

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: P332825-930

Luminaire Tested: **S124DIW-S1020D1340U930-4F0-1E-UDD-D**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332825-930
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-6,
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S124DIW-S1020D1340U930-4F0-1E-UDD-D
Description: DEFINE 4 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 1020 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER
UPLIGHT 1340 LUMENS PER FOOT, NO LENS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 7809.0 lumens
Efficiency: N/A
Efficacy: 111.9 lumens/watt
Spacing Criteria (0/90/45): 1.23 / 1.28 / 1.39
Luminous Opening: Rectangular w/ Sides (W: 0.33' x L: 4' x H: 0.08')
CIE Type: General Diffuse

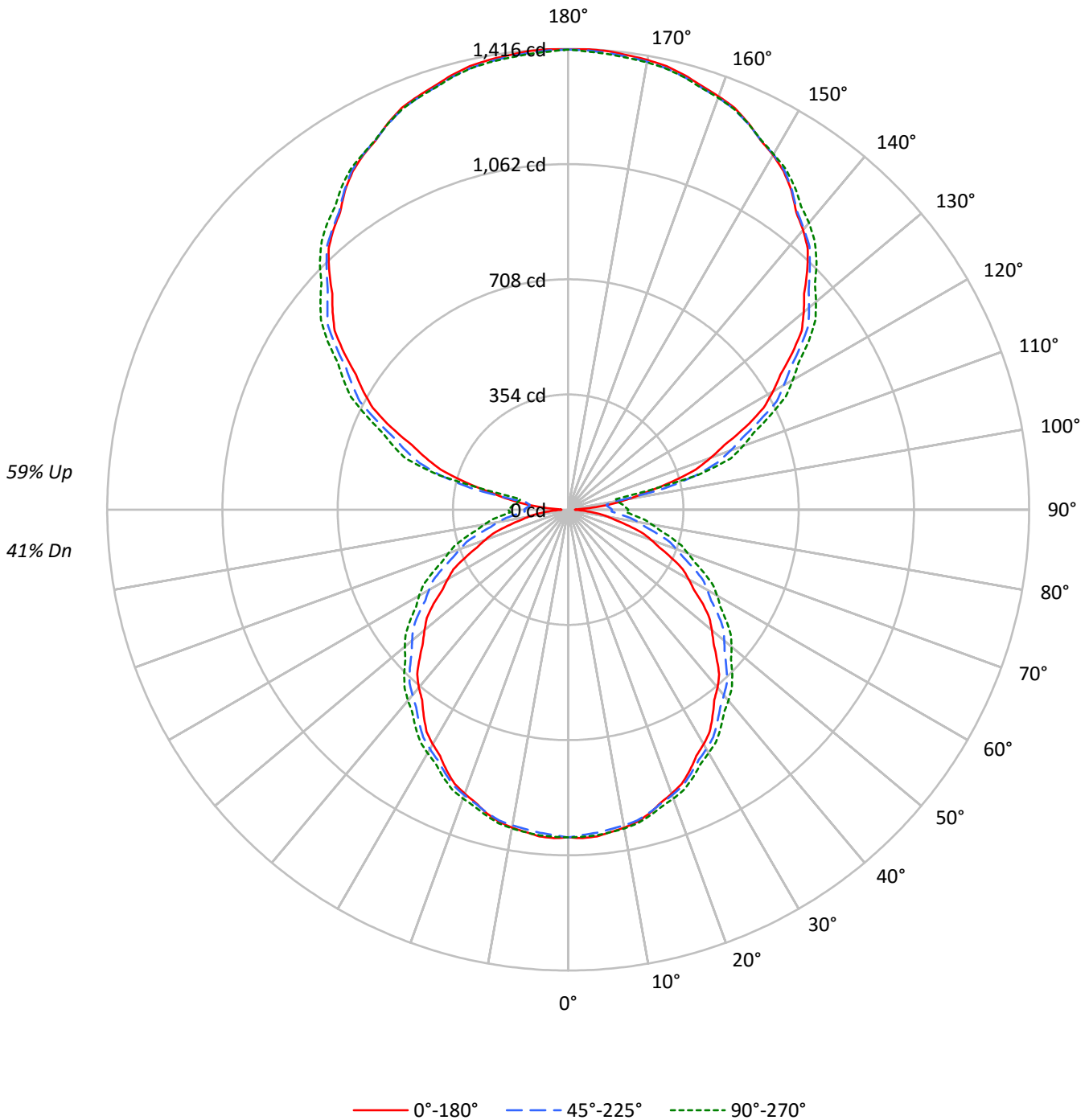
Input Watts (W): 69.8
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P332825-930

