

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: P331582-830

Luminaire Tested: **S122DIW-S865D1440U830-4F0-1E-UDD-D1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P331582-830
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-S865D1440U830-4F0-1E-UDD-D1
Description: DEFINE 2 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 865 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: 8007.3 lumens
Efficiency: N/A
Efficacy: 104.5 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

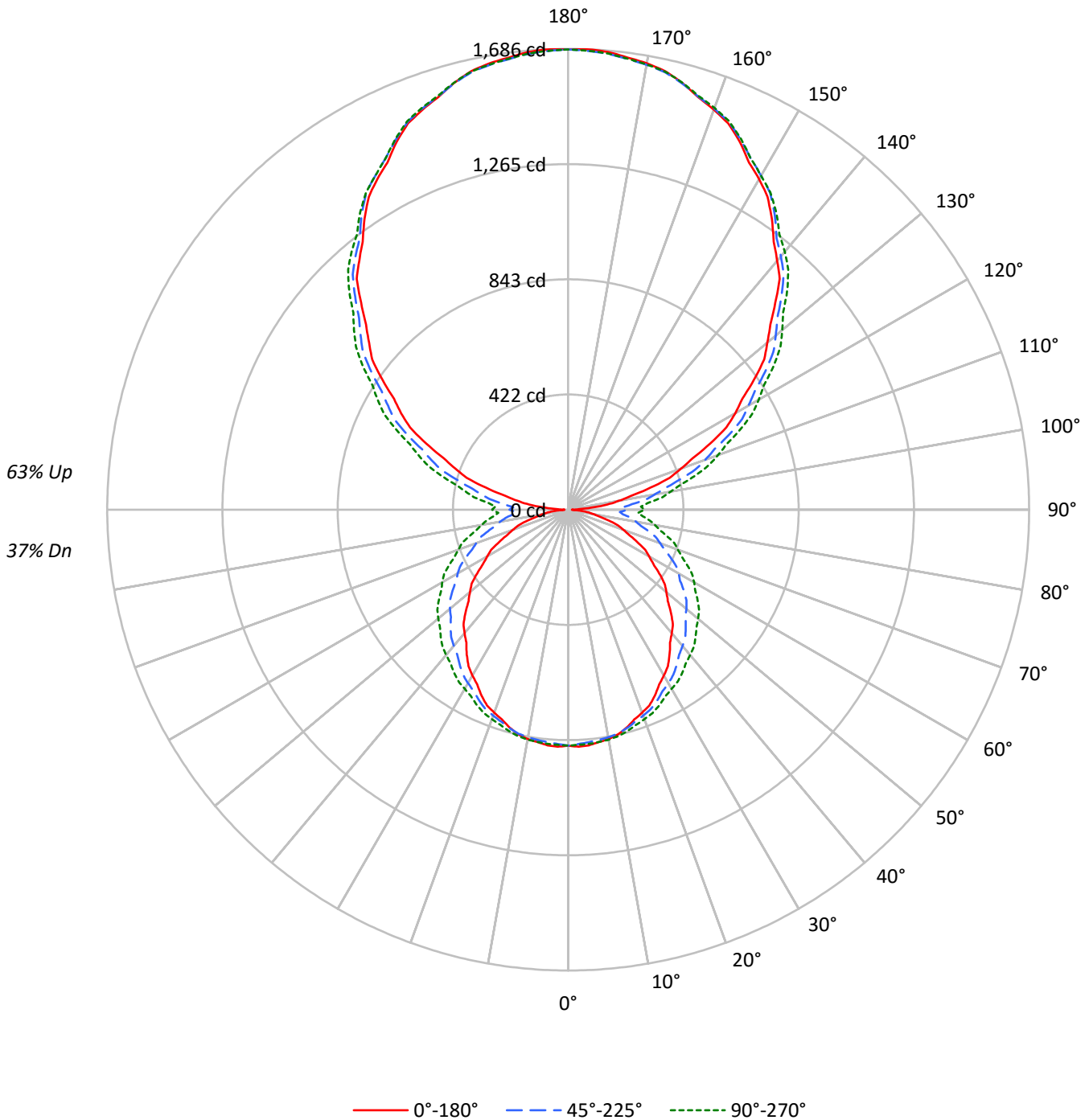
Input Watts (W): 76.6
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	104	104	104	104	94	94	94	94	76	76	76	59	59	59	44	44	44	37
1	94	89	85	81	85	81	77	74	65	62	60	50	49	47	37	36	35	29
2	85	77	71	65	76	70	64	60	56	52	49	43	41	38	32	30	28	23
3	77	67	60	54	69	61	54	49	49	44	40	38	35	32	28	26	24	19
4	70	59	51	45	63	54	47	41	43	38	34	34	30	27	25	22	20	16
5	64	53	44	38	58	48	40	35	39	33	29	30	26	23	22	19	17	14
6	59	47	39	33	53	43	35	30	35	29	25	27	23	20	20	17	15	12
7	55	42	34	29	49	38	31	26	31	26	22	24	21	18	18	15	13	10
8	50	38	30	25	45	35	28	23	28	23	19	22	18	16	17	14	12	9
9	47	35	27	22	42	32	25	20	26	21	17	20	17	14	15	13	11	8
10	44	32	24	20	39	29	23	18	24	19	15	19	15	12	14	11	10	7

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	13934	13934	13934
5°	14000	13412	13361
10°	13914	13017	12870
15°	13722	12596	12353
20°	13478	12147	11855
25°	13241	11713	11401
30°	12903	11268	10947
35°	12562	10837	10627
40°	12203	10472	10307
45°	11862	10143	10033
50°	11495	9847	9765
55°	11112	9528	9489
60°	10644	9199	9199
65°	10156	8809	8853
70°	9605	8393	8482
75°	8902	7984	8141
80°	7800	7568	7791
85°	6748	7205	7523



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	81.8	1.0
10°-20°	234.5	2.9
20°-30°	355.3	4.4
30°-40°	432.8	5.4
40°-50°	465.6	5.8
50°-60°	452.2	5.6
60°-70°	394.8	4.9
70°-80°	304.0	3.8
80°-90°	210.7	2.6
90°-100°	247.2	3.1
100°-110°	434.0	5.4
110°-120°	634.2	7.9
120°-130°	782.7	9.8
130°-140°	851.9	10.6
140°-150°	822.5	10.3
150°-160°	687.6	8.6
160°-170°	456.0	5.7
170°-180°	159.4	2.0
0°-30°	671.6	8.4
0°-40°	1104.4	13.8
0°-60°	2022.2	25.3
