

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: P332838-930

Luminaire Tested: **S124DIW-S1195D470U930-4F0-1E-UDD-D1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332838-930
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-S1195D470U930-4F0-1E-UDD-D1
Description: DEFINE 4 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 1195 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER
UPLIGHT 470 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 5289.8 lumens
Efficiency: N/A
Efficacy: 101.0 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: Semi-Direct

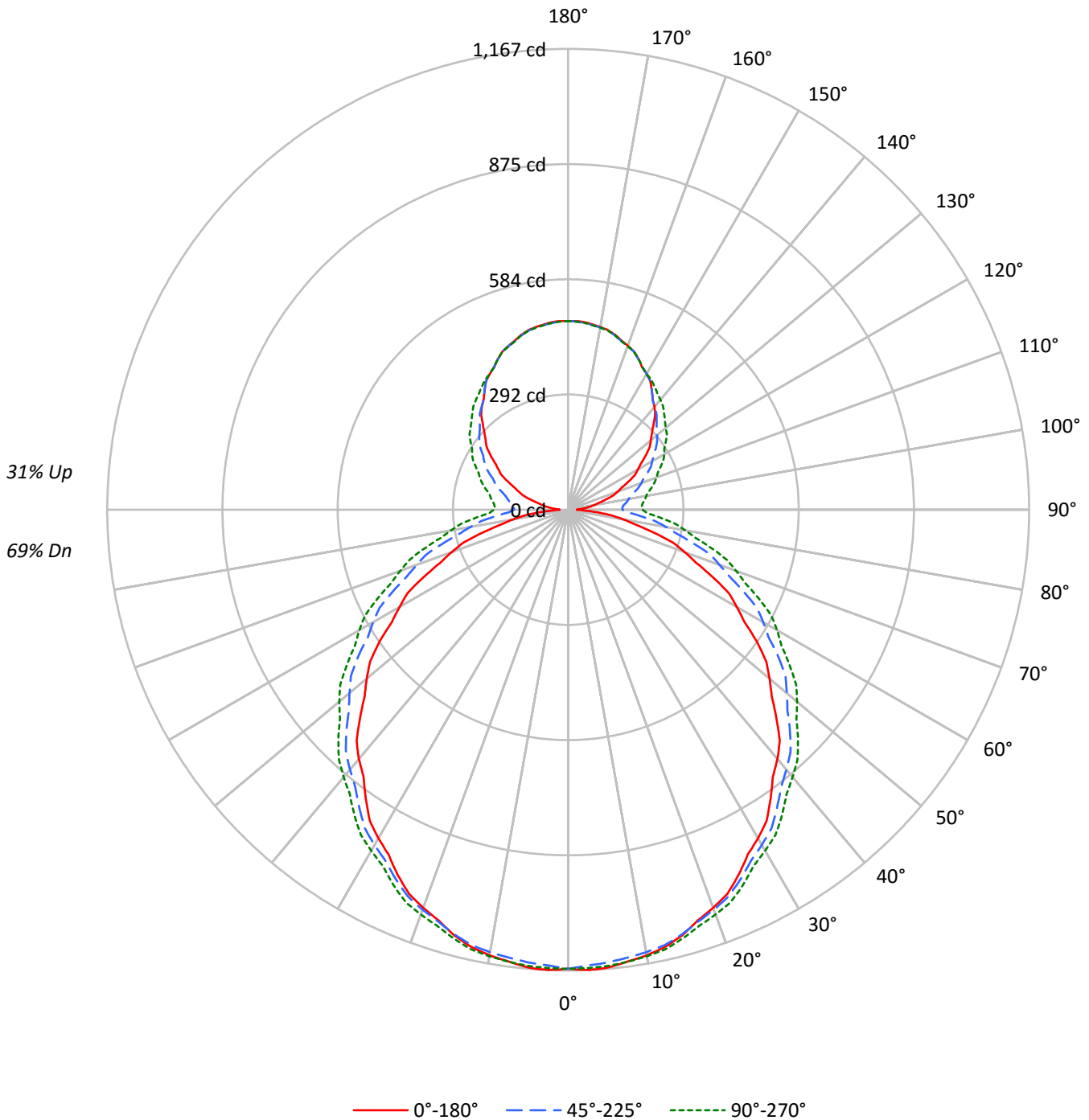
Input Watts (W): 52.4
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P332838-930

