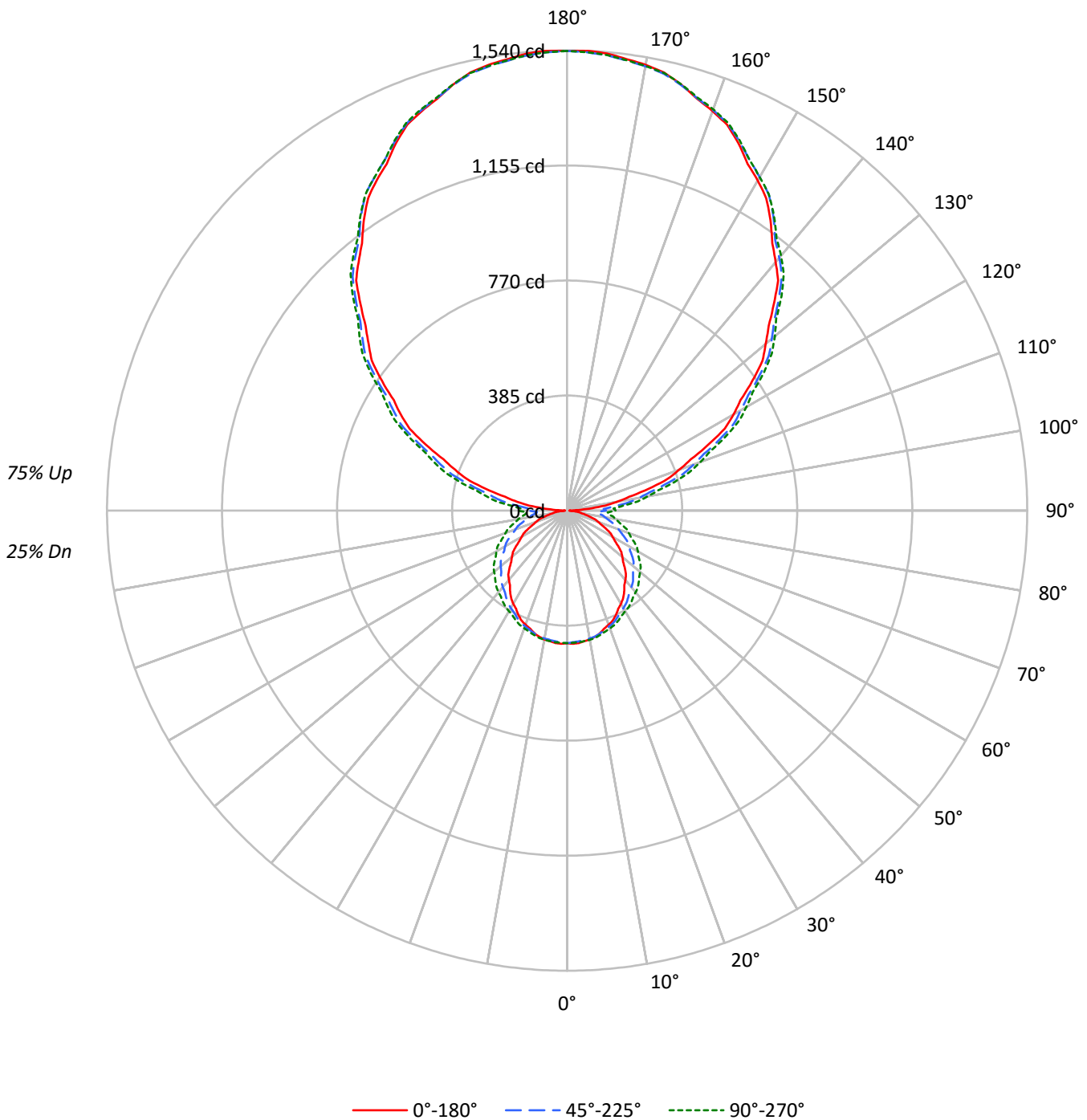
Input Watts (W): 60.6
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot





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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20				20				20				20				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	101	101	101	101	90	90	90	90	70	70	70	51	51	51	33	33	33	25
1	91	87	83	79	81	77	74	71	60	57	55	43	42	40	28	27	27	20
2	83	75	69	64	73	67	62	58	52	48	45	37	35	33	24	23	22	16
3	75	66	59	53	67	59	53	48	45	41	37	33	30	28	21	20	18	13
4	69	58	50	44	61	52	45	40	40	35	32	29	26	23	19	17	15	11
5	63	51	43	38	56	46	39	34	36	31	27	26	23	20	17	15	13	9
6	58	46	38	32	51	41	34	29	32	27	23	23	20	17	15	13	12	8
7	53	41	33	28	47	37	30	25	29	24	20	21	18	15	14	12	10	7
8	49	37	30	25	44	33	27	22	26	21	18	19	16	13	13	11	9	6
9	46	34	27	22	41	30	24	20	24	19	16	18	14	12	12	10	8	6
10	43	31	24	19	38	28	22	17	22	17	14	16	13	11	11	9	7	5

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	7164	7164	7164
5°	7199	6896	6870
10°	7153	6692	6617
15°	7055	6477	6350
20°	6930	6245	6094
25°	6807	6022	5862
30°	6634	5793	5628
35°	6458	5572	5464
40°	6275	5384	5299
45°	6100	5215	5159
50°	5912	5062	5019
55°	5713	4898	4878
60°	5473	4730	4729
65°	5222	4530	4552
70°	4938	4315	4361
75°	4578	4106	4186
80°	4008	3889	4005
85°	3471	3705	3868



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	42.0	0.7
10°-20°	120.6	2.0
20°-30°	182.7	3.0
30°-40°	222.5	3.7
40°-50°	239.4	4.0
50°-60°	232.5	3.9
60°-70°	203.0	3.4
70°-80°	156.3	2.6
80°-90°	111.0	1.9
90°-100°	169.7	2.8
100°-110°	355.5	5.9
110°-120°	552.3	9.2
120°-130°	699.9	11.7
130°-140°	771.9	12.9
140°-150°	750.3	12.5
150°-160°	628.1	10.5
160°-170°	416.6	6.9
170°-180°	145.6	2.4
0°-30°	345.3	5.8
0°-40°	567.8	9.5
0°-60°	1039.7	17.3
0°-90°	1510.0	25.2
90°-120°	1077.5	18.0
90°-150°	3299.5	55.0
90°-180°	4490.0	74.8
0°-180°	5999.8	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	444	444	444	444	444	
5°	445	443	439	443	442	42
15°	424	426	426	431	431	119
25°	386	390	396	404	406	177
35°	332	343	356	369	374	208
