

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: P333090-927

Luminaire Tested: **S124RDIW-S1020D1340U927-4F0-1E-UDD-F1**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P333090-927  
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: S124RDIW-S1020D1340U927-4F0-1E-UDD-F1  
Description: DEFINE 4 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE  
DOWNLIGHT 1020 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED  
HOUSING  
UPLIGHT 1340 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 6994.4 lumens  
Efficiency: N/A  
Efficacy: 100.2 lumens/watt  
Spacing Criteria (0/90/45): 1.2 / 1.09 / 1.24  
Luminous Opening: Rectangular (W 0.33' x L: 4' x H: 0')  
CIE Type: General Diffuse

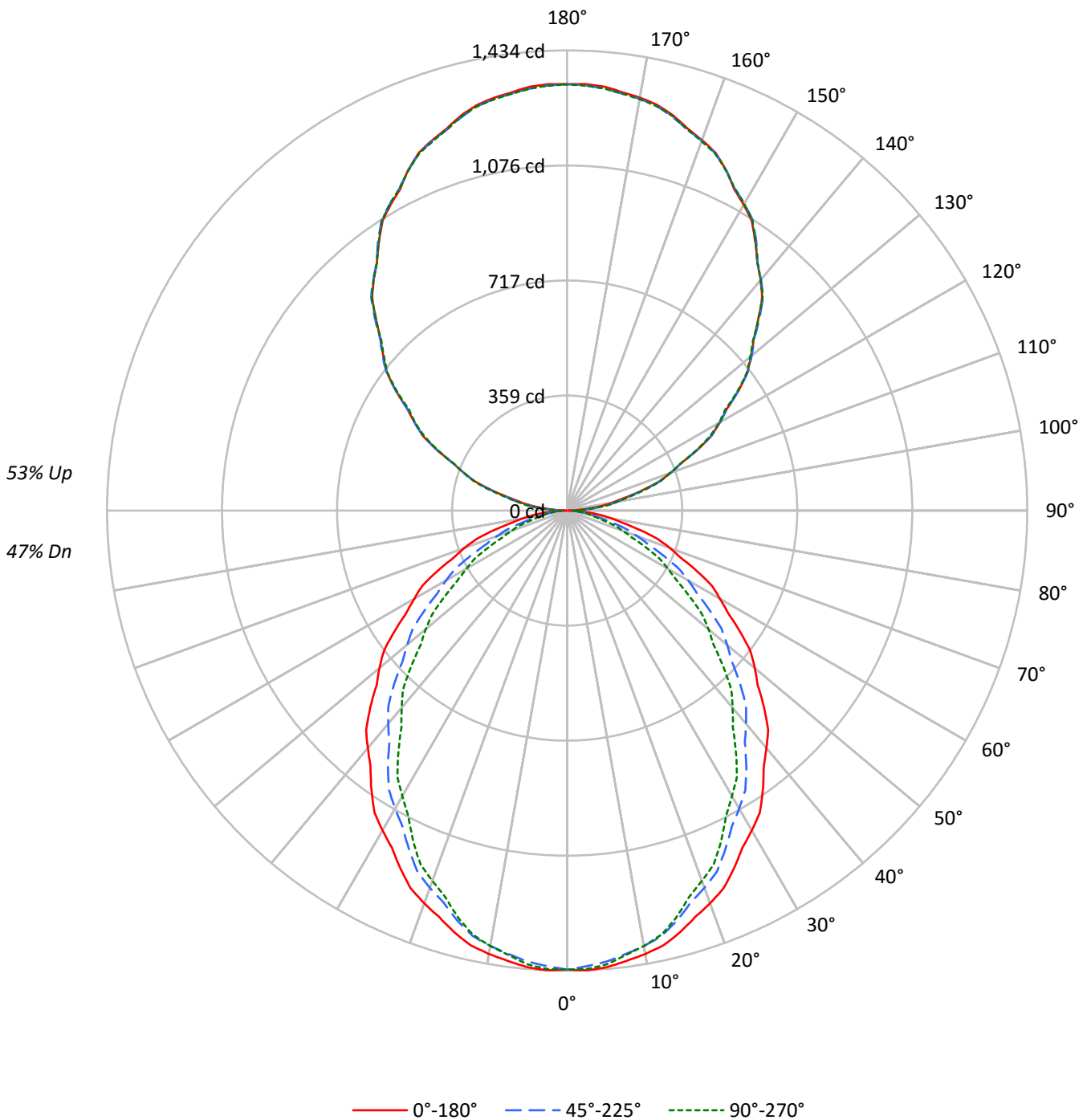
Input Watts (W): 69.8  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	107	107	107	107	98	98	98	98	82	82	82		67	67	67		54	54	54	47
1	97	93	89	86	89	86	83	80	72	70	68		59	58	56		48	47	46	40
2	89	82	76	71	82	75	70	66	63	60	56		52	50	47		42	41	39	34
3	81	72	65	59	74	67	60	55	56	52	48		47	43	40		38	35	33	29
4	74	64	56	50	68	59	52	47	50	45	41		42	38	35		34	31	29	25
5	68	57	49	43	63	53	46	40	45	39	35		37	33	30		31	28	25	22
6	63	51	43	37	58	47	40	35	40	35	31		34	30	27		28	25	22	19
7	58	46	38	33	54	43	36	31	37	31	27		31	27	24		25	22	20	17
8	54	42	34	29	50	39	32	28	34	28	24		28	24	21		23	20	18	16
9	50	38	31	26	46	36	29	25	31	25	22		26	22	19		22	19	16	14
10	47	35	28	23	43	33	26	22	28	23	20		24	20	17		20	17	15	13

