

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: P331582-930

Luminaire Tested: **S122DIW-S865D1440U930-4F0-1E-UDD-D1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P331582-930
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-S865D1440U930-4F0-1E-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: 6926.3 lumens
Efficiency: N/A
Efficacy: 90.4 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

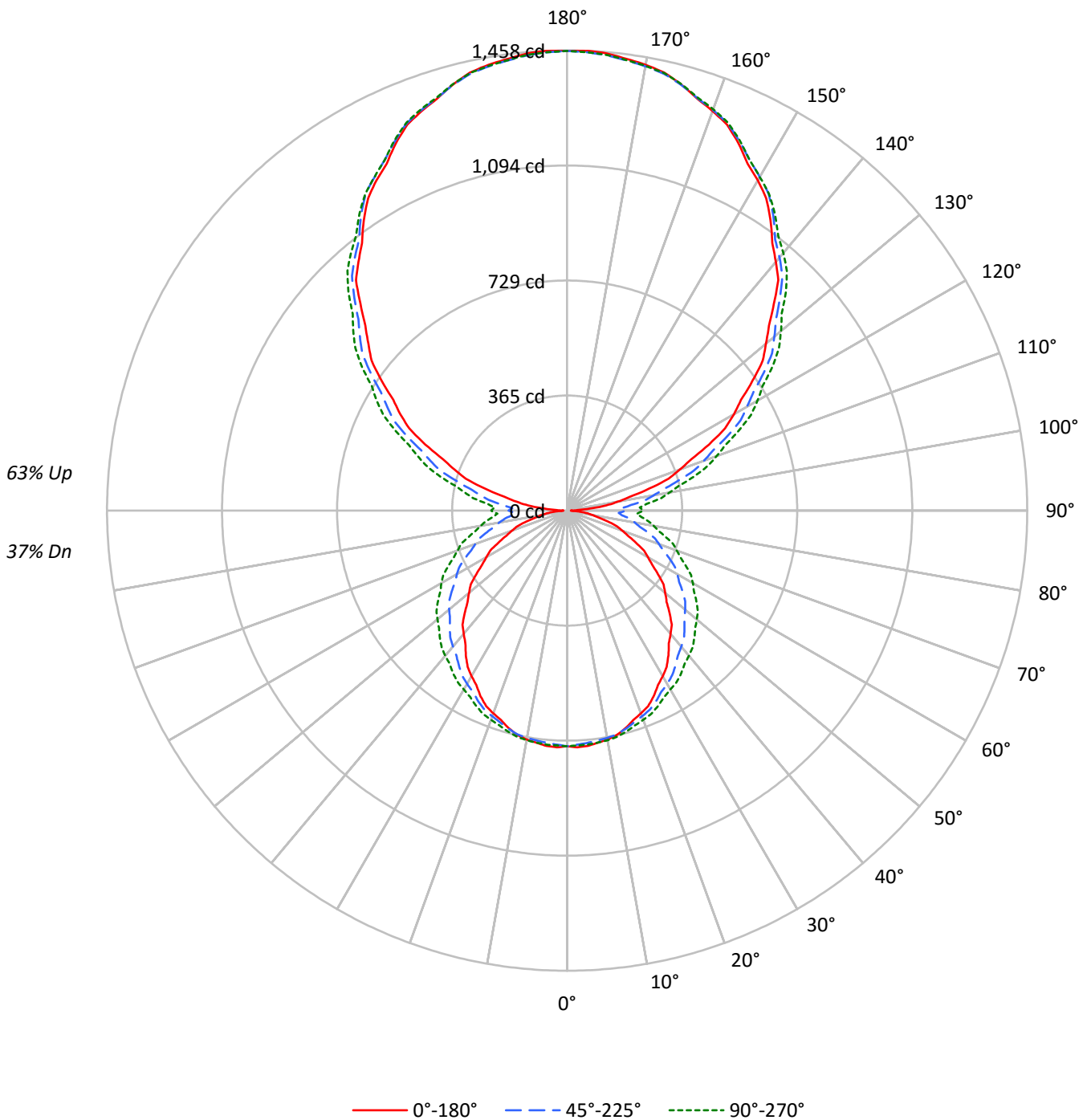
Input Watts (W): 76.6
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	12053	12053	12053
5°	12111	11602	11558
10°	12036	11258	11133
15°	11869	10896	10685
20°	11659	10507	10254
25°	11452	10132	9863
30°	11160	9747	9469
35°	10866	9375	9193
40°	10556	9059	8916
45°	10260	8774	8678
50°	9944	8519	8446
55°	9611	8242	8208
60°	9207	7957	7957
65°	8784	7620	7658
70°	8310	7260	7336
75°	7704	6907	7041
80°	6744	6545	6739
85°	5835	6234	6508