45°	273	290	312	332	339	210
55°	209	233	266	288	297	187
65°	143	175	212	238	247	142
75°	79	115	156	183	192	84
85°	23	63	104	130	140	25
90°	8	62	130	153	162	8
95°	73	116	157	180	187	81
105°	282	306	341	365	373	298
115°	522	537	563	580	584	516
125°	757	769	785	798	803	676
135°	978	992	1001	1013	1015	755
145°	1186	1195	1203	1208	1206	741
155°	1356	1360	1364	1370	1367	624
165°	1476	1475	1474	1483	1477	416
175°	1536	1532	1529	1537	1530	146
180°	1538	1538	1538	1538	1538	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	443.7	443.7	443.7	443.7	443.7	443.7	443.7	443.7	443.7	443.7	443.7
2.5°	446.3	445.9	445.6	445.2	444.9	444.3	443.5	442.7	442.0	441.1	441.7
5°	445.0	444.5	444.1	443.7	443.2	442.6	441.8	440.9	440.1	439.2	440.1
7.5°	441.0	440.7	440.4	440.1	439.9	439.4	438.7	438.1	437.4	436.7	437.7
10°	437.9	437.6	437.3	437.0	436.8	436.4	436.0	435.6	435.1	434.7	435.8
12.5°	432.7	432.8	432.9	432.9	433.0	432.8	432.6	432.2	431.9	431.6	432.7
15°	424.4	424.6	425.0	425.2	425.5	425.7	425.7	425.7	425.7	425.7	427.0
17.5°	413.6	414.2	414.8	415.4	416.0	416.6	417.0	417.4	417.9	418.4	419.7
20°	406.4	407.1	407.9	408.5	409.2	409.9	410.4	411.0	411.6	412.2	413.7
22.5°	398.6	399.5	400.4	401.1	402.0	402.8	403.6	404.4	405.2	406.0	407.6
25°	385.8	386.8	387.8	388.8	389.8	391.0	392.3	393.6	394.9	396.1	397.8
27.5°	370.4	372.0	373.7	375.3	376.9	378.5	380.0	381.5	383.0	384.5	386.7
30°	360.1	362.0	363.8	365.7	367.6	369.4	371.3	373.1	375.0	376.8	379.1
32.5°	348.8	350.9	352.9	355.1	357.1	359.3	361.4	363.7	365.8	368.1	370.7
35°	332.4	334.8	337.3	339.8	342.2	344.7	347.4	350.2	352.8	355.6	358.7
37.5°	314.7	317.5	320.3	323.1	325.9	329.1	332.6	336.0	339.6	343.1	346.6
40°	302.9	306.0	309.2	312.3	315.5	318.9	322.8	326.7	330.5	334.4	338.1
42.5°	291.5	294.7	297.8	301.0	304.1	307.9	312.4	316.8	321.2	325.6	329.7
45°	272.7	276.5	280.3	284.2	288.1	292.5	297.5	302.5	307.5	312.5	316.9
47.5°	254.0	258.2	262.4	266.6	270.8	275.9	281.7	287.6	293.4	299.3	303.9
50°	241.2	245.6	250.0	254.4	258.8	264.2	270.7	277.2	283.6	290.0	294.9
