

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: P333046-840

Luminaire Tested: **S124RDIW-S575D1050U840-4F0-1E-UDD-F1**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P333046-840  
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-S575D1050U840-4F0-1E-UDD-F1  
Description: DEFINE 4 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE  
DOWNLIGHT 575 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED  
HOUSING  
UPLIGHT 1050 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 6045.1 lumens  
Efficiency: N/A  
Efficacy: 133.7 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: Semi-Indirect

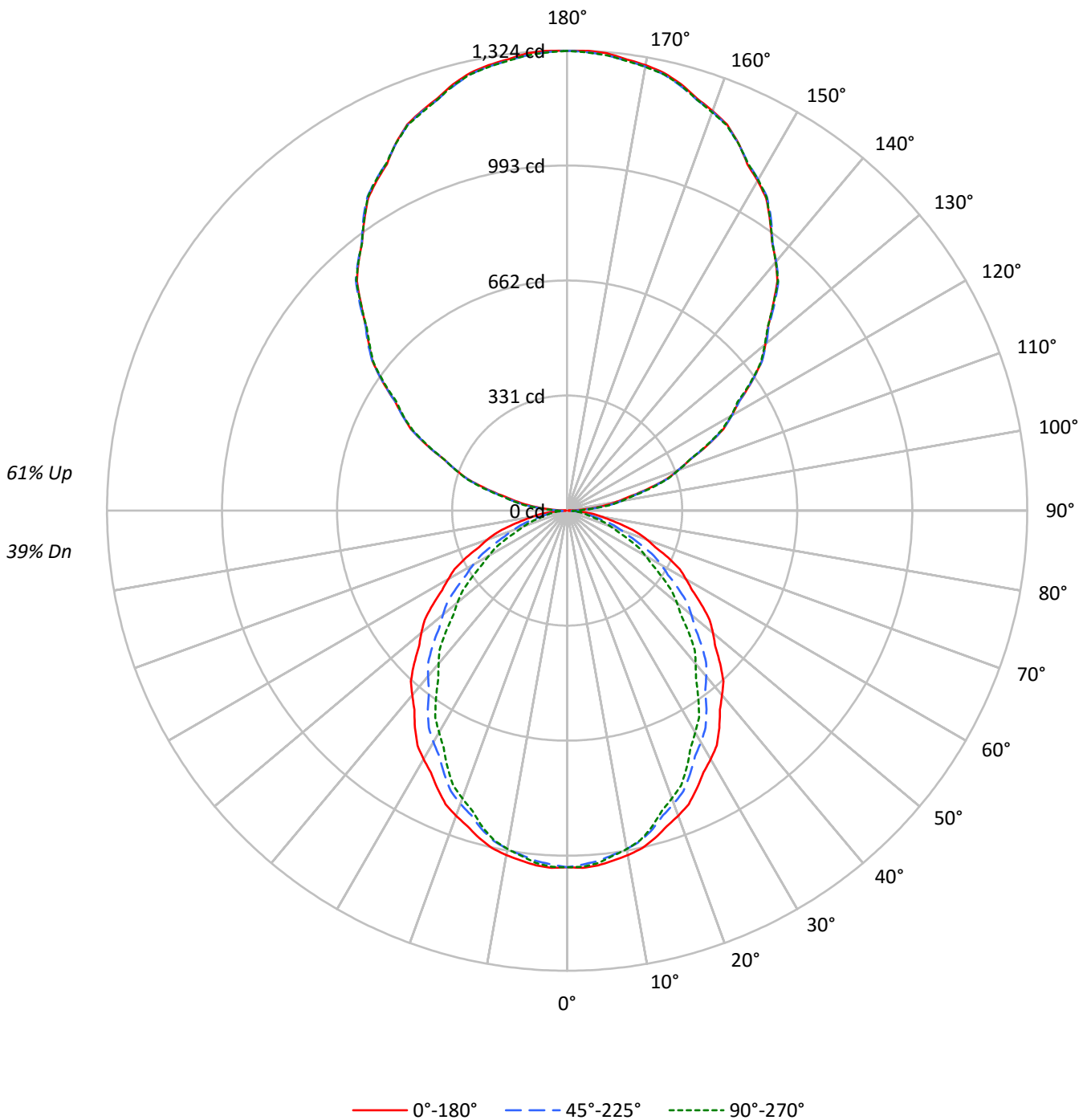
Input Watts (W): 45.2  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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### Luminous Intensity Polar Plot





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**COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:**