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	70.7	1.0
10°-20°	202.8	2.9
20°-30°	307.4	4.4
30°-40°	374.4	5.4
40°-50°	402.8	5.8
50°-60°	391.1	5.6
60°-70°	341.5	4.9
70°-80°	262.9	3.8
80°-90°	182.3	2.6
90°-100°	213.8	3.1
100°-110°	375.4	5.4
110°-120°	548.6	7.9
120°-130°	677.1	9.8
130°-140°	736.9	10.6
140°-150°	711.5	10.3
150°-160°	594.8	8.6
160°-170°	394.5	5.7
170°-180°	137.9	2.0
0°-30°	580.9	8.4
0°-40°	955.3	13.8
0°-60°	1749.2	25.3
0°-90°	2535.9	36.6
90°-120°	1137.9	16.4
90°-150°	3263.3	47.1
90°-180°	4390.0	63.4
0°-180°	6926.3	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	746	746	746	746	746	
5°	749	745	739	745	744	71
15°	714	716	716	725	725	201
25°	649	657	666	679	683	298
35°	559	578	598	621	630	349
45°	459	488	526	558	570	354
55°	352	392	447	484	500	314
65°	240	294	357	400	415	239
75°	133	194	263	308	324	141
85°	39	106	175	219	236	42
90°	12	91	186	225	241	11
95°	73	136	203	242	255	80
105°	270	306	364	402	416	285
115°	496	517	562	591	601	490
125°	718	730	760	784	794	641
135°	927	940	953	974	980	716
145°	1123	1132	1139	1147	1148	702
155°	1284	1288	1292	1297	1294	591
165°	1398	1396	1396	1404	1399	394
175°	1454	1450	1448	1456	1449	138
180°	1456	1456	1456	1456	1456	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	746.5	746.5	746.5	746.5	746.5	746.5	746.5	746.5	746.5	746.5	746.5
2.5°	750.8	750.2	749.7	749.1	748.5	747.5	746.2	744.9	743.5	742.2	743.1
5°	748.6	748.0	747.2	746.5	745.8	744.7	743.2	741.8	740.4	738.9	740.4
7.5°	741.9	741.4	740.9	740.5	740.0	739.2	738.1	737.0	735.9	734.8	736.5
10°	736.8	736.3	735.8	735.3	734.8	734.3	733.5	732.8	732.1	731.3	733.3
12.5°	728.1	728.2	728.3	728.4	728.5	728.2	727.7	727.2	726.7	726.1	728.1
15°	714.0	714.5	715.0	715.5	715.9	716.2	716.2	716.2	716.2	716.2	718.4
17.5°	695.9	696.8	697.9	698.9	699.9	700.7	701.6	702.3	703.1	703.8	706.1
20°	683.7	684.9	686.2	687.4	688.5	689.7	690.6	691.5	692.5	693.5	696.1
22.5°	670.7	672.1	673.5	674.9	676.3	677.7	679.1	680.4	681.8	683.1	685.7
25°	649.1	650.8	652.5	654.2	655.8	657.8	659.9	662.1	664.2	666.4	669.3
27.5°	623.1	625.9	628.6	631.4	634.1	636.7	639.3	641.9	644.4	646.9	650.6
30°	605.8	608.9	612.1	615.2	618.3	621.5	624.6	627.7	630.9	634.0	637.8
32.5°	586.8	590.3	593.8	597.4	600.9	604.5	608.1	611.9	615.6	619.2	623.7
35°	559.3	563.4	567.5	571.6	575.7	580.0	584.6	589.1	593.7	598.3	603.6
37.5°	529.5	534.2	538.9	543.6	548.3	553.6	559.5	565.5	571.4	577.3	583.2
40°	509.6	514.9	520.2	525.5	530.7	536.6	543.1	549.6	556.1	562.6	568.8
42.5°	490.5	495.8	501.1	506.4	511.7	518.0	525.5	533.0	540.4	547.9	554.6
45°	458.7	465.2	471.7	478.2	484.7	492.1	500.5	509.0	517.4	525.8	533.2
47.5°	427.3	434.4	441.5	448.6	455.6	464.1	473.9	483.8	493.7	503.5	511.3
50°	405.7	413.1	420.6	428.0	435.5	444.7	455.4	466.3	477.1	488.0	496.1
52.5°	384.9	392.7	400.6	408.5	416.3	425.9	437.3	448.7	460.1	471.5	479.8
55°	351.6	360.3	368.9	377.6	386.2	396.8	409.3	421.8	434.3	446.8	455.4
57.5°	318.7	328.5	338.3	348.0	357.8	369.0	381.7	394.5	407.2	420.0	429.3
60°	295.4	305.7	316.0	326.4	336.7	348.7	362.4	376.1	389.8	403.6	412.7
62.5°	274.6	285.3	296.0	306.7	317.5	329.7	343.4	357.1	370.8	384.5	394.2
65°	240.2	251.9	263.7	275.5	287.3	300.3	314.5	328.6	342.8	357.0	366.9
67.5°	208.6	220.9	233.2	245.5	257.8	271.3	285.8	300.3	314.8	329.3	339.2
70°	186.1	198.6	211.1	223.6	236.1	249.8	264.7	279.6	294.5	309.4	319.8
72.5°	165.3	178.2	191.1	204.0	216.9	230.8	246.0	261.1	276.1	291.2	301.4
75°	133.1	146.5	160.0	173.5	186.9	201.4	216.7	232.1	247.5	262.9	273.2
77.5°	101.9	116.0	130.1	144.1	158.2	173.1	188.7	204.4	220.0	235.6	245.9
80°	81.1	95.8	110.5	125.1	139.8	154.9	170.6	186.2	201.8	217.4	227.6
82.5°	63.8	78.3	92.8	107.2	121.7	136.9	152.7	168.5	184.3	200.2	210.3
85°	39.0	53.9	68.7	83.6	98.6	113.7	129.1	144.5	159.9	175.3	185.4
87.5°	21.4	36.4	51.4	66.4	81.4	97.2	113.7	130.4	146.9	163.5	173.3
90°	12.1	29.3	46.5	63.7	81.0	100.3	121.6	143.0	164.4	185.8	194.9
92.5°	31.8	47.2	62.6	78.0	93.4	109.2	125.4	141.6	157.8	174.1	183.6
95°	72.6	86.6	100.6	114.6	128.7	143.2	158.2	173.2	188.1	203.1	212.2
97.5°	124.3	136.8	149.3	161.7	174.1	187.8	202.7	217.6	232.4	247.4	256.2
100°	163.6	174.7	185.8	196.9	208.0	220.7	235.0	249.2	263.5	277.8	286.7
102.5°	204.1	214.0	223.9	233.7	243.6	255.6	269.7	283.8	297.9	312.1	321.0
105°	269.7	277.4	285.3	293.0	300.8	311.3	324.3	337.4	350.4	363.5	372.4
107.5°	336.8	343.6	350.3	357.2	363.9	373.3	385.3	397.2	409.2	421.2	429.5
110°	379.2	385.6	392.1	398.5	405.0	414.1	425.9	437.7	449.5	461.2	469.0