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°
0°	11548	11548	11548
5°	11574	11432	11503
10°	11501	11294	11294
15°	11369	11058	10975
20°	11188	10746	10548
25°	10956	10381	10117
30°	10730	9996	9577
35°	10481	9596	9034
40°	10181	9141	8450
45°	9903	8691	7854
50°	9588	8171	7222
55°	9250	7631	6536
60°	8879	7038	5837
65°	8537	6298	5146
70°	8039	5481	4369
75°	7414	4545	3553
80°	6467	3464	3259
85°	5483	3149	2946



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	134.4	1.9
10°-20°	374.7	5.4
20°-30°	541.1	7.7
30°-40°	613.3	8.8
40°-50°	592.3	8.5
50°-60°	492.5	7.0
60°-70°	340.1	4.9
70°-80°	172.4	2.5
80°-90°	48.2	0.7
90°-100°	87.6	1.3
100°-110°	259.5	3.7
110°-120°	440.5	6.3
120°-130°	580.9	8.3
130°-140°	652.4	9.3
140°-150°	641.1	9.2
150°-160°	539.2	7.7
160°-170°	358.7	5.1
170°-180°	125.6	1.8
0°-30°	1050.1	15.0
0°-40°	1663.5	23.8
0°-60°	2748.2	39.3
0°-90°	3308.9	47.3
90°-120°	787.7	11.3
90°-150°	2662.0	38.1
90°-180°	3686.0	52.7
0°-180°	6994.4	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1430	1430	1430	1430	1430	
5°	1428	1423	1411	1421	1420	135
15°	1360	1349	1323	1321	1313	383
25°	1230	1209	1165	1147	1136	566
35°	1064	1027	974	937	917	664
45°	867	826	761	709	688	669
55°	657	612	542	487	464	588
65°	447	398	330	284	269	441
75°	238	197	146	122	114	251
85°	59	38	34	32	32	67
90°	3	14	23	28	31	7
95°	62	71	78	81	81	69
105°	239	241	244	248	251	254
115°	448	448	446	445	444	442
125°	652	652	651	649	647	581
135°	841	847	848	845	842	651
145°	1022	1026	1027	1026	1023	639
155°	1171	1171	1170	1174	1170	539
165°	1275	1272	1270	1275	1272	359
175°	1326	1321	1320	1327	1320	126
180°	1328	1328	1328	1328	1328	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1430.4	1430.4	1430.4	1430.4	1430.4	1430.4	1430.4	1430.4	1430.4	1430.4	1430.4
2.5°	1433.9	1433.1	1432.3	1431.6	1430.8	1429.3	1427.2	1425.1	1422.9	1420.8	1422.9
5°	1428.2	1427.3	1426.3	1425.3	1424.3	1422.4	1419.5	1416.6	1413.6	1410.7	1413.2
7.5°	1415.3	1414.3	1413.3	1412.2	1411.2	1408.8	1405.0	1401.2	1397.4	1393.6	1395.2
10°	1403.0	1401.8	1400.6	1399.4	1398.2	1395.3	1391.0	1386.6	1382.2	1377.8	1378.8
12.5°	1387.3	1385.8	1384.4	1383.1	1381.6	1378.3	1373.2	1368.0	1362.9	1357.7	1358.3
15°	1360.3	1358.1	1356.0	1353.8	1351.5	1347.4	1341.3	1335.2	1329.2	1323.1	1322.6
17.5°	1327.7	1324.5	1321.4	1318.2	1315.0	1309.8	1302.5	1295.2	1287.9	1280.6	1279.2
20°	1302.3	1299.1	1295.9	1292.8	1289.6	1283.9	1275.7	1267.3	1259.1	1250.8	1248.9
22.5°	1274.2	1270.7	1267.1	1263.6	1260.0	1253.8	1245.0	1236.1	1227.2	1218.4	1215.4