RF	20				20				20			20			20			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	95	95	95	95	77	77	77	61	61	61	46	46	46	39
1	96	91	88	84	87	83	80	77	68	66	64	54	53	51	41	40	39	34
2	87	80	74	69	79	73	68	64	60	56	53	48	45	43	36	35	34	28
3	80	70	63	58	72	64	58	53	53	49	45	42	39	37	33	30	29	24
4	73	62	55	49	66	57	50	45	47	42	38	38	34	32	29	27	25	21
5	67	56	48	42	61	51	44	39	42	37	33	34	30	27	26	24	22	18
6	62	50	42	36	56	46	39	34	38	33	29	31	27	24	24	21	19	16
7	57	45	37	32	52	41	35	30	34	29	25	28	24	21	22	19	17	14
8	53	41	33	28	48	38	31	26	31	26	23	26	22	19	20	17	15	13
9	49	37	30	25	45	34	28	23	29	24	20	24	20	17	19	16	14	12
10	46	34	27	22	42	32	25	21	26	22	18	22	18	15	17	15	13	11

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

	0°	45°	90°
0°	8285	8285	8285
5°	8304	8203	8253
10°	8252	8104	8104
15°	8157	7934	7875
20°	8027	7710	7568
25°	7861	7448	7259
30°	7699	7171	6871
35°	7521	6885	6482
40°	7304	6559	6062
45°	7106	6235	5634
50°	6880	5863	5181
55°	6636	5475	4690
60°	6370	5050	4187
65°	6124	4518	3692
70°	5769	3932	3135
75°	5321	3260	2548
80°	4640	2483	2338
85°	3927	2251	2112