52.5°	228.8	233.4	238.1	242.8	247.5	253.1	259.9	266.7	273.5	280.3	285.2
55°	209.0	214.1	219.3	224.4	229.5	235.8	243.3	250.7	258.1	265.5	270.7
57.5°	189.4	195.3	201.0	206.8	212.7	219.3	226.9	234.5	242.0	249.6	255.2
60°	175.6	181.7	187.9	194.0	200.1	207.2	215.4	223.5	231.7	239.9	245.3
62.5°	163.2	169.5	176.0	182.4	188.7	196.0	204.1	212.2	220.4	228.5	234.3
65°	142.8	149.7	156.8	163.8	170.7	178.5	186.9	195.4	203.8	212.2	218.1
67.5°	124.0	131.3	138.6	145.9	153.3	161.2	169.9	178.5	187.1	195.7	201.6
70°	110.6	118.0	125.4	132.9	140.3	148.4	157.3	166.2	175.0	183.9	190.0
72.5°	98.2	105.9	113.6	121.2	128.9	137.2	146.2	155.2	164.1	173.1	179.2
75°	79.1	87.1	95.1	103.1	111.1	119.7	128.8	137.9	147.1	156.3	162.4
77.5°	60.6	69.0	77.3	85.7	94.1	102.9	112.2	121.5	130.8	140.1	146.2
80°	48.2	56.9	65.7	74.4	83.1	92.1	101.4	110.6	119.9	129.2	135.3
82.5°	38.0	46.6	55.1	63.7	72.3	81.4	90.7	100.1	109.5	119.0	124.9
85°	23.2	32.0	40.9	49.8	58.5	67.6	76.7	85.8	95.1	104.2	110.2
87.5°	12.8	22.0	31.3	40.5	49.7	59.5	69.9	80.3	90.7	101.2	106.9
90°	7.7	19.5	31.3	43.0	54.8	68.4	83.9	99.4	114.9	130.3	135.4
92.5°	29.0	39.3	49.5	59.8	70.0	80.3	90.6	100.9	111.2	121.5	127.3
95°	72.7	82.2	91.9	101.4	111.1	120.5	129.6	138.7	147.8	157.0	162.5
97.5°	127.8	136.3	144.8	153.3	161.9	170.7	180.1	189.4	198.7	208.1	213.4
100°	169.4	176.9	184.5	192.2	199.8	207.9	216.8	225.7	234.5	243.4	248.7
102.5°	212.4	219.1	225.8	232.5	239.2	246.9	255.8	264.7	273.5	282.4	287.8
105°	282.3	287.3	292.3	297.3	302.3	308.8	316.8	324.9	332.9	340.9	346.5
107.5°	353.3	357.8	362.5	367.0	371.6	377.5	384.6	391.7	398.8	406.0	411.0
110°	398.5	403.0	407.7	412.2	416.8	422.6	429.6	436.6	443.6	450.6	455.2



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	448.3	452.5	456.6	460.7	464.9	470.1	476.6	482.9	489.4	495.8	499.7
115°	521.8	525.0	528.4	531.7	535.0	539.6	545.4	551.3	557.2	563.0	567.0
117.5°	594.3	597.7	601.0	604.3	607.7	611.5	615.9	620.2	624.5	628.9	632.4
120°	643.2	646.0	648.9	651.8	654.7	657.8	661.2	664.6	668.0	671.4	675.5
122.5°	687.8	690.8	693.8	696.8	699.8	703.2	706.9	710.7	714.5	718.2	721.4