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Luminous Intensity Polar Plot





TEST NUMBER: P332825-930

CATALOG NUMBER: S124DIW-S1020D1340U930-4F0-1E-UDD-D

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	105	105	105	105	96	96	96	96	78	78	78	62	62	62	48	48	48	41
1	95	90	86	82	86	82	79	75	67	65	62	53	52	50	41	40	38	33
2	86	78	72	67	78	71	66	61	58	54	51	46	44	41	35	33	32	27
3	78	68	61	55	71	62	56	51	51	46	42	41	37	34	31	29	27	22
4	71	60	52	46	65	55	48	43	45	40	36	36	32	29	28	25	23	19
5	65	54	45	39	59	49	42	36	40	35	31	32	28	25	25	22	20	16
6	60	48	40	34	54	44	37	31	36	31	27	29	25	22	22	19	17	14
7	55	43	35	29	50	40	32	27	33	27	23	26	22	19	20	17	15	12
8	51	39	31	26	47	36	29	24	30	24	20	24	20	17	19	16	13	11
9	48	36	28	23	43	33	26	21	27	22	18	22	18	15	17	14	12	10
10	45	32	25	20	41	30	23	19	25	20	16	20	16	14	16	13	11	9

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	8127	8127	8127
5°	8151	7942	7965
10°	8102	7812	7807
15°	8029	7662	7620
20°	7920	7496	7438
25°	7797	7310	7239
30°	7663	7125	7034
35°	7511	6935	6855
40°	7390	6755	6667
45°	7210	6588	6507
50°	7059	6397	6337
55°	6902	6217	6138
60°	6657	5986	5956
65°	6389	5740	5734
70°	6066	5458	5474
75°	5612	5146	5239
80°	5110	4847	5007
85°	4474	4583	4872



TEST NUMBER: P332825-930

CATALOG NUMBER: S124DIW-S1020D1340U930-4F0-1E-UDD-D

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	95.3	1.2
10°-20°	273.1	3.5
20°-30°	413.0	5.3
30°-40°	499.7	6.4
40°-50°	528.2	6.8
50°-60°	497.1	6.4
60°-70°	412.5	5.3
70°-80°	289.7	3.7
80°-90°	167.9	2.1
90°-100°	145.6	1.9
100°-110°	380.3	4.9
110°-120°	638.1	8.2
120°-130°	776.0	9.9
130°-140°	812.9	10.4
140°-150°	751.5	9.6
150°-160°	604.1	7.7
160°-170°	389.6	5.0
170°-180°	134.3	1.7
0°-30°	781.4	10.0
0°-40°	1281.1	16.4
0°-60°	2306.5	29.5
0°-90°	3176.5	40.7
90°-120°	1164.1	14.9
90°-150°	3504.4	44.9
90°-180°	4633.0	59.3
0°-180°	7809.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1007	1007	1007	1007	1007	
5°	1008	1004	996	1005	1004	96
15°	966	967	964	973	973	272
25°	884	890	894	906	907	407
35°	773	787	798	813	817	484
45°	645	666	688	706	712	498
55°	505	529	562	584	592	450
65°	349	386	424	451	461	346
75°	194	236	283	313	325	206
85°	60	107	158	190	203	64
90°	21	78	135	172	185	15
95°	73	77	121	157	169	86
105°	328	358	404	438	413	344
115°	601	616	649	675	684	592
125°	840	844	869	893	902	750
135°	1039	1038	1050	1069	1079	800
145°	1196	1198	1198	1206	1213	747
155°	1310	1311	1308	1312	1309	604
165°	1382	1377	1377	1384	1376	390
175°	1414	1408	1409	1417	1405	135
180°	1414	1414	1414	1414	1414	



