

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: P332862-930

Luminaire Tested: **S124DIW-S1195D1560U930-4F0-1E-UDD-D1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332862-930
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-S1195D1560U930-4F0-1E-UDD-D1
Description: DEFINE 4 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 1195 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER
UPLIGHT 1560 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 8377.9 lumens
Efficiency: N/A
Efficacy: 101.1 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

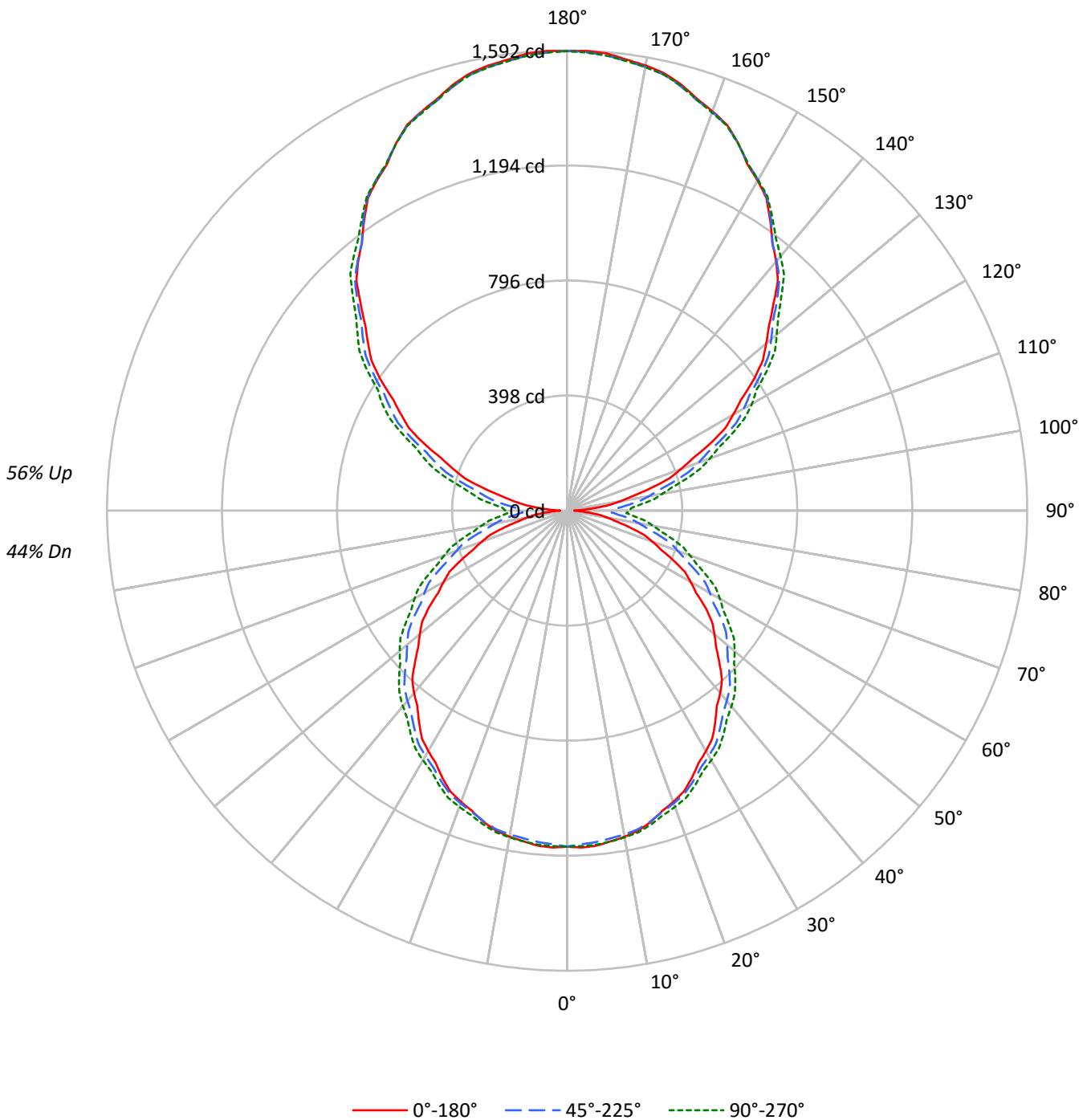
Input Watts (W): 82.9
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	50	50	50	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	37	35	34	29
3	79	69	61	55	72	63	56	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°	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