125°	756.7	759.3	761.9	764.5	767.2	770.3	774.0	777.7	781.4	785.1	788.1
127.5°	824.5	827.6	830.8	833.9	837.1	840.0	842.6	845.2	847.9	850.6	853.1
130°	867.0	870.6	874.3	877.9	881.5	884.5	886.9	889.3	891.7	894.2	897.1
132.5°	914.8	917.7	920.7	923.6	926.5	929.2	931.6	934.0	936.4	938.8	940.9
135°	978.0	981.2	984.4	987.6	990.8	993.3	995.3	997.3	999.4	1001.3	1004.1
137.5°	1045.3	1047.8	1050.4	1053.0	1055.6	1057.6	1058.9	1060.3	1061.7	1063.1	1065.4
140°	1085.8	1088.2	1090.7	1093.1	1095.6	1097.7	1099.4	1101.1	1102.9	1104.6	1106.9
142.5°	1127.3	1129.8	1132.2	1134.7	1137.1	1138.8	1139.9	1140.9	1141.9	1143.1	1145.0
145°	1186.4	1188.4	1190.4	1192.4	1194.5	1196.4	1198.1	1199.8	1201.5	1203.2	1204.4
147.5°	1239.6	1242.0	1244.4	1246.9	1249.3	1251.1	1252.2	1253.4	1254.6	1255.7	1256.5
150°	1275.9	1277.6	1279.4	1281.2	1282.9	1284.3	1285.5	1286.6	1287.8	1288.9	1289.8
152.5°	1308.1	1309.8	1311.6	1313.3	1315.1	1316.6	1318.0	1319.4	1320.8	1322.2	1323.3
155°	1356.4	1357.3	1358.1	1359.0	1359.9	1360.7	1361.6	1362.4	1363.3	1364.2	1365.6
157.5°	1397.7	1398.3	1398.9	1399.5	1400.0	1400.6	1401.1	1401.6	1402.1	1402.7	1404.5
160°	1422.6	1423.2	1423.7	1424.4	1425.0	1425.4	1425.6	1425.9	1426.2	1426.5	1428.2
162.5°	1445.4	1445.6	1445.7	1445.8	1446.0	1446.1	1446.4	1446.7	1447.0	1447.3	1449.2
165°	1475.8	1475.6	1475.2	1475.0	1474.7	1474.5	1474.5	1474.5	1474.5	1474.5	1476.5
167.5°	1501.2	1500.4	1499.5	1498.7	1497.8	1497.4	1497.3	1497.3	1497.2	1497.1	1499.2
170°	1514.8	1513.9	1513.0	1512.2	1511.3	1510.7	1510.5	1510.2	1509.8	1509.6	1511.6
172.5°	1524.1	1523.3	1522.4	1521.6	1520.7	1520.1	1519.8	1519.5	1519.2	1518.9	1521.0
175°	1535.5	1534.6	1533.8	1532.9	1532.1	1531.4	1530.8	1530.2	1529.7	1529.0	1531.1
177.5°	1540.2	1539.6	1538.9	1538.2	1537.5	1536.9	1536.4	1535.9	1535.5	1535.0	1536.4
180°	1538.2	1538.2	1538.2	1538.2	1538.2	1538.2	1538.2	1538.2	1538.2	1538.2	1538.2



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	443.7	443.7	443.7	443.7	443.7	443.7	443.7	443.7
2.5°	442.3	442.8	443.4	443.6	443.3	443.2	442.9	442.6