0°-90°	2931.7	36.6
90°-120°	1315.4	16.4
90°-150°	3772.6	47.1
90°-180°	5076.0	63.4
0°-180°	8007.3	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	863	863	863	863	863	
5°	865	862	854	861	860	82
15°	826	828	828	839	838	232
25°	750	759	770	785	789	345
35°	647	668	692	718	728	404
45°	530	565	608	645	659	409
55°	406	453	516	560	578	363
65°	278	340	413	462	480	276
75°	154	224	304	356	374	163
85°	45	123	203	253	273	48
90°	14	105	215	260	278	12
95°	84	157	235	280	294	93
105°	312	354	420	465	480	330
115°	573	597	649	684	695	567
125°	830	844	878	906	917	741
135°	1071	1087	1102	1126	1133	828
145°	1299	1309	1317	1326	1327	811
155°	1485	1489	1493	1500	1496	683
165°	1616	1614	1614	1623	1617	455
175°	1681	1677	1674	1683	1675	160
180°	1684	1684	1684	1684	1684	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	863.0	863.0	863.0	863.0	863.0	863.0	863.0	863.0	863.0	863.0	863.0
2.5°	868.0	867.3	866.7	866.0	865.3	864.2	862.6	861.1	859.5	858.0	859.1
5°	865.4	864.7	863.8	863.0	862.1	860.9	859.2	857.5	855.9	854.2	855.9
7.5°	857.7	857.1	856.6	856.1	855.5	854.6	853.3	852.1	850.7	849.5	851.5
10°	851.8	851.2	850.6	850.1	849.5	848.9	848.0	847.2	846.3	845.5	847.7
12.5°	841.7	841.9	842.0	842.1	842.2	841.9	841.3	840.7	840.1	839.4	841.7
15°	825.5	826.0	826.6	827.2	827.6	827.9	827.9	827.9	827.9	827.9	830.5
17.5°	804.5	805.6	806.8	807.9	809.1	810.1	811.1	811.9	812.8	813.7	816.3
20°	790.4	791.8	793.2	794.7	796.0	797.3	798.3	799.5	800.6	801.7	804.7
22.5°	775.4	777.0	778.6	780.2	781.8	783.4	785.0	786.6	788.2	789.7	792.8
25°	750.5	752.3	754.3	756.3	758.2	760.4	762.9	765.4	767.9	770.4	773.7
27.5°	720.4	723.6	726.7	729.9	733.1	736.1	739.0	742.1	745.0	747.9	752.1
30°	700.4	704.0	707.7	711.2	714.8	718.5	722.1	725.7	729.3	732.9	737.4
32.5°	678.3	682.4	686.5	690.6	694.7	698.8	703.0	707.4	711.6	715.9	721.0
35°	646.6	651.3	656.1	660.8	665.5	670.5	675.8	681.1	686.4	691.6	697.8
37.5°	612.1	617.6	623.0	628.4	633.9	640.0	646.9	653.7	660.5	667.4	674.2
40°	589.1	595.2	601.3	607.5	613.5	620.4	627.8	635.4	642.9	650.4	657.6
42.5°	567.0	573.2	579.3	585.4	591.5	598.9	607.5	616.1	624.7	633.4	641.2