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	110.1	1.3
10°-20°	315.4	3.8
20°-30°	477.0	5.7
30°-40°	577.1	6.9
40°-50°	610.1	7.3
50°-60°	574.2	6.9
60°-70°	476.4	5.7
70°-80°	334.6	4.0
80°-90°	193.9	2.3
90°-100°	217.2	2.6
100°-110°	393.7	4.7
110°-120°	582.9	7.0
120°-130°	726.6	8.7
130°-140°	794.2	9.5
140°-150°	769.8	9.2
150°-160°	645.2	7.7
160°-170°	429.2	5.1
170°-180°	150.3	1.8
0°-30°	902.5	10.8
0°-40°	1479.6	17.7
0°-60°	2663.8	31.8
0°-90°	3668.7	43.8
90°-120°	1193.8	14.2
90°-150°	3484.4	41.6
90°-180°	4709.0	56.2
0°-180°	8377.9	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°	24	90	156	199	214	18
95°	91	145	207	244	257	96
105°	298	327	378	414	429	317
115°	544	557	595	621	630	537
125°	786	786	816	837	844	700
135°	1009	1017	1026	1044	1048	781
145°	1224	1228	1229	1236	1238	766
155°	1401	1401	1400	1405	1400	645
165°	1526	1522	1520	1526	1522	430
175°	1587	1581	1580	1587	1580	151
180°	1590	1590	1590	1590	1590	



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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°	39.3	51.7	64.1	76.5	88.9	101.7	114.8	127.8	141.0	154.1	162.8
90°	24.5	39.1	53.6	68.2	82.8	97.4	112.0	126.7	141.3	156.0	166.0
92.5°	46.1	59.9	73.8	87.6	101.5	115.4	129.4	143.4	157.4	171.3	180.4
95°	90.7	102.7	114.7	126.7	138.7	151.6	165.3	179.1	192.9	206.7	215.3
97.5°	144.2	154.4	164.5	174.7	184.9	197.0	211.0	225.0	239.0	253.0	261.5
100°	186.5	195.0	203.7	212.3	220.9	232.0	245.8	259.5	273.3	287.1	295.4
102.5°	231.7	238.7	245.7	252.7	259.8	269.9	283.2	296.5	309.8	323.1	331.5
105°	298.2	304.2	310.3	316.3	322.4	331.3	343.1	354.9	366.7	378.5	386.5
107.5°	370.4	375.5	380.6	385.6	390.7	398.4	408.7	419.0	429.3	439.5	447.4
110°	418.6	423.1	427.8	432.4	436.9	444.2	454.0	463.9	473.7	483.6	489.7



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	468.6	472.4	476.1	479.7	483.5	489.9	499.0	508.3	517.4	526.5	532.9
115°	543.8	546.4	549.0	551.6	554.2	559.9	568.6	577.3	586.0	594.8	600.8
117.5°	615.8	617.6	619.4	621.2	623.0	627.9	636.2	644.4	652.6	660.9	666.0
120°	663.0	665.0	666.9	668.9	670.8	675.6	683.1	690.7	698.3	705.9	710.3
122.5°	713.1	713.7	714.4	714.9	715.6	719.7	727.2	734.7	742.2	749.8	754.7
125°	785.9	785.5	785.3	785.0	784.6	788.0	795.0	801.9	808.9	815.9	820.8
127.5°	852.7	853.2	853.8	854.3	854.8	857.6	862.7	867.9	873.0	878.1	882.8
130°	898.9	899.4	899.9	900.4	901.0	903.6	908.2	912.8	917.5	922.1	926.8
132.5°	947.1	947.4	947.7	948.0	948.3	950.2	953.7	957.2	960.7	964.2	968.6
135°	1009.4	1011.1	1012.7	1014.3	1016.0	1017.8	1019.9	1021.9	1023.9	1025.9	1030.0
137.5°	1078.8	1079.2	1079.7	1080.2	1080.7	1081.7	1083.0	1084.4	1085.9	1087.3	1090.8
140°	1124.9	1125.3	1125.5	1125.8	1126.0	1126.3	1126.6	1126.9	1127.2	1127.5	1130.9
142.5°	1166.2	1166.7	1167.2	1167.7	1168.2	1168.2	1167.8	1167.4	1167.1	1166.7	1170.0
145°	1224.5	1225.3	1226.1	1226.9	1227.7	1228.2	1228.5	1228.8	1229.1	1229.3	1230.8
147.5°	1282.5	1283.5	1284.6	1285.6	1286.6	1287.0	1286.8	1286.5	1286.4	1286.1	1286.1
150°	1317.9	1318.7	1319.6	1320.3	1321.1	1321.5	1321.5	1321.5	1321.5	1321.5	1321.5
152.5°	1350.3	1351.0	1351.5	1352.1	1352.7	1353.2	1353.3	1353.6	1353.8	1354.0	1354.6
155°	1401.4	1401.4	1401.4	1401.4	1401.4	1401.3	1401.0	1400.8	1400.5	1400.2	1401.3
157.5°	1444.7	1444.2	1443.7	1443.2	1442.8	1442.5	1442.4	1442.3	1442.3	1442.3	1443.1
160°	1470.3	1470.0	1469.7	1469.5	1469.2	1468.9	1468.7	1468.4	1468.1	1467.9	1468.7
162.5°	1493.9	1493.2	1492.5	1491.8	1491.0	1490.5	1490.3	1490.0	1489.7	1489.5	1490.9
165°	1525.6	1524.8	1524.0	1523.1	1522.3	1521.7	1521.1	1520.5	1520.0	1519.5	1521.1
167.5°	1550.0	1548.8	1547.7	1546.5	1545.4	1544.8	1544.9	1544.9	1545.0	1545.1	1546.7
170°	1563.7	1562.4	1561.0	1559.6	1558.3	1557.7	1558.0	1558.3	1558.5	1558.8	1560.4
172.5°	1573.5	1572.4	1571.2	1570.1	1569.0	1568.4	1568.5	1568.6	1568.6	1568.6	1570.5
175°	1587.1	1585.7	1584.4	1583.0	1581.6	1580.8	1580.5	1580.2	1580.0	1579.7	1581.6
177.5°	1591.5	1590.4	1589.3	1588.2	1587.1	1586.6	1586.6	1586.6	1586.6	1586.6	1588.1
180°	1589.5	1589.5	1589.5	1589.5	1589.5	1589.5	1589.5	1589.5	1589.5	1589.5	1589.5