5°	440.9	441.8	442.6	443.0	442.8	442.7	442.6	442.4
7.5°	438.8	439.8	440.8	441.3	441.2	441.0	440.8	440.7
10°	437.0	438.1	439.3	439.8	439.6	439.5	439.4	439.2
12.5°	433.9	435.1	436.2	436.7	436.5	436.4	436.3	436.1
15°	428.3	429.6	430.8	431.4	431.3	431.1	430.9	430.8
17.5°	421.0	422.4	423.7	424.4	424.4	424.4	424.4	424.4
20°	415.3	416.9	418.4	419.2	419.2	419.2	419.2	419.2
22.5°	409.1	410.7	412.3	413.2	413.5	413.6	413.9	414.1
25°	399.5	401.2	402.9	404.1	404.5	404.9	405.4	405.8
27.5°	388.9	391.1	393.2	394.4	394.8	395.1	395.4	395.7
30°	381.4	383.7	386.0	387.3	387.7	388.1	388.6	389.0
32.5°	373.3	375.9	378.6	380.3	381.1	381.9	382.6	383.4
35°	361.9	365.1	368.2	370.2	371.3	372.2	373.2	374.3
37.5°	350.1	353.6	357.1	359.3	360.4	361.4	362.5	363.6
40°	341.8	345.5	349.2	351.7	353.0	354.3	355.6	356.9
42.5°	333.7	337.8	341.8	344.6	345.8	347.1	348.4	349.7
45°	321.4	325.8	330.2	333.1	334.6	336.0	337.4	338.9
47.5°	308.5	313.1	317.8	320.9	322.4	324.0	325.6	327.2
50°	299.7	304.5	309.4	312.6	314.3	315.8	317.4	318.9
52.5°	290.2	295.2	300.1	303.4	305.1	306.9	308.5	310.2
55°	275.9	281.0	286.1	289.6	291.5	293.3	295.2	297.0
57.5°	260.7	266.2	271.8	275.5	277.4	279.3	281.2	283.1
60°	250.7	256.1	261.6	265.3	267.3	269.3	271.3	273.3
62.5°	240.0	245.8	251.6	255.5	257.4	259.2	261.1	263.0
65°	223.9	229.8	235.7	239.5	241.3	243.2	245.0	246.9
67.5°	207.6	213.4	219.4	223.3	225.2	227.2	229.2	231.1
70°	196.2	202.3	208.4	212.4	214.1	215.9	217.6	219.3
72.5°	185.2	191.2	197.3	201.3	203.3	205.3	207.4	209.5
75°	168.6	174.7	180.8	184.9	186.7	188.6	190.4	192.3
77.5°	152.3	158.4	164.5	168.6	170.6	172.5	174.6	176.6
80°	141.3	147.2	153.3	157.2	159.3	161.3	163.2	165.2
82.5°	131.0	137.0	142.9	146.9	148.8	150.7	152.6	154.5
85°	116.1	122.2	128.2	132.2	134.1	136.2	138.2	140.2
87.5°	112.6	118.3	124.0	127.9	129.8	131.6	133.5	135.3
90°	140.6	145.8	150.8	154.5	156.4	158.4	160.4	162.5
92.5°	132.9	138.7	144.4	148.2	149.9	151.7	153.4	155.2
95°	167.9	173.3	178.7	182.0	183.1	184.3	185.5	186.6
97.5°	218.7	223.9	229.2	232.7	234.3	235.9	237.5	239.2
100°	254.0	259.2	264.6	267.9	269.1	270.4	271.7	273.0
