

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: P332826-930

Luminaire Tested: **S124DIW-S1020D1340U930-4F0-1E-UDD-D1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332826-930
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-10,
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-D1
Description: DEFINE 4 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 1020 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER
UPLIGHT 1340 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 7228.6 lumens
Efficiency: N/A
Efficacy: 103.6 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

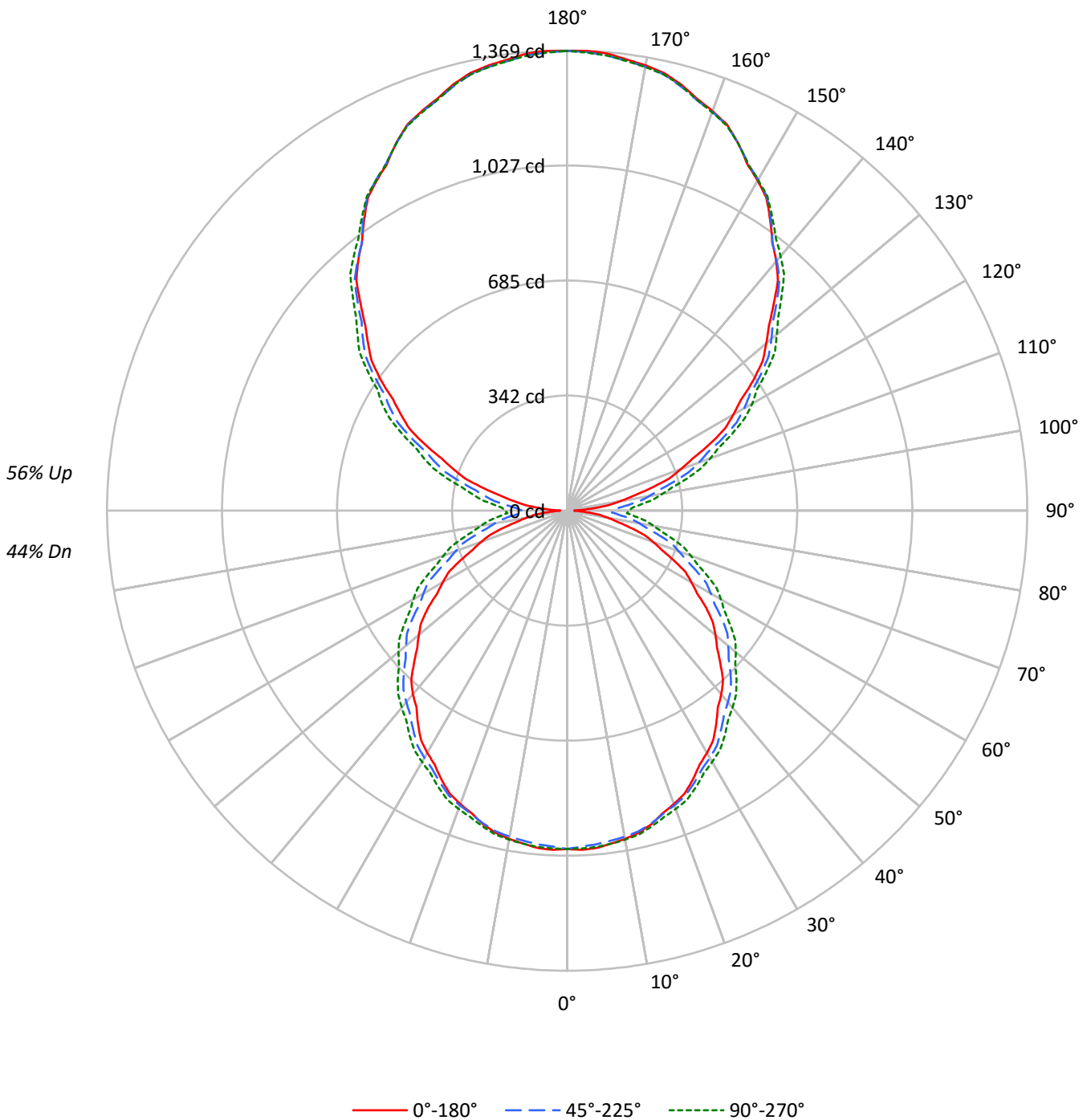
Input Watts (W): 69.8
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	106	106	106	106	97	97	97	97	80	80	80	65	65	65	51	51	51	44
1	96	91	87	83	87	83	80	76	69	66	64	55	54	52	43	42	41	35
2	87	79	72	67	79	72	67	62	60	56	52	48	45	43	38	36	34	29
3	79	69	61	55	72	63	57	51	52	47	43	42	39	36	33	30	28	24
4	72	61	53	46	65	56	49	43	46	41	37	37	33	30	29	26	24	20
5	66	54	46	39	60	50	42	37	41	36	31	33	29	26	26	23	21	17
6	61	48	40	34	55	44	37	32	37	31	27	30	26	23	24	21	18	15
7	56	43	35	30	51	40	33	28	33	28	24	27	23	20	22	18	16	13
8	52	39	31	26	47	36	29	24	30	25	21	25	21	18	20	17	14	12
9	48	36	28	23	44	33	26	22	28	22	19	23	19	16	18	15	13	11
10	45	33	25	21	41	30	24	19	26	20	17	21	17	14	17	14	12	10