45°	530.3	537.8	545.3	552.8	560.3	568.9	578.6	588.4	598.1	607.8	616.4
47.5°	494.0	502.2	510.4	518.6	526.7	536.5	547.9	559.3	570.7	582.1	591.1
50°	469.0	477.6	486.3	494.8	503.5	514.1	526.5	539.0	551.6	564.1	573.5
52.5°	445.0	454.0	463.2	472.2	481.3	492.4	505.6	518.7	531.9	545.1	554.7
55°	406.5	416.5	426.5	436.5	446.5	458.7	473.2	487.7	502.1	516.5	526.5
57.5°	368.4	379.8	391.1	402.3	413.6	426.6	441.3	456.1	470.8	485.5	496.3
60°	341.5	353.4	365.3	377.3	389.3	403.1	419.0	434.8	450.6	466.6	477.1
62.5°	317.4	329.8	342.2	354.6	367.0	381.2	397.0	412.8	428.7	444.5	455.7
65°	277.7	291.2	304.9	318.5	332.2	347.1	363.5	379.9	396.3	412.7	424.1
67.5°	241.1	255.3	269.6	283.8	298.0	313.6	330.4	347.1	363.9	380.7	392.2
70°	215.1	229.6	244.0	258.4	273.0	288.8	306.0	323.2	340.4	357.7	369.7
72.5°	191.1	206.0	220.9	235.8	250.7	266.8	284.4	301.8	319.2	336.7	348.5
75°	153.8	169.4	184.9	200.6	216.1	232.8	250.5	268.3	286.2	303.9	315.8
77.5°	117.8	134.1	150.4	166.6	182.9	200.1	218.2	236.3	254.3	272.4	284.3
80°	93.8	110.7	127.7	144.7	161.6	179.1	197.2	215.3	233.3	251.4	263.1
82.5°	73.8	90.5	107.3	123.9	140.7	158.3	176.5	194.8	213.1	231.4	243.1
85°	45.1	62.3	79.5	96.7	114.0	131.5	149.2	167.0	184.8	202.6	214.3
87.5°	24.8	42.1	59.5	76.7	94.1	112.4	131.5	150.7	169.8	189.1	200.3
90°	13.9	33.8	53.7	73.6	93.6	115.9	140.6	165.3	190.1	214.8	225.3
92.5°	36.8	54.6	72.4	90.2	107.9	126.2	145.0	163.7	182.5	201.2	212.3
95°	83.9	100.1	116.3	132.5	148.7	165.5	182.9	200.2	217.4	234.8	245.3
97.5°	143.7	158.2	172.6	186.9	201.3	217.2	234.3	251.6	268.7	286.0	296.2
100°	189.2	202.0	214.8	227.6	240.4	255.1	271.6	288.1	304.6	321.1	331.4
102.5°	235.9	247.4	258.8	270.2	281.6	295.5	311.8	328.1	344.4	360.8	371.1
105°	311.8	320.7	329.8	338.7	347.8	359.9	374.9	390.0	405.1	420.2	430.6
107.5°	389.4	397.2	405.0	412.9	420.8	431.6	445.4	459.2	473.1	486.9	496.5
110°	438.4	445.8	453.3	460.7	468.2	478.7	492.4	506.0	519.6	533.2	542.2



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	492.9	499.5	506.1	512.6	519.2	528.9	541.6	554.2	566.9	579.7	587.8
115°	573.3	578.3	583.2	588.2	593.1	601.6	613.5	625.4	637.3	649.1	657.1