CATALOG NUMBER: S124DIW-S1195D470U930-4F0-1E-UDD-D1

Luminous Intensity Polar Plot





TEST NUMBER: P332838-930

CATALOG NUMBER: S124DIW-S1195D470U930-4F0-1E-UDD-D1

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	112	112	112	112	106	106	106	106	94	94	94	84	84	84	74	74	74	69
1	101	96	91	87	95	90	86	83	81	77	75	71	69	67	63	61	60	55
2	91	83	76	70	86	78	72	67	70	65	61	62	58	55	55	52	49	45
3	83	72	64	58	78	68	61	55	61	55	50	54	50	46	48	44	41	38
4	76	64	55	48	71	60	52	46	54	48	43	48	43	39	43	38	35	32
5	69	57	48	41	65	54	46	40	48	42	36	43	38	33	38	34	30	27
6	64	51	42	36	60	48	40	34	43	37	32	39	33	29	35	30	27	24
7	59	46	37	31	55	44	36	30	39	33	28	35	30	26	31	27	23	21
8	55	42	33	28	52	40	32	27	36	29	25	32	27	23	29	24	21	19
9	51	38	30	25	48	36	29	24	33	27	22	30	24	20	27	22	19	17
10	48	35	27	22	45	33	26	21	30	24	20	27	22	19	25	20	17	15

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	9386	9386	9386
5°	9414	9173	9199
10°	9357	9022	9016
15°	9273	8849	8800
20°	9147	8658	8591
25°	9004	8442	8360
30°	8849	8228	8124
35°	8675	8010	7917
40°	8536	7801	7700
45°	8329	7610	7515
50°	8153	7388	7319
55°	7973	7179	7089
60°	7689	6913	6880
65°	7380	6628	6622
70°	7004	6302	6322
75°	6483	5945	6051
80°	5900	5600	5784
85°	5162	5295	5626



TEST NUMBER: P332838-930

CATALOG NUMBER: S124DIW-S1195D470U930-4F0-1E-UDD-D1

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	110.1	2.1
10°-20°	315.4	6.0
20°-30°	477.0	9.0
30°-40°	577.1	10.9
40°-50°	610.1	11.5
50°-60°	574.2	10.9
60°-70°	476.4	9.0
70°-80°	334.6	6.3
80°-90°	190.6	3.6
90°-100°	143.8	2.7
100°-110°	176.5	3.3
110°-120°	214.2	4.0
120°-130°	240.4	4.5
130°-140°	248.2	4.7
140°-150°	233.3	4.4
150°-160°	193.9	3.7
160°-170°	129.0	2.4
170°-180°	45.2	0.9
0°-30°	902.5	17.1
0°-40°	1479.6	28.0
0°-60°	2663.8	50.4
0°-90°	3665.4	69.3
90°-120°	534.5	10.1
90°-150°	1256.4	23.8
90°-180°	1624.0	30.7
0°-180°	5289.8	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1163	1163	1163	1163	1163	
5°	1164	1160	1151	1161	1160	110
15°	1116	1117	1113	1124	1124	314
25°	1021	1028	1032	1046	1048	470
35°	893	908	922	939	944	559
45°	745	769	794	815	823	575
55°	583	611	650	675	684	520
65°	404	445	490	521	532	400
75°	224	272	327	362	375	238
85°	69	124	182	220	234	73
90°	22	78	137	175	188	15
95°	39	86	141	176	189	38
105°	98	125	174	206	219	105
115°	169	182	222	249	258	167
125°	240	240	271	294	302	214
135°	305	308	316	336	343	236
145°	369	369	369	377	381	231
155°	421	421	421	422	421	194
165°	458	457	457	459	457	129
175°	477	475	475	477	475	45
180°	478	478	478	478	478	