TEST NUMBER: P332825-930

CATALOG NUMBER: S124DIW-S1020D1340U930-4F0-1E-UDD-D

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1006.7	1006.7	1006.7	1006.7	1006.7	1006.7	1006.7	1006.7	1006.7	1006.7	1006.7
2.5°	1010.2	1009.7	1009.0	1008.4	1007.8	1006.7	1005.1	1003.6	1001.9	1000.3	1001.7
5°	1007.7	1007.0	1006.2	1005.5	1004.8	1003.5	1001.8	1000.0	998.3	996.5	998.5
7.5°	999.1	998.7	998.3	997.8	997.4	996.5	995.0	993.5	992.1	990.6	992.9
10°	992.0	991.7	991.5	991.2	991.0	990.2	989.0	987.7	986.4	985.2	987.5
12.5°	982.0	982.0	981.9	981.9	981.9	981.4	980.6	979.7	978.8	978.0	980.1
15°	966.0	966.3	966.5	966.8	967.0	966.8	966.0	965.3	964.5	963.8	966.0
17.5°	944.2	944.9	945.7	946.4	947.2	947.5	947.3	947.2	947.1	946.9	949.2
20°	928.9	929.6	930.3	931.1	931.9	932.4	932.6	932.9	933.1	933.4	935.9
22.5°	911.7	912.6	913.6	914.6	915.5	916.2	916.6	917.1	917.5	918.0	920.6
25°	883.8	885.3	886.7	888.3	889.7	890.9	891.6	892.4	893.2	893.9	896.7
27.5°	852.6	854.8	857.0	859.2	861.4	863.2	864.3	865.4	866.6	867.7	870.3
30°	831.9	833.9	835.9	837.9	839.9	841.8	843.5	845.3	847.0	848.8	851.6
32.5°	809.3	811.8	814.2	816.6	819.0	821.2	823.1	825.1	827.0	829.0	832.1
35°	773.3	776.3	779.3	782.3	785.3	788.1	790.6	793.0	795.6	798.1	801.6
37.5°	736.9	740.5	743.9	747.4	750.8	754.1	757.2	760.3	763.4	766.5	770.1
40°	713.5	716.8	720.1	723.3	726.6	729.9	733.4	736.9	740.5	744.0	747.7
42.5°	686.5	690.2	693.8	697.5	701.1	705.0	709.1	713.2	717.3	721.5	725.6
45°	644.7	649.5	654.3	659.1	663.8	668.5	673.4	678.1	682.8	687.6	691.9
47.5°	604.9	609.8	614.7	619.6	624.5	629.7	635.2	640.7	646.3	651.8	656.2
50°	576.0	581.6	587.0	592.6	598.0	603.6	609.1	614.6	620.1	625.6	630.6
52.5°	547.1	552.7	558.2	563.7	569.2	575.1	581.4	587.7	594.0	600.4	605.4
55°	505.0	510.3	515.5	520.8	526.0	532.4	540.0	547.5	555.0	562.5	567.5
57.5°	457.9	464.4	470.9	477.4	484.0	490.9	498.4	505.9	513.3	520.8	526.8
60°	427.2	433.7	440.3	446.8	453.3	460.6	469.0	477.2	485.4	493.7	499.5
62.5°	397.5	404.6	411.7	418.8	425.9	433.6	441.9	450.1	458.4	466.7	472.5
65°	349.4	357.4	365.5	373.5	381.5	389.8	398.3	406.8	415.3	423.9	430.1
67.5°	303.2	311.8	320.2	328.8	337.3	346.1	355.2	364.4	373.5	382.6	389.0
70°	271.7	280.2	288.7	297.2	305.7	314.8	324.2	333.8	343.3	352.9	359.6
72.5°	241.0	249.7	258.4	267.2	275.9	285.3	295.4	305.5	315.7	325.8	332.3
75°	193.9	203.2	212.4	221.7	231.0	240.8	251.4	261.9	272.4	282.9	289.9
77.5°	149.9	159.7	169.6	179.4	189.2	199.6	210.7	221.7	232.7	243.7	250.8
80°	122.9	132.9	142.9	153.0	163.0	173.5	184.5	195.5	206.5	217.5	225.1
82.5°	95.8	106.2	116.7	127.1	137.5	148.2	159.2	170.2	181.3	192.3	200.0
85°	59.8	70.3	80.8	91.3	101.8	112.8	124.0	135.3	146.5	157.8	165.3
87.5°	34.0	44.8	55.4	66.2	77.0	88.0	99.3	110.7	122.1	133.4	141.0
90°	21.2	33.8	46.4	59.0	71.7	84.2	96.9	109.6	122.2	134.9	143.6
92.5°	30.5	39.6	48.8	58.0	67.1	78.0	90.7	103.3	115.9	128.6	137.1
95°	72.8	73.1	73.4	73.6	73.9	79.3	89.8	100.4	110.8	121.3	129.5
97.5°	136.8	148.9	161.0	173.1	185.2	183.2	167.1	151.1	135.0	119.0	125.7
100°	185.8	196.6	207.3	218.1	228.8	222.8	200.2	177.5	154.8	132.2	134.9
102.5°	241.7	250.5	259.3	268.1	277.0	284.0	289.3	294.6	300.0	305.3	268.8
105°	328.5	334.8	341.3	347.7	354.2	362.6	373.0	383.4	393.9	404.3	412.7
107.5°	410.9	415.7	420.5	425.3	430.2	437.7	448.1	458.5	468.9	479.2	486.4
110°	465.9	470.1	474.3	478.5	482.7	489.9	500.1	510.2	520.4	530.6	536.9