102.5°	293.2	298.6	304.0	307.4	308.7	310.0	311.3	312.5
105°	352.0	357.6	363.2	366.8	368.3	369.9	371.4	373.1
107.5°	416.0	421.0	426.1	428.7	429.0	429.2	429.5	429.7
110°	459.8	464.3	468.9	471.6	472.3	472.9	473.6	474.4



TEST NUMBER: P331522-935

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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	503.6	507.5	511.3	513.8	514.7	515.7	516.6	517.5
115°	571.0	575.0	578.9	581.3	582.0	582.7	583.4	584.2
117.5°	635.9	639.5	643.0	645.1	645.7	646.3	646.8	647.4
120°	679.4	683.5	687.4	689.8	690.5	691.2	691.9	692.6
122.5°	724.6	727.8	731.0	732.9	733.7	734.3	735.0	735.7
125°	791.1	794.1	797.0	799.1	800.0	801.1	802.0	803.1
127.5°	855.6	858.1	860.6	862.0	862.3	862.6	863.0	863.3
130°	899.9	902.8	905.6	907.1	907.0	907.0	907.0	907.0
132.5°	943.0	945.0	947.1	948.2	948.4	948.6	948.8	949.1
135°	1006.8	1009.5	1012.2	1013.7	1014.0	1014.3	1014.5	1014.8
137.5°	1067.8	1070.2	1072.6	1073.8	1073.6	1073.4	1073.2	1073.0
140°	1109.1	1111.5	1113.7	1114.7	1114.5	1114.1	1113.9	1113.5
142.5°	1147.1	1149.2	1151.2	1152.1	1151.7	1151.2	1150.9	1150.5
145°	1205.6	1206.7	1207.8	1208.2	1207.7	1207.3	1206.9	1206.4
147.5°	1257.2	1257.9	1258.7	1258.7	1257.9	1257.1	1256.5	1255.7
150°	1290.6	1291.5	1292.4	1292.4	1291.5	1290.6	1289.8	1288.9
152.5°	1324.3	1325.4	1326.5	1326.5	1325.4	1324.3	1323.3	1322.2
155°	1367.1	1368.6	1369.9	1370.3	1369.4	1368.6	1367.7	1366.8
157.5°	1406.5	1408.5	1410.5	1410.7	1409.4	1408.0	1406.6	1405.2
160°	1429.9	1431.7	1433.4	1433.7	1432.5	1431.4	1430.3	1429.1
162.5°	1451.2	1453.2	1455.1	1455.4	1454.1	1452.7	1451.3	1449.8
165°	1478.6	1480.6	1482.6	1482.9	1481.4	1480.1	1478.6	1477.1
167.5°	1501.2	1503.2	1505.2	1505.5	1504.0	1502.4	1501.0	1499.4
170°	1513.6	1515.6	1517.7	1517.8	1516.0	1514.3	1512.6	1510.9
172.5°	1522.9	1525.0	1527.0	1527.2	1525.4	1523.7	1522.0	1520.3
175°	1533.1	1535.1	1537.1	1537.3	1535.5	1533.8	1532.1	1530.3
177.5°	1537.8	1539.2	1540.6	1540.6	1539.2	1537.8	1536.4	1535.0
180°	1538.2	1538.2	1538.2	1538.2	1538.2	1538.2	1538.2	1538.2

(END OF REPORT)