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	426.4	432.1	437.7	443.4	449.1	457.5	468.5	479.4	490.4	501.4	508.4
115°	495.9	500.3	504.5	508.8	513.1	520.4	530.7	541.0	551.2	561.5	568.4
117.5°	564.2	568.1	572.0	575.9	579.8	586.0	594.5	603.0	611.5	620.0	626.4
120°	610.4	613.6	616.7	619.9	623.1	628.3	635.8	643.2	650.6	658.0	664.8
122.5°	652.7	655.7	658.8	661.7	664.7	670.0	677.5	685.0	692.5	700.0	705.9
125°	717.5	720.0	722.4	724.9	727.3	732.0	738.9	745.8	752.6	759.5	765.2
127.5°	781.6	784.6	787.4	790.3	793.1	797.2	802.4	807.6	812.9	818.1	823.0
130°	822.0	825.3	828.6	831.9	835.2	839.1	843.7	848.2	852.6	857.1	862.3
132.5°	867.2	869.8	872.5	875.1	877.8	881.2	885.2	889.2	893.2	897.2	901.6
135°	926.6	929.6	932.6	935.6	938.7	941.6	944.5	947.5	950.5	953.4	958.1
137.5°	990.3	992.7	995.1	997.5	999.9	1002.0	1003.8	1005.5	1007.3	1009.1	1013.3
140°	1028.6	1030.9	1033.1	1035.3	1037.5	1039.5	1041.4	1043.3	1045.1	1046.9	1050.8
142.5°	1068.0	1070.2	1072.4	1074.6	1076.8	1078.5	1079.5	1080.5	1081.5	1082.6	1085.8
145°	1123.4	1125.4	1127.2	1129.1	1131.1	1132.9	1134.5	1136.1	1137.8	1139.4	1141.1
147.5°	1173.8	1176.1	1178.4	1180.7	1183.0	1184.7	1185.8	1186.8	1188.0	1189.0	1189.8
150°	1208.2	1209.8	1211.5	1213.2	1214.8	1216.1	1217.2	1218.3	1219.4	1220.5	1221.3
152.5°	1238.7	1240.3	1241.9	1243.6	1245.3	1246.8	1248.1	1249.4	1250.7	1252.0	1253.0
155°	1284.4	1285.2	1286.1	1286.9	1287.7	1288.5	1289.3	1290.1	1290.9	1291.8	1293.1
157.5°	1323.5	1324.0	1324.6	1325.2	1325.7	1326.2	1326.7	1327.2	1327.7	1328.2	1330.0
160°	1347.1	1347.7	1348.2	1348.7	1349.3	1349.7	1350.0	1350.2	1350.5	1350.8	1352.4
162.5°	1368.7	1368.9	1369.0	1369.1	1369.2	1369.4	1369.6	1369.9	1370.2	1370.4	1372.3
165°	1397.5	1397.3	1396.9	1396.7	1396.4	1396.3	1396.3	1396.3	1396.3	1396.3	1398.2
167.5°	1421.6	1420.7	1419.9	1419.1	1418.3	1417.9	1417.8	1417.8	1417.7	1417.6	1419.6
170°	1434.4	1433.5	1432.7	1431.9	1431.1	1430.5	1430.3	1430.0	1429.7	1429.5	1431.3
172.5°	1443.2	1442.4	1441.6	1440.8	1440.0	1439.4	1439.2	1438.8	1438.6	1438.3	1440.2
175°	1454.0	1453.2	1452.4	1451.6	1450.7	1450.1	1449.5	1448.9	1448.5	1447.9	1449.8
177.5°	1458.5	1457.8	1457.2	1456.5	1455.9	1455.3	1454.8	1454.4	1454.0	1453.5	1454.8
180°	1456.5	1456.5	1456.5	1456.5	1456.5	1456.5	1456.5	1456.5	1456.5	1456.5	1456.5