TEST NUMBER: P332825-930

CATALOG NUMBER: S124DIW-S1020D1340U930-4F0-1E-UDD-D

CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	519.1	523.5	527.8	532.2	536.6	543.3	552.3	561.3	570.4	579.4	584.9
115°	601.0	604.1	607.0	609.9	612.9	618.2	626.1	633.8	641.6	649.4	655.4
117.5°	676.0	678.2	680.5	682.8	685.1	690.2	698.2	706.2	714.2	722.2	727.2
120°	725.8	727.5	729.2	730.8	732.5	736.9	744.0	751.0	758.0	765.0	770.5
122.5°	773.1	773.9	774.6	775.3	776.0	780.0	787.2	794.3	801.5	808.8	814.0
125°	839.9	840.7	841.3	842.0	842.7	846.0	851.7	857.5	863.3	869.1	874.6
127.5°	904.0	904.0	904.0	903.9	903.9	906.9	912.7	918.7	924.5	930.4	934.8
130°	944.5	944.5	944.5	944.5	944.5	946.8	951.5	956.3	961.0	965.7	970.5
132.5°	982.6	982.8	982.9	983.2	983.3	985.5	989.5	993.6	997.8	1001.8	1006.4
135°	1038.6	1038.4	1038.1	1037.9	1037.6	1038.9	1041.5	1044.2	1046.9	1049.7	1054.1
137.5°	1089.2	1089.0	1088.8	1088.7	1088.5	1089.4	1091.3	1093.2	1095.0	1096.9	1101.1
140°	1122.1	1122.3	1122.6	1122.8	1123.0	1123.5	1124.2	1124.9	1125.7	1126.3	1130.3
142.5°	1150.9	1151.6	1152.4	1153.2	1154.1	1154.5	1154.6	1154.8	1154.9	1155.0	1158.4
145°	1196.1	1196.5	1197.0	1197.4	1197.9	1198.2	1198.2	1198.2	1198.2	1198.2	1199.9
147.5°	1232.2	1233.3	1234.4	1235.4	1236.5	1237.0	1236.7	1236.5	1236.2	1236.0	1236.4
150°	1258.5	1259.1	1259.9	1260.5	1261.3	1261.4	1261.3	1261.0	1260.8	1260.5	1260.5
152.5°	1279.6	1280.3	1281.0	1281.7	1282.4	1282.5	1282.1	1281.7	1281.2	1280.8	1281.2
155°	1310.3	1310.4	1310.7	1310.9	1311.2	1310.9	1310.3	1309.5	1308.8	1308.1	1309.0
157.5°	1336.3	1336.1	1335.9	1335.8	1335.7	1335.2	1334.4	1333.6	1332.9	1332.0	1333.3
160°	1351.4	1350.8	1350.1	1349.3	1348.7	1348.2	1347.9	1347.7	1347.4	1347.3	1348.7
162.5°	1365.0	1364.1	1363.3	1362.4	1361.5	1360.9	1360.7	1360.4	1360.2	1359.9	1361.3
165°	1382.2	1381.0	1379.8	1378.6	1377.4	1376.9	1376.9	1376.9	1376.9	1376.9	1378.8
167.5°	1395.7	1394.5	1393.3	1392.0	1390.8	1390.1	1390.0	1389.8	1389.7	1389.5	1391.6
170°	1403.3	1401.9	1400.4	1399.1	1397.7	1397.1	1397.3	1397.5	1397.7	1398.0	1399.9
172.5°	1408.3	1407.0	1405.6	1404.1	1402.7	1402.2	1402.4	1402.6	1402.8	1403.0	1404.9
175°	1413.9	1412.4	1411.0	1409.7	1408.2	1407.6	1407.9	1408.1	1408.3	1408.6	1410.7
177.5°	1416.4	1415.1	1413.7	1412.4	1411.1	1410.6	1411.0	1411.4	1411.8	1412.2	1413.6
180°	1413.9	1413.9	1413.9	1413.9	1413.9	1413.9	1413.9	1413.9	1413.9	1413.9	1413.9