25°	1230.0	1225.6	1221.2	1216.9	1212.4	1205.3	1195.3	1185.3	1175.4	1165.4	1161.3
27.5°	1183.5	1178.1	1172.6	1167.0	1161.6	1153.5	1142.8	1132.2	1121.5	1110.8	1105.7
30°	1151.1	1145.0	1139.0	1132.9	1126.8	1118.0	1106.6	1095.1	1083.7	1072.3	1066.2
32.5°	1117.0	1110.1	1103.2	1096.4	1089.5	1080.1	1068.3	1056.5	1044.7	1032.8	1025.8
35°	1063.5	1055.7	1047.9	1040.1	1032.4	1022.4	1010.2	998.1	985.9	973.7	965.4
37.5°	1006.3	998.3	990.3	982.2	974.2	963.5	950.0	936.5	923.0	909.5	900.2
40°	966.1	958.0	950.0	941.9	933.9	923.0	909.1	895.2	881.3	867.4	857.2
42.5°	927.5	919.1	910.6	902.2	893.8	882.3	867.9	853.4	839.0	824.5	814.1
45°	867.4	858.5	849.5	840.4	831.4	819.6	805.0	790.4	775.8	761.2	749.3
47.5°	805.5	796.1	786.9	777.6	768.3	756.1	740.8	725.6	710.4	695.3	682.9
50°	763.4	753.9	744.4	734.9	725.4	712.9	697.4	681.8	666.1	650.6	638.4
52.5°	720.5	711.1	701.9	692.6	683.3	670.7	654.7	638.7	622.7	606.8	594.5
55°	657.2	647.5	637.7	628.0	618.2	605.5	589.6	573.8	558.0	542.2	529.5
57.5°	594.5	584.4	574.3	564.1	554.1	541.1	525.6	510.0	494.4	478.9	466.0
60°	549.9	540.1	530.4	520.6	510.9	498.2	482.7	467.1	451.5	435.9	423.3
62.5°	509.5	499.4	489.3	479.1	469.1	456.0	440.0	424.1	408.1	392.1	380.4
65°	446.9	436.4	426.0	415.5	405.0	392.0	376.4	360.8	345.2	329.7	319.2
67.5°	381.8	371.8	361.8	351.7	341.7	329.5	315.0	300.6	286.1	271.6	262.6
70°	340.6	330.4	320.2	310.0	299.8	287.7	273.9	259.9	246.1	232.2	224.2
72.5°	296.8	287.6	278.3	269.1	259.8	248.7	235.6	222.4	209.4	196.3	189.4
75°	237.7	228.7	219.7	210.6	201.7	191.4	180.0	168.6	157.1	145.7	140.1
77.5°	177.7	170.0	162.4	154.7	147.1	138.6	129.4	120.2	110.9	101.6	98.4
80°	139.1	132.1	125.0	118.0	110.9	103.7	96.4	89.1	81.8	74.5	73.8
82.5°	105.8	99.3	92.8	86.3	79.9	74.5	70.4	66.2	62.0	57.8	57.3
85°	59.2	54.3	49.4	44.5	39.7	36.8	36.1	35.4	34.7	34.0	33.4
87.5°	20.8	19.7	18.7	17.6	16.6	16.1	16.2	16.5	16.6	16.8	16.9
90°	3.1	5.6	8.1	10.6	13.2	15.3	17.1	18.9	20.8	22.6	24.0
92.5°	22.0	24.9	27.7	30.6	33.5	35.6	36.8	38.1	39.4	40.7	41.5
95°	61.6	63.7	65.8	67.8	69.9	71.7	73.3	74.9	76.4	78.1	78.7
97.5°	107.7	109.3	111.0	112.6	114.2	116.0	117.9	119.8	121.6	123.5	124.3
100°	143.9	144.7	145.7	146.6	147.5	148.9	151.0	153.0	155.1	157.2	157.6
102.5°	181.6	182.0	182.4	182.8	183.1	184.2	186.1	188.0	189.8	191.7	192.3
105°	239.4	239.6	239.9	240.0	240.3	240.8	241.8	242.7	243.6	244.5	245.2
107.5°	300.0	300.2	300.6	300.8	301.1	301.3	301.4	301.6	301.7	301.8	302.5
110°	341.1	341.5	342.0	342.5	342.9	343.0	342.8	342.5	342.4	342.1	341.7