117.5°	652.2	656.8	661.3	665.8	670.3	677.5	687.3	697.1	706.9	716.7	724.2
120°	705.7	709.4	712.9	716.6	720.3	726.3	735.0	743.6	752.1	760.7	768.5
122.5°	754.6	758.1	761.6	765.0	768.5	774.6	783.3	791.9	800.6	809.3	816.1
125°	829.5	832.4	835.2	838.0	840.8	846.2	854.2	862.1	870.1	878.1	884.6
127.5°	903.6	907.0	910.3	913.6	916.9	921.6	927.7	933.7	939.7	945.7	951.5
130°	950.3	954.1	957.9	961.8	965.5	970.1	975.3	980.5	985.7	990.9	996.9
132.5°	1002.6	1005.6	1008.7	1011.7	1014.8	1018.7	1023.3	1027.9	1032.6	1037.2	1042.3
135°	1071.2	1074.7	1078.2	1081.7	1085.1	1088.5	1091.9	1095.3	1098.8	1102.2	1107.7
137.5°	1144.8	1147.6	1150.4	1153.2	1155.9	1158.4	1160.5	1162.4	1164.5	1166.6	1171.4
140°	1189.1	1191.8	1194.3	1196.8	1199.4	1201.7	1203.9	1206.1	1208.2	1210.3	1214.7
142.5°	1234.6	1237.2	1239.7	1242.3	1244.9	1246.8	1247.9	1249.2	1250.3	1251.5	1255.3
145°	1298.7	1301.0	1303.2	1305.3	1307.6	1309.7	1311.5	1313.4	1315.3	1317.2	1319.2
147.5°	1357.0	1359.6	1362.3	1365.0	1367.6	1369.6	1370.8	1372.1	1373.4	1374.6	1375.5
150°	1396.8	1398.6	1400.6	1402.5	1404.4	1405.9	1407.2	1408.4	1409.8	1411.0	1411.9
152.5°	1432.0	1433.9	1435.8	1437.7	1439.6	1441.3	1442.8	1444.4	1445.9	1447.4	1448.6
155°	1484.9	1485.8	1486.8	1487.7	1488.7	1489.6	1490.5	1491.5	1492.4	1493.4	1495.0
157.5°	1530.0	1530.7	1531.3	1532.0	1532.6	1533.2	1533.8	1534.4	1534.9	1535.5	1537.6
160°	1557.4	1558.0	1558.6	1559.2	1559.9	1560.4	1560.7	1560.9	1561.3	1561.6	1563.5
162.5°	1582.3	1582.5	1582.6	1582.7	1582.9	1583.1	1583.4	1583.8	1584.0	1584.3	1586.5
165°	1615.6	1615.3	1615.0	1614.7	1614.4	1614.2	1614.2	1614.2	1614.2	1614.2	1616.4
167.5°	1643.4	1642.5	1641.5	1640.6	1639.6	1639.2	1639.1	1639.1	1639.0	1638.9	1641.2
170°	1658.2	1657.3	1656.3	1655.4	1654.4	1653.8	1653.5	1653.2	1652.8	1652.6	1654.7
172.5°	1668.5	1667.5	1666.6	1665.7	1664.7	1664.1	1663.8	1663.4	1663.1	1662.7	1665.0
175°	1680.9	1680.0	1679.0	1678.1	1677.2	1676.4	1675.7	1675.1	1674.5	1673.9	1676.1
177.5°	1686.1	1685.4	1684.6	1683.9	1683.1	1682.4	1681.9	1681.4	1680.9	1680.4	1681.9
180°	1683.9	1683.9	1683.9	1683.9	1683.9	1683.9	1683.9	1683.9	1683.9	1683.9	1683.9