TEST NUMBER: P332825-930

CATALOG NUMBER: S124DIW-S1020D1340U930-4F0-1E-UDD-D

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1006.7	1006.7	1006.7	1006.7	1006.7	1006.7	1006.7	1006.7
2.5°	1003.1	1004.5	1005.9	1006.5	1006.3	1006.1	1005.9	1005.8
5°	1000.5	1002.5	1004.5	1005.3	1005.1	1004.9	1004.6	1004.4
7.5°	995.2	997.4	999.6	1000.6	1000.4	1000.1	999.9	999.6
10°	989.7	992.0	994.3	995.2	995.0	994.7	994.5	994.3
12.5°	982.1	984.1	986.2	987.2	987.2	987.1	987.1	987.0
15°	968.3	970.5	972.8	973.8	973.5	973.3	973.1	972.8
17.5°	951.5	953.8	956.1	957.2	956.9	956.8	956.5	956.3
20°	938.3	940.9	943.4	944.6	944.6	944.6	944.6	944.6
22.5°	923.0	925.5	928.1	929.5	929.9	930.3	930.7	931.1
25°	899.4	902.1	904.9	906.4	906.7	906.9	907.2	907.4
27.5°	872.9	875.4	878.0	879.4	879.7	880.0	880.3	880.6
30°	854.4	857.0	859.8	861.4	861.9	862.4	863.0	863.5
32.5°	835.3	838.5	841.6	843.4	843.9	844.4	844.9	845.5
35°	805.1	808.6	812.1	814.2	815.0	815.7	816.5	817.3
37.5°	773.6	777.2	780.7	782.9	783.7	784.6	785.3	786.1
40°	751.5	755.2	759.0	761.4	762.4	763.4	764.4	765.4
42.5°	729.8	733.9	738.1	740.5	741.4	742.2	743.0	743.7
45°	696.1	700.4	704.7	707.4	708.7	709.9	711.2	712.4
47.5°	660.6	665.0	669.4	672.4	673.8	675.4	676.9	678.4
50°	635.6	640.7	645.6	648.9	650.4	651.9	653.4	654.9
52.5°	610.4	615.4	620.4	623.6	625.2	626.6	628.2	629.7
55°	572.5	577.6	582.5	585.8	587.3	588.8	590.3	591.8
57.5°	532.7	538.7	544.6	548.3	549.7	551.1	552.5	553.9
60°	505.2	511.0	516.7	520.7	522.7	524.6	526.7	528.6
62.5°	478.2	484.0	489.8	493.6	495.6	497.6	499.6	501.7
65°	436.3	442.6	448.9	453.1	455.0	457.1	459.0	461.1
67.5°	395.3	401.7	408.1	412.2	414.2	416.1	418.1	420.0
70°	366.3	373.1	379.8	384.2	385.9	387.7	389.4	391.2
72.5°	338.9	345.4	352.0	356.3	358.2	360.2	362.2	364.1
75°	296.9	303.9	311.0	315.6	317.9	320.2	322.4	324.7
77.5°	258.0	265.1	272.1	277.0	279.3	281.8	284.1	286.6
80°	232.6	240.1	247.6	252.3	254.4	256.4	258.4	260.4
82.5°	207.7	215.5	223.1	228.1	230.3	232.5	234.7	236.9
85°	172.8	180.3	187.8	192.9	195.4	197.9	200.4	202.9
87.5°	148.5	156.0	163.5	168.5	170.8	173.1	175.4	177.7
90°	152.2	160.9	169.6	175.1	177.6	180.1	182.5	185.0
92.5°	145.5	154.0	162.5	167.8	169.9	171.9	174.1	176.2
95°	137.7	145.9	154.0	159.4	161.8	164.4	166.8	169.3
97.5°	132.4	139.1	145.8	150.3	152.8	155.2	157.5	159.9
100°	137.7	140.5	143.2	145.6	147.7	149.6	151.6	153.6
102.5°	232.3	195.8	159.2	141.9	143.9	145.9	148.0	149.9
105°	421.1	429.5	437.8	438.8	432.4	425.9	419.5	412.9
107.5°	493.6	500.8	508.0	513.0	515.7	518.4	521.1	523.7
110°	543.1	549.3	555.5	560.0	562.7	565.4	568.1	570.9