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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°	171.5	180.3	189.0	194.6	197.3	199.9	202.6	205.3
90°	176.0	186.1	196.1	202.5	205.4	208.2	211.1	213.9
92.5°	189.6	198.8	207.9	213.8	216.4	219.1	221.7	224.4
95°	224.0	232.6	241.2	246.9	249.4	252.0	254.6	257.2
97.5°	270.1	278.7	287.2	292.8	295.2	297.7	300.2	302.7
100°	303.8	312.1	320.5	325.6	327.7	329.7	331.7	333.8
102.5°	339.8	348.1	356.5	361.9	364.4	366.9	369.3	371.9
105°	394.6	402.7	410.7	416.3	419.5	422.6	425.7	428.8
107.5°	455.3	463.2	471.1	476.1	478.1	480.1	482.1	484.1
110°	495.8	501.9	508.0	512.7	515.8	518.9	522.0	525.1



TEST NUMBER: P332862-930

CATALOG NUMBER: S124DIW-S1195D1560U930-4F0-1E-UDD-D1

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	539.2	545.5	551.8	556.2	558.7	561.2	563.6	566.1
115°	606.9	613.0	619.1	623.0	624.8	626.5	628.3	630.0
117.5°	671.1	676.2	681.3	684.7	686.5	688.3	690.0	691.8
120°	714.7	719.1	723.6	727.2	730.0	732.9	735.8	738.7
122.5°	759.5	764.4	769.2	772.3	773.3	774.5	775.5	776.7
125°	825.7	830.7	835.7	838.7	839.9	841.1	842.3	843.5
127.5°	887.5	892.1	896.7	899.8	901.4	902.9	904.4	906.0
130°	931.4	936.0	940.7	943.4	944.0	944.7	945.3	945.9
132.5°	973.0	977.5	981.9	984.7	986.0	987.3	988.6	989.9
135°	1034.1	1038.2	1042.3	1044.7	1045.7	1046.6	1047.5	1048.4
137.5°	1094.3	1097.9	1101.4	1103.9	1105.5	1107.2	1108.7	1110.4
140°	1134.4	1137.9	1141.4	1143.7	1144.9	1146.1	1147.3	1148.4
142.5°	1173.1	1176.4	1179.7	1181.9	1183.0	1184.1	1185.4	1186.5
145°	1232.2	1233.7	1235.2	1236.1	1236.4	1236.7	1237.1	1237.5
147.5°	1286.1	1286.1	1286.2	1286.5	1287.2	1287.8	1288.5	1289.2
150°	1321.5	1321.5	1321.5	1321.4	1321.1	1320.9	1320.6	1320.3
152.5°	1355.3	1355.9	1356.6	1356.6	1355.8	1355.2	1354.5	1353.7
155°	1402.4	1403.5	1404.6	1404.6	1403.5	1402.4	1401.3	1400.2
157.5°	1443.9	1444.7	1445.5	1445.4	1444.5	1443.7	1442.7	1441.8
160°	1469.5	1470.3	1471.1	1470.8	1469.5	1468.1	1466.7	1465.3
162.5°	1492.4	1493.9	1495.3	1495.4	1494.0	1492.7	1491.3	1490.0
165°	1522.7	1524.4	1526.0	1526.3	1525.2	1524.1	1523.0	1521.9
167.5°	1548.3	1550.0	1551.6	1551.6	1549.9	1548.2	1546.5	1544.7
170°	1562.1	1563.7	1565.4	1565.2	1563.3	1561.4	1559.5	1557.5
172.5°	1572.4	1574.2	1576.1	1576.1	1574.1	1572.2	1570.3	1568.4
175°	1583.6	1585.4	1587.4	1587.4	1585.4	1583.6	1581.6	1579.7
177.5°	1589.7	1591.1	1592.7	1592.6	1590.8	1589.1	1587.4	1585.6
180°	1589.5	1589.5	1589.5	1589.5	1589.5	1589.5	1589.5	1589.5

(END OF REPORT)