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	863.0	863.0	863.0	863.0	863.0	863.0	863.0	863.0
2.5°	860.2	861.3	862.4	862.8	862.3	861.9	861.4	861.0
5°	857.5	859.2	860.9	861.6	861.3	861.0	860.7	860.4
7.5°	853.5	855.5	857.5	858.4	858.1	857.8	857.5	857.2
10°	849.9	852.2	854.4	855.4	855.1	854.8	854.5	854.2
12.5°	844.0	846.1	848.4	849.3	849.0	848.8	848.5	848.2
15°	832.9	835.5	838.0	839.1	838.8	838.5	838.2	838.0
17.5°	819.0	821.5	824.2	825.5	825.5	825.5	825.5	825.5
20°	807.9	810.9	813.9	815.5	815.5	815.5	815.5	815.5
22.5°	795.8	798.9	801.9	803.7	804.1	804.6	805.0	805.5
25°	777.1	780.4	783.8	785.9	786.6	787.5	788.3	789.2
27.5°	756.4	760.6	764.8	767.2	767.9	768.5	769.1	769.7
30°	741.8	746.2	750.7	753.4	754.1	755.0	755.8	756.7
32.5°	726.1	731.2	736.3	739.7	741.1	742.6	744.1	745.6
35°	703.9	710.0	716.1	720.1	722.1	724.1	725.9	727.9
37.5°	680.9	687.7	694.5	698.9	701.0	703.0	705.1	707.2
40°	664.8	672.0	679.3	684.1	686.6	689.1	691.6	694.2
42.5°	649.1	657.0	665.0	670.1	672.6	675.1	677.6	680.1
45°	625.1	633.7	642.3	648.0	650.8	653.6	656.4	659.1
47.5°	600.1	609.1	618.1	624.2	627.2	630.3	633.3	636.4
50°	583.0	592.4	601.9	608.1	611.1	614.3	617.3	620.4
52.5°	564.4	574.1	583.7	590.2	593.5	596.8	600.0	603.3
55°	536.6	546.6	556.6	563.4	566.9	570.6	574.2	577.8
57.5°	507.1	517.8	528.7	535.9	539.5	543.2	546.9	550.5
60°	487.7	498.2	508.8	515.9	519.9	523.8	527.6	531.6
62.5°	466.9	478.2	489.4	496.9	500.5	504.2	507.8	511.5
65°	435.5	447.0	458.4	465.8	469.4	473.1	476.6	480.2
67.5°	403.7	415.2	426.8	434.4	438.2	442.0	445.7	449.5
70°	381.6	393.5	405.5	413.1	416.5	419.8	423.2	426.5
72.5°	360.1	371.8	383.6	391.4	395.5	399.4	403.5	407.5
75°	327.8	339.8	351.8	359.5	363.2	366.7	370.3	374.0
77.5°	296.2	308.1	320.0	327.9	331.8	335.6	339.6	343.5
80°	274.8	286.4	298.1	305.9	309.7	313.7	317.5	321.4
82.5°	254.8	266.4	278.1	285.8	289.5	293.0	296.7	300.4
85°	225.9	237.6	249.3	257.1	261.0	264.9	268.7	272.7
87.5°	211.5	222.7	233.9	241.3	245.0	248.5	252.2	255.8
90°	235.8	246.3	256.7	263.8	267.5	271.2	274.8	278.4
92.5°	223.3	234.3	245.3	252.6	256.0	259.4	262.8	266.2
95°	255.9	266.5	277.0	283.6	286.3	289.1	291.7	294.5
97.5°	306.5	316.8	327.1	333.8	337.1	340.3	343.5	346.8