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	383.8	383.9	384.0	384.1	384.2	384.0	383.7	383.2	382.8	382.4	382.3
115°	447.9	447.9	447.9	447.9	447.9	447.7	447.3	446.8	446.3	445.8	445.7
117.5°	508.3	508.5	508.7	508.9	509.1	509.0	508.7	508.3	508.0	507.7	506.9
120°	548.6	549.5	550.4	551.4	552.2	552.4	551.7	551.0	550.3	549.6	548.5
122.5°	590.5	590.9	591.3	591.6	592.0	592.0	591.7	591.4	591.0	590.7	589.9
125°	652.4	652.4	652.4	652.4	652.4	652.3	652.0	651.8	651.6	651.3	650.9
127.5°	708.4	709.2	709.9	710.5	711.2	711.4	711.0	710.7	710.3	709.9	709.5
130°	747.9	748.6	749.3	750.0	750.7	751.0	751.0	751.0	751.0	751.0	750.5
132.5°	788.2	788.7	789.2	789.7	790.2	790.4	790.2	790.0	789.8	789.6	789.2
135°	841.4	842.8	844.1	845.5	846.9	847.6	847.6	847.6	847.6	847.6	847.2
137.5°	899.4	900.0	900.6	901.3	901.9	902.5	902.8	903.2	903.5	903.9	903.2
140°	938.0	938.4	938.9	939.4	939.8	940.0	940.0	940.0	940.0	940.0	939.8
142.5°	973.4	973.8	974.2	974.7	975.2	975.3	975.1	974.9	974.8	974.5	974.5
145°	1022.2	1023.2	1024.1	1025.0	1025.9	1026.4	1026.7	1026.9	1027.1	1027.4	1027.1
147.5°	1070.7	1071.8	1072.9	1074.0	1075.1	1075.5	1075.4	1075.2	1075.0	1074.8	1074.7
150°	1100.3	1101.2	1102.2	1103.0	1104.0	1104.4	1104.4	1104.4	1104.4	1104.4	1104.4
152.5°	1128.2	1128.8	1129.3	1129.9	1130.4	1130.8	1131.0	1131.2	1131.4	1131.6	1132.1
155°	1171.2	1171.2	1171.2	1171.2	1171.2	1171.1	1170.8	1170.6	1170.4	1170.2	1171.1
157.5°	1207.4	1207.0	1206.6	1206.1	1205.7	1205.5	1205.5	1205.4	1205.4	1205.3	1206.0
160°	1228.8	1228.5	1228.3	1228.0	1227.8	1227.6	1227.3	1227.2	1226.9	1226.7	1227.3
162.5°	1248.5	1247.8	1247.3	1246.7	1246.1	1245.7	1245.5	1245.2	1245.0	1244.8	1246.0
165°	1274.9	1274.3	1273.6	1272.9	1272.2	1271.7	1271.2	1270.7	1270.3	1269.8	1271.2
167.5°	1295.3	1294.3	1293.4	1292.4	1291.5	1291.0	1291.1	1291.1	1291.2	1291.2	1292.6
170°	1306.8	1305.7	1304.6	1303.4	1302.3	1301.8	1302.0	1302.3	1302.5	1302.7	1304.1
172.5°	1315.0	1314.1	1313.1	1312.2	1311.2	1310.7	1310.8	1310.8	1310.9	1310.9	1312.5
175°	1326.4	1325.2	1324.1	1322.9	1321.8	1321.0	1320.9	1320.6	1320.4	1320.2	1321.8
177.5°	1330.0	1329.1	1328.2	1327.3	1326.4	1326.0	1326.0	1326.0	1326.0	1326.0	1327.2
180°	1328.4	1328.4	1328.4	1328.4	1328.4	1328.4	1328.4	1328.4	1328.4	1328.4	1328.4