TEST NUMBER: P332838-930

CATALOG NUMBER: S124DIW-S1195D470U930-4F0-1E-UDD-D1

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1162.6	1162.6	1162.6	1162.6	1162.6	1162.6	1162.6	1162.6	1162.6	1162.6	1162.6
2.5°	1166.8	1166.0	1165.4	1164.7	1164.0	1162.7	1160.8	1159.0	1157.2	1155.3	1156.9
5°	1163.8	1163.0	1162.1	1161.3	1160.4	1158.9	1156.9	1154.9	1152.9	1150.9	1153.2
7.5°	1154.0	1153.5	1152.9	1152.4	1151.9	1150.8	1149.2	1147.5	1145.7	1144.1	1146.7
10°	1145.7	1145.3	1145.1	1144.8	1144.5	1143.6	1142.2	1140.8	1139.3	1137.8	1140.4
12.5°	1134.2	1134.2	1134.1	1134.0	1134.0	1133.4	1132.5	1131.5	1130.5	1129.5	1131.9
15°	1115.7	1116.0	1116.3	1116.6	1116.9	1116.6	1115.7	1114.8	1113.9	1113.1	1115.7
17.5°	1090.5	1091.4	1092.2	1093.1	1093.9	1094.3	1094.1	1093.9	1093.7	1093.6	1096.3
20°	1072.8	1073.6	1074.5	1075.4	1076.2	1076.8	1077.1	1077.4	1077.7	1078.0	1080.8
22.5°	1053.0	1054.0	1055.2	1056.2	1057.4	1058.2	1058.7	1059.2	1059.7	1060.2	1063.2
25°	1020.7	1022.4	1024.2	1025.9	1027.6	1028.9	1029.8	1030.6	1031.5	1032.4	1035.6
27.5°	984.7	987.3	989.9	992.4	994.9	996.9	998.2	999.6	1000.9	1002.2	1005.1
30°	960.7	963.1	965.4	967.8	970.0	972.2	974.2	976.2	978.3	980.3	983.5
32.5°	934.7	937.5	940.3	943.1	945.8	948.4	950.6	952.9	955.1	957.4	961.1
35°	893.1	896.6	900.0	903.5	906.9	910.1	913.1	915.9	918.8	921.7	925.8
37.5°	851.2	855.2	859.2	863.2	867.2	870.9	874.5	878.1	881.7	885.3	889.4
40°	824.1	827.9	831.6	835.4	839.1	843.0	847.1	851.2	855.2	859.2	863.6
42.5°	792.9	797.0	801.3	805.5	809.8	814.2	819.0	823.7	828.4	833.2	838.0
45°	744.7	750.2	755.7	761.2	766.6	772.2	777.6	783.2	788.6	794.2	799.1
47.5°	698.5	704.3	710.0	715.6	721.3	727.3	733.7	740.0	746.4	752.8	757.8
50°	665.3	671.6	678.0	684.4	690.7	697.1	703.4	709.8	716.2	722.5	728.3
52.5°	631.9	638.3	644.7	651.0	657.4	664.2	671.5	678.8	686.1	693.4	699.2
55°	583.3	589.3	595.4	601.4	607.6	614.9	623.6	632.3	641.0	649.6	655.4
57.5°	528.8	536.4	543.9	551.4	558.9	567.0	575.6	584.2	592.9	601.4	608.4
60°	493.4	500.9	508.4	516.0	523.5	532.1	541.6	551.1	560.7	570.2	576.9
62.5°	459.0	467.2	475.5	483.7	491.9	500.8	510.4	519.9	529.5	539.0	545.6
65°	403.6	412.9	422.1	431.4	440.6	450.1	460.0	469.9	479.6	489.5	496.8
67.5°	350.2	360.0	369.9	379.7	389.6	399.7	410.3	420.8	431.3	441.9	449.2
70°	313.7	323.6	333.5	343.2	353.1	363.5	374.5	385.5	396.5	407.5	415.3
72.5°	278.3	288.4	298.5	308.5	318.6	329.5	341.2	352.9	364.5	376.3	383.8
75°	224.0	234.6	245.3	256.0	266.8	278.2	290.3	302.5	314.6	326.8	334.8
77.5°	173.2	184.5	195.8	207.2	218.5	230.6	243.3	256.0	268.7	281.4	289.7
80°	141.9	153.4	165.0	176.6	188.2	200.3	213.0	225.8	238.6	251.3	259.9
82.5°	110.6	122.7	134.8	146.8	158.8	171.2	183.9	196.7	209.4	222.1	231.0
85°	69.0	81.1	93.3	105.4	117.6	130.2	143.2	156.2	169.3	182.3	190.9
87.5°	38.7	50.7	62.7	74.7	86.7	99.1	111.9	124.7	137.5	150.3	158.8
90°	21.9	34.4	46.9	59.4	71.8	84.6	97.8	110.8	123.9	137.1	145.9
92.5°	27.7	39.1	50.6	62.0	73.5	85.7	98.6	111.5	124.3	137.3	145.7
95°	39.1	49.4	59.7	70.0	80.2	91.6	104.0	116.5	128.9	141.4	149.4
97.5°	54.1	62.9	71.7	80.5	89.3	100.0	112.3	124.7	137.2	149.6	157.4
100°	66.0	73.9	81.8	89.6	97.4	107.4	119.4	131.4	143.4	155.5	163.5
102.5°	79.7	86.3	93.1	99.8	106.6	115.8	127.5	139.3	150.9	162.7	170.5
105°	97.8	103.7	109.5	115.4	121.2	129.7	140.7	151.8	162.8	173.8	181.3
107.5°	119.4	124.2	129.0	133.9	138.7	146.2	156.4	166.6	176.8	186.9	194.3
110°	133.1	137.3	141.5	145.7	149.9	157.0	167.1	177.2	187.2	197.2	203.7