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



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	95.3	1.3
10°-20°	273.1	3.8
20°-30°	413.0	5.7
30°-40°	499.7	6.9
40°-50°	528.2	7.3
50°-60°	497.1	6.9
60°-70°	412.5	5.7
70°-80°	289.7	4.0
80°-90°	167.9	2.3
90°-100°	187.4	2.6
100°-110°	339.1	4.7
110°-120°	501.7	6.9
120°-130°	625.1	8.6
130°-140°	683.2	9.5
140°-150°	662.1	9.2
150°-160°	554.9	7.7
160°-170°	369.2	5.1
170°-180°	129.3	1.8
0°-30°	781.4	10.8
0°-40°	1281.1	17.7
0°-60°	2306.5	31.9
0°-90°	3176.5	43.9
90°-120°	1028.2	14.2
90°-150°	2998.7	41.5
90°-180°	4052.0	56.1
0°-180°	7228.6	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	16
95°	78	125	178	211	222	82
105°	256	281	326	356	370	273
115°	468	479	512	535	542	462
125°	676	676	702	720	726	602
135°	868	875	882	898	902	672
145°	1053	1056	1057	1063	1064	659
155°	1205	1205	1204	1208	1204	554
165°	1312	1309	1307	1313	1309	370
175°	1365	1360	1359	1365	1359	130
180°	1367	1367	1367	1367	1367	



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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	143.5
92.5°	39.8	51.8	63.8	75.7	87.6	99.7	111.8	123.8	136.0	148.1	156.0
95°	78.1	88.5	98.9	109.3	119.6	130.8	142.7	154.6	166.5	178.4	185.9
97.5°	124.1	132.9	141.7	150.5	159.3	169.8	181.9	194.0	206.1	218.2	225.6
100°	160.5	167.9	175.4	182.8	190.2	199.9	211.8	223.6	235.5	247.4	254.7
102.5°	199.3	205.5	211.5	217.6	223.7	232.4	243.9	255.4	266.9	278.4	285.7
105°	256.5	261.8	267.0	272.2	277.4	285.2	295.4	305.7	315.8	326.0	333.0
107.5°	318.7	323.0	327.4	331.8	336.2	342.9	351.8	360.7	369.6	378.5	385.3
110°	360.0	364.0	368.0	372.0	375.9	382.2	390.8	399.3	407.8	416.4	421.7



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	403.2	406.3	409.5	412.7	416.0	421.5	429.4	437.4	445.3	453.3	458.8
115°	467.7	470.0	472.3	474.5	476.8	481.7	489.3	496.8	504.3	511.8	517.1
117.5°	529.7	531.2	532.8	534.3	535.9	540.2	547.3	554.5	561.7	568.8	573.2
120°	570.2	571.9	573.6	575.4	577.0	581.1	587.7	594.3	600.8	607.4	611.2
122.5°	613.4	613.9	614.5	615.0	615.5	619.1	625.6	632.1	638.6	645.1	649.4
125°	676.0	675.6	675.4	675.1	674.9	677.8	683.9	689.9	695.9	701.9	706.2
127.5°	733.4	733.9	734.3	734.8	735.2	737.7	742.1	746.6	751.0	755.5	759.5
130°	773.1	773.6	774.0	774.5	774.9	777.1	781.2	785.2	789.2	793.2	797.3
132.5°	814.6	814.8	815.1	815.4	815.6	817.3	820.3	823.3	826.3	829.3	833.2
135°	868.2	869.6	871.1	872.5	873.8	875.5	877.2	879.0	880.7	882.5	886.0
137.5°	927.9	928.3	928.7	929.1	929.5	930.3	931.6	932.8	934.0	935.2	938.2
140°	967.6	967.8	968.1	968.2	968.5	968.7	969.0	969.2	969.5	969.7	972.7
142.5°	1003.1	1003.5	1004.0	1004.4	1004.8	1004.8	1004.4	1004.1	1003.8	1003.5	1006.2
145°	1053.2	1053.9	1054.6	1055.2	1056.0	1056.4	1056.6	1056.9	1057.1	1057.4	1058.6
147.5°	1103.1	1104.0	1104.8	1105.7	1106.6	1106.9	1106.8	1106.6	1106.4	1106.2	1106.2
150°	1133.5	1134.2	1134.9	1135.6	1136.3	1136.6	1136.6	1136.6	1136.6	1136.6	1136.6
152.5°	1161.4	1161.9	1162.5	1162.9	1163.4	1163.8	1164.0	1164.2	1164.4	1164.6	1165.1
155°	1205.3	1205.3	1205.3	1205.3	1205.3	1205.3	1205.0	1204.8	1204.5	1204.4	1205.3
157.5°	1242.6	1242.2	1241.8	1241.3	1240.9	1240.6	1240.6	1240.6	1240.6	1240.5	1241.2
160°	1264.6	1264.4	1264.1	1263.9	1263.6	1263.4	1263.1	1263.0	1262.7	1262.5	1263.1
162.5°	1284.9	1284.3	1283.7	1283.0	1282.5	1282.1	1281.8	1281.6	1281.3	1281.1	1282.4
165°	1312.1	1311.5	1310.8	1310.0	1309.4	1308.8	1308.3	1307.8	1307.3	1306.8	1308.3
167.5°	1333.1	1332.1	1331.1	1330.2	1329.2	1328.7	1328.8	1328.8	1328.9	1328.9	1330.3
170°	1344.9	1343.8	1342.6	1341.4	1340.3	1339.8	1340.0	1340.3	1340.5	1340.7	1342.1
172.5°	1353.4	1352.4	1351.4	1350.5	1349.5	1349.0	1349.1	1349.1	1349.2	1349.2	1350.8
175°	1365.1	1363.8	1362.7	1361.5	1360.3	1359.6	1359.4	1359.2	1358.9	1358.7	1360.3
177.5°	1368.8	1367.9	1366.9	1366.0	1365.1	1364.6	1364.6	1364.6	1364.6	1364.6	1366.0
180°	1367.2	1367.2	1367.2	1367.2	1367.2	1367.2	1367.2	1367.2	1367.2	1367.2	1367.2