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1430.4	1430.4	1430.4	1430.4	1430.4	1430.4	1430.4	1430.4
2.5°	1425.1	1427.2	1429.3	1430.4	1430.1	1430.0	1429.7	1429.6
5°	1415.6	1418.0	1420.5	1421.4	1420.9	1420.5	1420.0	1419.5
7.5°	1396.8	1398.3	1399.9	1400.3	1399.5	1398.7	1397.9	1397.1
10°	1379.8	1380.8	1381.7	1381.7	1380.8	1379.8	1378.8	1377.8
12.5°	1358.8	1359.5	1360.0	1359.6	1358.3	1356.9	1355.6	1354.2
15°	1322.2	1321.6	1321.1	1320.0	1318.3	1316.6	1314.9	1313.2
17.5°	1277.9	1276.5	1275.2	1273.2	1270.6	1268.0	1265.4	1262.8
20°	1246.9	1245.0	1243.0	1240.5	1237.3	1234.1	1231.0	1227.8
22.5°	1212.5	1209.6	1206.7	1204.0	1201.3	1198.8	1196.2	1193.7
25°	1157.1	1152.9	1148.8	1145.5	1143.1	1140.7	1138.2	1135.8
27.5°	1100.6	1095.5	1090.4	1086.1	1082.6	1079.0	1075.5	1072.1
30°	1060.1	1054.0	1047.9	1042.9	1039.0	1035.1	1031.3	1027.4
32.5°	1018.7	1011.7	1004.6	999.3	995.5	991.8	988.2	984.4
35°	957.1	948.9	940.6	934.3	929.9	925.5	921.1	916.7
37.5°	891.0	881.8	872.5	865.7	861.3	856.9	852.5	848.2
40°	847.0	836.8	826.6	819.3	814.9	810.5	806.1	801.8
42.5°	803.7	793.3	782.8	775.4	770.8	766.2	761.6	757.1
45°	737.4	725.4	713.5	705.4	701.0	696.6	692.2	687.9
47.5°	670.6	658.2	645.8	637.2	632.4	627.6	622.7	618.0
50°	626.2	614.1	601.9	593.5	588.9	584.2	579.6	575.0
52.5°	582.0	569.7	557.3	548.7	543.9	539.1	534.2	529.5
55°	516.8	504.2	491.5	482.9	478.2	473.6	469.1	464.4
57.5°	453.1	440.3	427.5	419.3	415.7	412.3	408.8	405.3
60°	410.6	397.9	385.3	377.0	373.1	369.2	365.4	361.5
62.5°	368.8	357.0	345.4	337.9	334.9	331.8	328.6	325.5
65°	308.7	298.3	287.8	281.1	278.2	275.3	272.4	269.4
67.5°	253.6	244.6	235.6	229.5	226.2	223.1	219.8	216.7
70°	216.1	208.1	200.1	194.8	192.4	190.0	187.5	185.1
72.5°	182.5	175.7	168.8	164.3	162.0	159.8	157.6	155.3
75°	134.5	128.9	123.3	119.8	118.3	116.8	115.3	113.9
77.5°	95.1	91.9	88.6	86.7	86.3	85.9	85.4	85.0
80°	73.0	72.3	71.5	71.1	70.8	70.6	70.3	70.1
82.5°	56.7	56.2	55.7	55.3	55.1	54.8	54.6	54.3
85°	33.0	32.5	32.0	31.8	31.8	31.8	31.8	31.8
87.5°	17.0	17.0	17.1	17.3	17.6	17.8	18.1	18.5
90°	25.3	26.7	28.0	29.0	29.5	29.9	30.3	30.8
92.5°	42.3	43.2	44.0	44.5	44.8	45.1	45.3	45.6
95°	79.5	80.2	80.8	81.2	81.2	81.2	81.2	81.2
97.5°	125.2	126.0	126.7	127.2	127.2	127.2	127.2	127.2
100°	158.1	158.6	159.0	159.2	159.2	159.2	159.2	159.2
102.5°	193.0	193.6	194.2	194.6	194.9	195.0	195.2	195.4
105°	245.9	246.6	247.2	248.0	248.6	249.3	250.0	250.6
107.5°	303.1	303.7	304.4	304.7	304.7	304.6	304.6	304.5
110°	341.2	340.7	340.3	340.4	341.1	341.7	342.5	343.2