TEST NUMBER: P332838-930

CATALOG NUMBER: S124DIW-S1195D470U930-4F0-1E-UDD-D1

CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	147.4	151.0	154.7	158.2	161.9	168.4	178.0	187.4	197.0	206.5	212.9
115°	168.9	171.5	174.1	176.7	179.3	185.2	194.3	203.3	212.5	221.5	227.8
117.5°	190.4	192.0	193.6	195.3	196.9	201.9	210.4	218.9	227.5	235.9	241.7
120°	203.8	205.0	206.2	207.4	208.6	213.3	221.4	229.5	237.7	245.8	251.2
122.5°	218.8	219.2	219.5	219.8	220.0	224.1	232.0	239.8	247.6	255.4	260.9
125°	239.8	239.5	239.2	239.0	238.6	242.1	249.2	256.4	263.5	270.7	276.0
127.5°	259.8	259.7	259.6	259.6	259.5	262.2	267.7	273.0	278.5	284.0	288.9
130°	272.9	272.8	272.8	272.7	272.7	275.0	279.6	284.2	288.9	293.5	298.6
132.5°	287.3	287.2	287.1	287.0	286.9	288.7	292.3	296.0	299.6	303.2	308.0
135°	305.2	305.7	306.1	306.6	307.1	308.4	310.5	312.4	314.5	316.5	321.0
137.5°	326.0	326.0	325.9	325.9	325.8	326.3	327.4	328.6	329.6	330.8	334.8
140°	339.9	339.8	339.7	339.6	339.4	339.5	339.8	340.1	340.4	340.6	344.3
142.5°	351.6	351.7	351.8	351.9	352.0	352.0	351.7	351.5	351.2	351.0	354.2
145°	368.9	368.9	369.0	369.0	369.1	369.1	369.2	369.2	369.3	369.4	371.1
147.5°	386.4	386.5	386.5	386.6	386.8	386.8	386.7	386.6	386.6	386.5	386.7
150°	397.0	397.1	397.1	397.1	397.1	397.1	397.1	397.1	397.1	397.1	397.1
152.5°	406.0	406.1	406.3	406.4	406.5	406.7	406.7	406.8	406.8	406.9	407.1
155°	421.2	421.2	421.2	421.2	421.2	421.1	421.0	420.9	420.9	420.8	421.1
157.5°	434.1	434.0	433.9	433.7	433.6	433.5	433.5	433.5	433.4	433.4	433.7
160°	441.9	441.8	441.7	441.6	441.6	441.5	441.4	441.3	441.2	441.2	441.4
162.5°	449.0	448.7	448.5	448.3	448.1	447.9	447.8	447.8	447.7	447.6	448.1
165°	458.4	458.2	458.0	457.7	457.5	457.3	457.1	457.0	456.8	456.6	457.1
167.5°	465.8	465.5	465.1	464.8	464.4	464.2	464.2	464.3	464.3	464.3	464.8
170°	469.9	469.5	469.1	468.7	468.3	468.1	468.2	468.3	468.4	468.5	469.0
172.5°	472.9	472.5	472.2	471.9	471.5	471.3	471.3	471.4	471.4	471.4	472.0
175°	477.0	476.5	476.1	475.7	475.3	475.1	475.0	474.9	474.8	474.7	475.3
177.5°	478.3	477.9	477.6	477.3	477.0	476.8	476.8	476.8	476.8	476.8	477.3
180°	477.7	477.7	477.7	477.7	477.7	477.7	477.7	477.7	477.7	477.7	477.7