100°	341.8	352.0	362.3	368.8	371.6	374.3	377.0	379.8
102.5°	381.4	391.7	402.0	408.6	411.3	414.1	416.8	419.5
105°	440.9	451.3	461.6	468.3	471.4	474.4	477.5	480.5
107.5°	506.1	515.7	525.3	530.9	532.5	534.1	535.7	537.3
110°	551.0	559.9	568.8	574.3	576.4	578.5	580.6	582.8



TEST NUMBER: P331582-830

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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	595.9	604.1	612.2	617.5	619.8	622.2	624.5	626.9
115°	665.2	673.2	681.2	686.3	688.3	690.5	692.6	694.7
117.5°	731.7	739.1	746.6	751.3	753.2	755.1	757.0	758.8
120°	776.3	784.1	791.8	796.8	798.9	801.1	803.1	805.2
122.5°	822.9	829.7	836.5	840.8	842.7	844.7	846.6	848.6
125°	891.2	897.7	904.3	908.6	910.8	913.0	915.2	917.4
127.5°	957.2	963.0	968.7	972.4	973.8	975.2	976.7	978.1
130°	1003.0	1009.0	1015.0	1018.6	1019.5	1020.5	1021.4	1022.4
132.5°	1047.4	1052.3	1057.4	1060.5	1061.8	1063.0	1064.2	1065.5
135°	1113.2	1118.8	1124.3	1127.7	1129.0	1130.2	1131.5	1132.7
137.5°	1176.3	1181.1	1186.0	1188.7	1189.4	1190.0	1190.6	1191.3
140°	1219.2	1223.6	1228.1	1230.5	1231.0	1231.3	1231.7	1232.1
142.5°	1259.1	1262.9	1266.8	1268.8	1268.9	1269.1	1269.3	1269.4
145°	1321.2	1323.1	1325.1	1326.2	1326.3	1326.4	1326.5	1326.7
147.5°	1376.5	1377.3	1378.3	1378.5	1377.9	1377.4	1376.9	1376.3
150°	1412.9	1413.8	1414.8	1414.8	1413.8	1412.9	1411.9	1411.0
152.5°	1449.7	1451.0	1452.2	1452.2	1451.0	1449.7	1448.6	1447.4
155°	1496.6	1498.2	1499.7	1500.1	1499.1	1498.2	1497.2	1496.3
157.5°	1539.7	1541.9	1544.1	1544.4	1542.8	1541.3	1539.8	1538.3
160°	1565.4	1567.3	1569.1	1569.5	1568.2	1567.0	1565.8	1564.4
162.5°	1588.7	1590.8	1592.9	1593.3	1591.8	1590.3	1588.7	1587.1
165°	1618.6	1620.8	1623.1	1623.3	1621.7	1620.2	1618.6	1617.0
167.5°	1643.3	1645.6	1647.8	1648.0	1646.4	1644.7	1643.1	1641.4
170°	1657.0	1659.2	1661.4	1661.5	1659.6	1657.7	1655.9	1654.0
172.5°	1667.2	1669.4	1671.6	1671.8	1669.9	1668.0	1666.1	1664.2
175°	1678.3	1680.5	1682.7	1682.9	1680.9	1679.0	1677.2	1675.3
177.5°	1683.5	1685.0	1686.5	1686.5	1685.0	1683.5	1681.9	1680.4
180°	1683.9	1683.9	1683.9	1683.9	1683.9	1683.9	1683.9	1683.9

(END OF REPORT)