TEST NUMBER: P333090-927

CATALOG NUMBER: S124RDIW-S1020D1340U927-4F0-1E-UDD-F1

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	382.2	382.1	382.0	382.1	382.1	382.3	382.5	382.6
115°	445.4	445.2	445.0	444.7	444.5	444.3	444.0	443.9
117.5°	506.2	505.4	504.6	504.0	503.5	503.1	502.6	502.2
120°	547.4	546.2	545.1	544.7	545.2	545.7	546.1	546.5
122.5°	589.1	588.4	587.6	586.8	586.0	585.2	584.4	583.5
125°	650.5	650.0	649.5	649.0	648.6	648.2	647.7	647.2
127.5°	709.0	708.5	708.1	707.7	707.3	706.9	706.5	706.2
130°	750.1	749.6	749.2	748.5	747.6	746.6	745.8	744.8
132.5°	788.7	788.3	787.8	787.4	787.0	786.6	786.3	785.9
135°	846.7	846.2	845.7	845.2	844.5	843.8	843.1	842.4
137.5°	902.7	902.1	901.5	901.3	901.4	901.6	901.7	901.8
140°	939.6	939.4	939.1	938.9	938.7	938.4	938.2	938.0
142.5°	974.5	974.5	974.4	974.3	974.3	974.2	974.2	974.1
145°	1026.9	1026.7	1026.4	1026.0	1025.3	1024.6	1024.0	1023.3
147.5°	1074.4	1074.3	1074.1	1073.9	1073.6	1073.4	1073.2	1073.0
150°	1104.4	1104.4	1104.4	1104.3	1104.1	1103.8	1103.6	1103.4
152.5°	1132.7	1133.2	1133.8	1133.7	1133.1	1132.5	1131.9	1131.3
155°	1172.0	1172.9	1173.9	1173.9	1172.9	1172.0	1171.1	1170.2
157.5°	1206.7	1207.4	1208.1	1208.0	1207.2	1206.4	1205.7	1204.9
160°	1228.0	1228.8	1229.4	1229.2	1228.0	1226.9	1225.7	1224.6
162.5°	1247.2	1248.5	1249.7	1249.7	1248.6	1247.4	1246.3	1245.2
165°	1272.6	1273.9	1275.3	1275.6	1274.6	1273.7	1272.8	1271.8
167.5°	1294.0	1295.3	1296.6	1296.6	1295.2	1293.8	1292.4	1291.0
170°	1305.4	1306.8	1308.2	1308.1	1306.5	1304.9	1303.3	1301.7
172.5°	1314.0	1315.6	1317.2	1317.1	1315.5	1313.9	1312.3	1310.7
175°	1323.3	1324.9	1326.6	1326.6	1324.9	1323.3	1321.8	1320.2
177.5°	1328.5	1329.8	1331.0	1330.9	1329.5	1328.0	1326.6	1325.1
180°	1328.4	1328.4	1328.4	1328.4	1328.4	1328.4	1328.4	1328.4

(END OF REPORT)