TEST NUMBER: P332838-930

CATALOG NUMBER: S124DIW-S1195D470U930-4F0-1E-UDD-D1

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1162.6	1162.6	1162.6	1162.6	1162.6	1162.6	1162.6	1162.6
2.5°	1158.5	1160.2	1161.8	1162.5	1162.2	1162.0	1161.8	1161.6
5°	1155.5	1157.8	1160.1	1161.1	1160.8	1160.6	1160.3	1160.0
7.5°	1149.3	1151.9	1154.5	1155.7	1155.4	1155.1	1154.8	1154.5
10°	1143.0	1145.7	1148.3	1149.4	1149.2	1148.8	1148.5	1148.3
12.5°	1134.2	1136.6	1139.0	1140.2	1140.1	1140.0	1140.0	1140.0
15°	1118.3	1121.0	1123.5	1124.7	1124.4	1124.1	1123.8	1123.5
17.5°	1098.9	1101.6	1104.2	1105.5	1105.2	1105.0	1104.7	1104.5
20°	1083.8	1086.6	1089.6	1091.0	1091.0	1091.0	1091.0	1091.0
22.5°	1066.0	1068.9	1071.8	1073.5	1074.0	1074.4	1074.9	1075.4
25°	1038.8	1042.0	1045.1	1046.8	1047.2	1047.4	1047.7	1048.0
27.5°	1008.1	1011.1	1014.0	1015.6	1016.0	1016.4	1016.7	1017.0
30°	986.7	989.9	993.0	994.9	995.5	996.1	996.6	997.3
32.5°	964.7	968.3	972.0	974.1	974.7	975.3	975.8	976.4
35°	929.8	933.8	937.9	940.4	941.3	942.2	943.0	943.9
37.5°	893.5	897.6	901.7	904.2	905.1	906.0	907.0	907.9
40°	867.9	872.3	876.6	879.4	880.5	881.7	882.8	883.9
42.5°	842.8	847.6	852.4	855.2	856.2	857.1	858.0	859.0
45°	804.0	808.9	813.8	817.0	818.5	819.9	821.3	822.8
47.5°	763.0	768.0	773.1	776.5	778.3	780.0	781.7	783.5
50°	734.1	739.9	745.7	749.4	751.2	752.9	754.6	756.4
52.5°	705.0	710.8	716.5	720.3	722.0	723.7	725.5	727.2
55°	661.2	667.0	672.8	676.5	678.2	680.0	681.8	683.5
57.5°	615.2	622.2	629.0	633.2	634.9	636.5	638.1	639.8
60°	583.5	590.2	596.8	601.3	603.6	605.9	608.3	610.6
62.5°	552.3	559.0	565.6	570.1	572.4	574.7	577.0	579.4
65°	503.9	511.2	518.4	523.2	525.5	527.8	530.2	532.5
67.5°	456.6	463.9	471.2	476.1	478.3	480.5	482.8	485.1
70°	423.1	430.9	438.7	443.7	445.6	447.7	449.7	451.8
72.5°	391.4	399.0	406.6	411.5	413.8	416.0	418.2	420.5
75°	343.0	351.1	359.1	364.5	367.1	369.7	372.3	375.0
77.5°	297.9	306.1	314.3	319.8	322.6	325.4	328.2	330.9
80°	268.6	277.3	286.0	291.5	293.8	296.1	298.4	300.8
82.5°	239.9	248.8	257.7	263.5	266.0	268.6	271.1	273.6
85°	199.6	208.3	217.0	222.7	225.7	228.5	231.5	234.3
87.5°	167.3	175.8	184.3	189.8	192.3	194.9	197.5	200.1
90°	154.7	163.6	172.5	178.2	180.7	183.2	185.6	188.2
92.5°	154.2	162.7	171.0	176.5	179.0	181.3	183.8	186.1
95°	157.4	165.5	173.6	178.9	181.5	184.1	186.7	189.3
97.5°	165.3	173.3	181.1	186.3	188.7	191.3	193.7	196.2
100°	171.5	179.4	187.4	192.4	194.4	196.4	198.4	200.5
102.5°	178.3	186.1	193.9	199.0	201.3	203.7	205.9	208.2
105°	188.8	196.3	203.7	208.8	211.3	213.9	216.5	219.1
107.5°	201.6	209.0	216.3	221.0	223.1	225.1	227.2	229.3
110°	210.2	216.7	223.2	227.7	230.2	232.8	235.4	238.0