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	96.4	1.6
10°-20°	268.8	4.4
20°-30°	388.2	6.4
30°-40°	440.0	7.3
40°-50°	424.9	7.0
50°-60°	353.4	5.8
60°-70°	244.0	4.0
70°-80°	123.7	2.0
80°-90°	35.7	0.6
90°-100°	87.2	1.4
100°-110°	258.4	4.3
110°-120°	438.7	7.3
120°-130°	578.4	9.6
130°-140°	649.6	10.7
140°-150°	638.4	10.6
150°-160°	536.9	8.9
160°-170°	357.2	5.9
170°-180°	125.1	2.1
0°-30°	753.5	12.5
0°-40°	1193.5	19.7
0°-60°	1971.8	32.6
0°-90°	2375.1	39.3
90°-120°	784.3	13.0
90°-150°	2650.7	43.8
90°-180°	3670.0	60.7
0°-180°	6045.1	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1026	1026	1026	1026	1026	
5°	1025	1021	1012	1020	1018	97
15°	976	968	949	948	942	275
25°	882	867	836	823	815	406
35°	763	737	699	673	658	477
45°	622	592	546	509	494	480
55°	472	439	389	350	333	422
65°	321	286	236	204	193	317
75°	171	141	104	87	82	180
85°	42	28	24	23	23	48
90°	3	14	22	28	31	6
95°	61	70	78	81	81	68
105°	238	240	244	247	250	253
115°	446	446	444	443	442	440
125°	650	650	649	647	644	579
135°	838	844	844	842	839	648
145°	1018	1022	1023	1022	1019	637
155°	1166	1166	1165	1169	1165	536
165°	1270	1267	1264	1270	1266	358
175°	1321	1316	1315	1321	1315	125
180°	1323	1323	1323	1323	1323	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1026.3	1026.3	1026.3	1026.3	1026.3	1026.3	1026.3	1026.3	1026.3	1026.3	1026.3
2.5°	1028.9	1028.2	1027.7	1027.1	1026.6	1025.5	1024.0	1022.5	1020.9	1019.4	1020.9
5°	1024.7	1024.0	1023.3	1022.6	1022.0	1020.6	1018.4	1016.3	1014.2	1012.2	1013.9
7.5°	1015.4	1014.7	1014.0	1013.3	1012.5	1010.8	1008.0	1005.3	1002.6	999.9	1001.0
10°	1006.6	1005.8	1004.9	1004.0	1003.2	1001.2	998.0	994.8	991.7	988.6	989.3
12.5°	995.3	994.3	993.3	992.3	991.3	989.0	985.2	981.5	977.9	974.1	974.5
15°	976.0	974.4	972.9	971.3	969.7	966.7	962.4	958.1	953.6	949.3	949.0
17.5°	952.6	950.3	948.1	945.7	943.5	939.8	934.5	929.3	924.0	918.8	917.9
20°	934.3	932.1	929.8	927.6	925.2	921.2	915.2	909.3	903.3	897.5	896.1
22.5°	914.2	911.7	909.2	906.6	904.0	899.6	893.2	886.9	880.5	874.1	872.0
25°	882.5	879.4	876.2	873.0	869.9	864.7	857.6	850.4	843.2	836.2	833.1
27.5°	849.2	845.3	841.3	837.4	833.3	827.6	819.9	812.3	804.7	797.0	793.3
30°	825.9	821.5	817.2	812.8	808.5	802.1	794.0	785.8	777.5	769.3	765.0
32.5°	801.4	796.5	791.5	786.6	781.7	775.0	766.5	758.0	749.5	741.0	736.0
35°	763.1	757.5	751.8	746.3	740.7	733.6	724.8	716.1	707.3	698.6	692.7
37.5°	722.1	716.3	710.5	704.8	698.9	691.3	681.6	671.9	662.3	652.6	645.9
40°	693.1	687.3	681.6	675.8	670.0	662.2	652.3	642.3	632.4	622.4	615.0
42.5°	665.4	659.4	653.4	647.3	641.3	633.1	622.7	612.3	602.0	591.6	584.1
45°	622.4	615.9	609.5	603.0	596.5	588.0	577.5	567.1	556.6	546.1	537.6
47.5°	577.9	571.3	564.5	557.8	551.2	542.4	531.5	520.7	509.8	498.9	490.0
50°	547.8	540.9	534.1	527.3	520.5	511.5	500.3	489.2	478.0	466.8	458.1
52.5°	516.9	510.3	503.6	497.0	490.2	481.2	469.7	458.3	446.8	435.4	426.5
55°	471.5	464.5	457.6	450.5	443.5	434.3	423.0	411.7	400.3	389.0	379.9
57.5°	426.6	419.3	412.0	404.8	397.5	388.3	377.1	365.9	354.8	343.6	334.4
60°	394.5	387.5	380.5	373.5	366.6	357.5	346.3	335.1	324.0	312.8	303.7
62.5°	365.6	358.3	351.0	343.8	336.5	327.2	315.7	304.3	292.8	281.3	273.0
65°	320.6	313.2	305.6	298.1	290.5	281.2	270.0	258.9	247.7	236.5	229.0
67.5°	274.0	266.7	259.5	252.4	245.2	236.4	226.0	215.6	205.3	194.9	188.4
70°	244.4	237.0	229.7	222.4	215.1	206.4	196.4	186.5	176.5	166.6	160.9
72.5°	213.0	206.3	199.7	193.1	186.4	178.4	169.1	159.7	150.2	140.8	135.9
75°	170.6	164.1	157.6	151.2	144.7	137.3	129.2	120.9	112.7	104.5	100.5
77.5°	127.4	122.0	116.5	111.0	105.5	99.5	92.8	86.2	79.6	72.9	70.6
80°	99.8	94.7	89.7	84.6	79.6	74.4	69.2	63.9	58.7	53.4	52.9
82.5°	75.9	71.3	66.7	62.0	57.4	53.5	50.5	47.5	44.5	41.5	41.1
85°	42.4	39.0	35.4	31.9	28.5	26.5	26.0	25.4	24.8	24.3	24.0
87.5°	15.0	14.4	13.8	13.2	12.6	12.4	12.6	12.8	13.1	13.3	13.4
90°	3.0	5.6	8.1	10.6	13.0	15.2	17.1	18.9	20.7	22.5	23.8
92.5°	21.9	24.7	27.7	30.5	33.3	35.4	36.7	38.0	39.3	40.5	41.3
95°	61.4	63.4	65.4	67.6	69.6	71.4	73.0	74.5	76.1	77.8	78.5
97.5°	107.2	108.9	110.5	112.1	113.8	115.5	117.3	119.3	121.1	123.0	123.8
100°	143.2	144.1	145.0	145.9	146.8	148.3	150.4	152.4	154.5	156.5	156.9
102.5°	180.9	181.3	181.6	182.0	182.3	183.4	185.3	187.1	189.0	190.9	191.6
105°	238.3	238.6	238.8	239.0	239.2	239.8	240.8	241.7	242.6	243.5	244.2
107.5°	298.7	299.0	299.2	299.5	299.8	300.0	300.1	300.3	300.4	300.5	301.2
110°	339.6	340.1	340.5	341.0	341.4	341.5	341.3	341.1	340.9	340.6	340.2