TEST NUMBER: P332825-930

CATALOG NUMBER: S124DIW-S1020D1340U930-4F0-1E-UDD-D

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	590.4	595.8	601.3	605.4	608.4	611.2	614.2	617.0
115°	661.4	667.3	673.4	677.2	679.0	680.7	682.5	684.2
117.5°	732.4	737.5	742.7	746.2	748.0	750.0	751.9	753.7
120°	776.0	781.5	786.9	790.4	792.0	793.5	795.1	796.6
122.5°	819.3	824.6	829.9	833.2	834.5	835.9	837.2	838.5
125°	880.0	885.5	891.0	894.5	896.3	898.1	899.8	901.5
127.5°	939.1	943.5	947.9	950.9	952.4	953.9	955.4	956.9
130°	975.2	979.9	984.6	987.8	989.3	990.8	992.3	993.8
132.5°	1010.9	1015.5	1020.0	1023.0	1024.3	1025.6	1026.9	1028.2
135°	1058.6	1063.1	1067.6	1070.8	1072.8	1074.7	1076.7	1078.7
137.5°	1105.3	1109.5	1113.6	1116.2	1117.4	1118.5	1119.6	1120.7
140°	1134.3	1138.2	1142.2	1144.9	1146.4	1147.9	1149.4	1150.9
142.5°	1161.8	1165.1	1168.5	1170.8	1171.8	1173.0	1174.0	1175.2
145°	1201.6	1203.4	1205.1	1206.7	1208.2	1209.7	1211.1	1212.6
147.5°	1236.8	1237.1	1237.5	1238.3	1239.3	1240.3	1241.4	1242.4
150°	1260.5	1260.5	1260.5	1260.6	1260.9	1261.1	1261.3	1261.6
152.5°	1281.6	1282.0	1282.3	1282.5	1282.3	1282.1	1282.1	1281.9
155°	1310.0	1310.9	1311.9	1312.0	1311.3	1310.6	1309.9	1309.2
157.5°	1334.5	1335.7	1336.9	1336.9	1335.7	1334.5	1333.3	1332.0
160°	1350.1	1351.4	1352.9	1352.9	1351.4	1350.1	1348.7	1347.3
162.5°	1362.8	1364.2	1365.5	1365.5	1363.9	1362.3	1360.7	1359.1
165°	1380.6	1382.5	1384.4	1384.2	1382.2	1380.1	1377.9	1375.8
167.5°	1393.7	1395.7	1397.8	1397.7	1395.3	1392.9	1390.7	1388.3
170°	1401.7	1403.6	1405.5	1405.2	1403.0	1400.6	1398.2	1395.9
172.5°	1406.8	1408.8	1410.6	1410.3	1407.7	1405.2	1402.6	1400.1
175°	1412.8	1415.0	1417.1	1416.7	1413.9	1411.0	1408.2	1405.4
177.5°	1415.2	1416.7	1418.2	1417.8	1415.5	1413.3	1411.0	1408.8
180°	1413.9	1413.9	1413.9	1413.9	1413.9	1413.9	1413.9	1413.9

(END OF REPORT)