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	746.5	746.5	746.5	746.5	746.5	746.5	746.5	746.5
2.5°	744.0	745.0	746.0	746.3	745.9	745.5	745.1	744.8
5°	741.8	743.2	744.7	745.3	745.0	744.8	744.5	744.3
7.5°	738.3	740.0	741.8	742.5	742.2	742.0	741.8	741.5
10°	735.2	737.1	739.1	739.9	739.6	739.4	739.2	738.9
12.5°	730.0	731.9	733.9	734.7	734.4	734.2	733.9	733.7
15°	720.5	722.7	724.9	725.8	725.5	725.3	725.0	724.9
17.5°	708.4	710.6	712.9	714.0	714.0	714.0	714.0	714.0
20°	698.8	701.4	704.0	705.4	705.4	705.4	705.4	705.4
22.5°	688.4	691.0	693.7	695.2	695.5	695.9	696.3	696.8
25°	672.2	675.1	678.0	679.8	680.4	681.2	681.9	682.7
27.5°	654.3	657.9	661.5	663.7	664.2	664.7	665.3	665.8
30°	641.6	645.5	649.4	651.7	652.3	653.1	653.8	654.5
32.5°	628.1	632.5	636.9	639.8	641.1	642.4	643.7	645.0
35°	608.9	614.2	619.5	622.9	624.6	626.3	627.9	629.7
37.5°	589.0	594.8	600.7	604.5	606.3	608.1	609.9	611.7
40°	575.0	581.3	587.6	591.7	593.9	596.1	598.3	600.5
42.5°	561.5	568.3	575.2	579.7	581.8	584.0	586.1	588.3
45°	540.7	548.1	555.6	560.5	563.0	565.3	567.8	570.1
47.5°	519.1	526.8	534.7	539.9	542.5	545.2	547.8	550.5
50°	504.3	512.4	520.7	526.0	528.6	531.3	533.9	536.6
52.5°	488.2	496.6	504.9	510.5	513.4	516.2	519.0	521.9
55°	464.1	472.8	481.4	487.3	490.4	493.6	496.7	499.8
57.5°	438.6	447.9	457.3	463.6	466.7	469.9	473.0	476.2
60°	421.8	431.0	440.1	446.3	449.7	453.1	456.4	459.8
62.5°	403.9	413.6	423.3	429.8	432.9	436.1	439.3	442.5
65°	376.7	386.6	396.5	402.9	406.0	409.2	412.3	415.4
67.5°	349.2	359.1	369.2	375.8	379.0	382.3	385.6	388.8
70°	330.1	340.4	350.7	357.3	360.3	363.1	366.1	368.9
72.5°	311.5	321.6	331.8	338.6	342.1	345.5	349.0	352.5
75°	283.6	293.9	304.3	311.0	314.1	317.2	320.3	323.5
77.5°	256.2	266.5	276.8	283.6	287.0	290.3	293.8	297.1
80°	237.7	247.8	257.9	264.6	267.9	271.3	274.7	278.0
82.5°	220.4	230.4	240.5	247.2	250.4	253.5	256.7	259.8
85°	195.4	205.5	215.6	222.4	225.8	229.1	232.4	235.9
87.5°	183.0	192.7	202.4	208.7	211.9	215.0	218.2	221.3
90°	204.0	213.0	222.1	228.2	231.4	234.6	237.7	240.8
92.5°	193.1	202.7	212.2	218.5	221.4	224.4	227.3	230.2
95°	221.4	230.5	239.6	245.3	247.7	250.1	252.3	254.7
97.5°	265.1	274.0	282.9	288.8	291.6	294.3	297.1	299.9
100°	295.6	304.5	313.4	319.0	321.4	323.8	326.1	328.5
102.5°	329.9	338.8	347.7	353.4	355.8	358.2	360.5	362.9
105°	381.4	390.4	399.3	405.1	407.7	410.3	413.0	415.6
107.5°	437.8	446.1	454.4	459.3	460.6	462.0	463.4	464.8
110°	476.6	484.3	492.0	496.8	498.6	500.4	502.2	504.1