TEST NUMBER: P332838-930

CATALOG NUMBER: S124DIW-S1195D470U930-4F0-1E-UDD-D1

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	219.3	225.7	232.0	236.4	238.8	241.2	243.5	245.9
115°	234.1	240.4	246.6	250.8	252.7	254.6	256.6	258.5
117.5°	247.4	253.2	258.9	262.9	265.0	267.2	269.3	271.5
120°	256.6	262.0	267.3	271.3	273.7	276.2	278.7	281.2
122.5°	266.4	271.9	277.4	281.0	282.8	284.6	286.4	288.2
125°	281.4	286.7	292.0	295.5	297.0	298.6	300.2	301.7
127.5°	294.0	299.1	304.1	307.5	309.4	311.2	313.1	314.9
130°	303.6	308.6	313.6	316.9	318.3	319.7	321.1	322.5
132.5°	312.8	317.6	322.5	325.7	327.3	328.9	330.5	332.1
135°	325.5	329.9	334.4	337.4	338.8	340.3	341.8	343.3
137.5°	338.8	342.8	346.8	349.6	351.1	352.5	354.1	355.6
140°	348.0	351.7	355.4	357.9	359.2	360.6	362.0	363.4
142.5°	357.5	360.9	364.1	366.3	367.5	368.8	369.9	371.1
145°	372.8	374.4	376.1	377.3	378.2	379.2	380.1	381.0
147.5°	386.9	387.0	387.2	387.7	388.5	389.4	390.2	391.0
150°	397.1	397.1	397.1	397.1	397.1	397.0	396.9	396.8
152.5°	407.3	407.5	407.7	407.6	407.5	407.2	407.1	406.8
155°	421.4	421.8	422.1	422.1	421.8	421.4	421.1	420.8
157.5°	433.9	434.1	434.4	434.4	434.1	433.8	433.6	433.3
160°	441.6	441.9	442.1	442.1	441.6	441.2	440.8	440.3
162.5°	448.5	449.0	449.4	449.4	449.0	448.6	448.2	447.8
165°	457.6	458.1	458.6	458.7	458.4	458.0	457.7	457.4
167.5°	465.3	465.8	466.3	466.3	465.8	465.3	464.7	464.2
170°	469.4	469.9	470.4	470.3	469.8	469.2	468.6	468.1
172.5°	472.5	473.1	473.6	473.6	473.0	472.5	471.9	471.3
175°	475.9	476.5	477.0	477.0	476.5	475.9	475.3	474.7
177.5°	477.8	478.2	478.7	478.6	478.1	477.6	477.0	476.5
180°	477.7	477.7	477.7	477.7	477.7	477.7	477.7	477.7

(END OF REPORT)