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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°	163.9	171.8	179.7	184.8	187.1	189.4	191.7	194.0
95°	193.4	200.8	208.3	213.2	215.4	217.7	219.9	222.2
97.5°	233.0	240.4	247.8	252.6	254.8	256.9	259.0	261.2
100°	261.9	269.1	276.4	280.9	282.7	284.4	286.2	287.9
102.5°	292.9	300.1	307.4	312.0	314.1	316.3	318.5	320.6
105°	340.0	346.9	353.9	358.7	361.4	364.2	366.9	369.6
107.5°	392.2	399.0	405.8	410.1	411.8	413.6	415.3	417.1
110°	427.0	432.2	437.5	441.5	444.3	446.9	449.6	452.3



TEST NUMBER: P332826-930

CATALOG NUMBER: S124DIW-S1020D1340U930-4F0-1E-UDD-D1

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	464.2	469.7	475.2	479.0	481.1	483.2	485.4	487.5
115°	522.4	527.7	533.0	536.4	537.9	539.4	541.0	542.4
117.5°	577.6	582.0	586.4	589.4	590.9	592.5	593.9	595.5
120°	615.1	618.9	622.7	625.9	628.4	630.8	633.3	635.8
122.5°	653.6	657.8	662.0	664.6	665.5	666.5	667.5	668.5
125°	710.5	714.8	719.1	721.7	722.8	723.8	724.8	725.9
127.5°	763.5	767.5	771.6	774.3	775.6	776.9	778.3	779.6
130°	801.3	805.4	809.3	811.6	812.2	812.8	813.3	813.9
132.5°	837.1	840.9	844.7	847.2	848.3	849.5	850.6	851.7
135°	889.6	893.1	896.6	898.8	899.6	900.3	901.2	902.0
137.5°	941.3	944.4	947.4	949.7	951.0	952.4	953.8	955.2
140°	975.8	978.8	981.8	983.8	984.9	985.9	986.9	987.9
142.5°	1009.1	1011.9	1014.7	1016.6	1017.6	1018.6	1019.6	1020.6
145°	1059.9	1061.1	1062.4	1063.2	1063.5	1063.8	1064.1	1064.4
147.5°	1106.2	1106.2	1106.3	1106.5	1107.1	1107.7	1108.2	1108.8
150°	1136.6	1136.6	1136.6	1136.5	1136.3	1136.0	1135.8	1135.6
152.5°	1165.7	1166.3	1166.9	1166.8	1166.2	1165.6	1165.0	1164.3
155°	1206.2	1207.1	1208.1	1208.1	1207.1	1206.2	1205.3	1204.4
157.5°	1241.9	1242.6	1243.3	1243.2	1242.4	1241.6	1240.9	1240.1
160°	1263.9	1264.6	1265.3	1265.0	1263.9	1262.7	1261.5	1260.4
162.5°	1283.6	1284.9	1286.1	1286.2	1285.0	1283.9	1282.7	1281.5
165°	1309.7	1311.1	1312.6	1312.8	1311.8	1310.8	1309.9	1309.0
167.5°	1331.7	1333.1	1334.5	1334.5	1333.0	1331.5	1330.2	1328.7
170°	1343.5	1344.9	1346.4	1346.2	1344.6	1343.0	1341.3	1339.7
172.5°	1352.3	1354.0	1355.6	1355.5	1353.9	1352.3	1350.6	1349.0
175°	1362.0	1363.6	1365.3	1365.3	1363.6	1362.0	1360.3	1358.7
177.5°	1367.3	1368.6	1369.9	1369.8	1368.3	1366.8	1365.3	1363.8
180°	1367.2	1367.2	1367.2	1367.2	1367.2	1367.2	1367.2	1367.2

(END OF REPORT)