TEST NUMBER: P331582-930

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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	515.4	522.5	529.5	534.1	536.1	538.2	540.2	542.3
115°	575.4	582.3	589.2	593.6	595.4	597.3	599.1	600.9
117.5°	632.9	639.4	645.8	649.9	651.5	653.1	654.8	656.4
120°	671.5	678.2	684.9	689.3	691.0	692.9	694.7	696.5
122.5°	711.8	717.7	723.6	727.3	729.0	730.7	732.3	734.0
125°	770.9	776.5	782.2	785.9	787.8	789.8	791.7	793.5
127.5°	828.0	833.0	838.0	841.1	842.4	843.6	844.8	846.0
130°	867.6	872.8	878.0	881.1	881.9	882.7	883.5	884.4
132.5°	906.0	910.3	914.7	917.4	918.4	919.5	920.6	921.6
135°	963.0	967.8	972.5	975.4	976.6	977.6	978.8	979.8
137.5°	1017.5	1021.7	1025.9	1028.3	1028.8	1029.3	1029.9	1030.5
140°	1054.6	1058.4	1062.3	1064.4	1064.8	1065.1	1065.4	1065.8
142.5°	1089.2	1092.4	1095.8	1097.5	1097.6	1097.8	1098.0	1098.0
145°	1142.8	1144.5	1146.2	1147.1	1147.3	1147.4	1147.5	1147.6
147.5°	1190.7	1191.4	1192.2	1192.4	1191.9	1191.5	1191.0	1190.5
150°	1222.1	1222.9	1223.8	1223.8	1222.9	1222.1	1221.3	1220.5
152.5°	1254.0	1255.1	1256.1	1256.1	1255.1	1254.0	1253.0	1252.0
155°	1294.5	1295.9	1297.2	1297.5	1296.7	1295.9	1295.1	1294.3
157.5°	1331.9	1333.7	1335.6	1335.9	1334.6	1333.3	1332.0	1330.6
160°	1354.0	1355.7	1357.3	1357.6	1356.5	1355.4	1354.4	1353.2
162.5°	1374.2	1376.1	1377.9	1378.2	1376.9	1375.6	1374.3	1372.9
165°	1400.1	1402.0	1403.9	1404.2	1402.8	1401.5	1400.1	1398.7
167.5°	1421.5	1423.4	1425.3	1425.6	1424.2	1422.7	1421.3	1419.8
170°	1433.3	1435.2	1437.1	1437.2	1435.6	1433.9	1432.3	1430.7
172.5°	1442.1	1444.1	1445.9	1446.1	1444.5	1442.8	1441.2	1439.6
175°	1451.7	1453.6	1455.6	1455.7	1454.0	1452.4	1450.7	1449.1
177.5°	1456.2	1457.5	1458.8	1458.8	1457.5	1456.2	1454.8	1453.5
180°	1456.5	1456.5	1456.5	1456.5	1456.5	1456.5	1456.5	1456.5

(END OF REPORT)