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	382.2	382.3	382.4	382.4	382.5	382.4	382.0	381.6	381.2	380.8	380.7
115°	446.1	446.1	446.1	446.1	446.1	445.9	445.4	444.9	444.4	444.0	443.7
117.5°	506.2	506.3	506.5	506.8	507.0	506.9	506.5	506.2	505.9	505.5	504.8
120°	546.3	547.2	548.2	549.1	550.0	550.1	549.4	548.7	548.1	547.3	546.2
122.5°	588.0	588.4	588.8	589.2	589.5	589.6	589.2	588.9	588.5	588.2	587.4
125°	649.6	649.6	649.6	649.6	649.6	649.5	649.2	649.0	648.8	648.6	648.1
127.5°	705.5	706.2	706.8	707.5	708.2	708.4	708.0	707.6	707.3	706.9	706.5
130°	744.8	745.5	746.1	746.8	747.5	747.8	747.8	747.8	747.8	747.8	747.4
132.5°	784.9	785.4	785.9	786.4	786.9	787.0	786.9	786.7	786.5	786.3	785.9
135°	837.9	839.2	840.6	841.9	843.3	844.0	844.0	844.0	844.0	844.0	843.5
137.5°	895.5	896.2	896.9	897.5	898.1	898.6	899.0	899.4	899.7	900.1	899.5
140°	934.0	934.5	934.9	935.4	935.8	936.0	936.0	936.0	936.0	936.0	935.8
142.5°	969.3	969.7	970.2	970.6	971.1	971.2	971.0	970.8	970.7	970.5	970.4
145°	1017.9	1018.9	1019.8	1020.7	1021.6	1022.1	1022.4	1022.6	1022.8	1023.0	1022.8
147.5°	1066.2	1067.3	1068.4	1069.4	1070.6	1071.1	1070.9	1070.7	1070.5	1070.3	1070.2
150°	1095.7	1096.6	1097.5	1098.4	1099.3	1099.7	1099.7	1099.7	1099.7	1099.7	1099.7
152.5°	1123.5	1124.1	1124.6	1125.1	1125.7	1126.0	1126.2	1126.4	1126.6	1126.8	1127.3
155°	1166.3	1166.3	1166.3	1166.3	1166.3	1166.2	1165.9	1165.7	1165.5	1165.3	1166.2
157.5°	1202.2	1201.8	1201.4	1201.0	1200.6	1200.4	1200.3	1200.3	1200.2	1200.2	1200.9
160°	1223.6	1223.4	1223.0	1222.8	1222.6	1222.4	1222.1	1221.9	1221.7	1221.5	1222.1
162.5°	1243.1	1242.6	1242.0	1241.4	1240.8	1240.4	1240.2	1240.0	1239.7	1239.5	1240.7
165°	1269.6	1268.9	1268.2	1267.6	1266.9	1266.3	1265.9	1265.4	1265.0	1264.5	1265.9
167.5°	1289.8	1288.9	1288.0	1287.0	1286.1	1285.6	1285.7	1285.7	1285.7	1285.8	1287.1
170°	1301.3	1300.2	1299.0	1297.9	1296.8	1296.3	1296.6	1296.8	1297.0	1297.2	1298.6
172.5°	1309.5	1308.5	1307.6	1306.7	1305.7	1305.3	1305.3	1305.4	1305.4	1305.4	1307.0
175°	1320.7	1319.6	1318.5	1317.4	1316.2	1315.6	1315.2	1315.0	1314.8	1314.6	1316.2
177.5°	1324.4	1323.5	1322.6	1321.7	1320.8	1320.3	1320.3	1320.3	1320.3	1320.3	1321.6
180°	1322.8	1322.8	1322.8	1322.8	1322.8	1322.8	1322.8	1322.8	1322.8	1322.8	1322.8



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1026.3	1026.3	1026.3	1026.3	1026.3	1026.3	1026.3	1026.3
2.5°	1022.5	1024.0	1025.5	1026.2	1026.1	1025.9	1025.8	1025.7
5°	1015.6	1017.4	1019.2	1019.9	1019.5	1019.2	1018.8	1018.4
7.5°	1002.1	1003.2	1004.4	1004.6	1004.1	1003.5	1003.0	1002.4
10°	990.0	990.7	991.4	991.4	990.7	990.0	989.3	988.6
12.5°	974.9	975.3	975.8	975.5	974.5	973.6	972.6	971.6
15°	948.6	948.3	947.9	947.2	945.8	944.6	943.4	942.2
17.5°	916.9	915.8	914.8	913.4	911.6	909.8	907.9	906.1
20°	894.6	893.2	891.8	890.0	887.8	885.4	883.2	880.9
22.5°	870.0	867.9	865.8	863.8	861.9	860.1	858.3	856.4
25°	830.2	827.2	824.3	821.9	820.1	818.4	816.7	814.9
27.5°	789.6	786.0	782.3	779.2	776.7	774.2	771.7	769.2
30°	760.6	756.2	751.8	748.3	745.5	742.7	739.9	737.1
32.5°	730.9	725.9	720.7	716.9	714.3	711.7	708.9	706.3
35°	686.7	680.8	674.9	670.3	667.2	664.0	660.9	657.7
37.5°	639.2	632.7	626.0	621.2	617.9	614.8	611.7	608.5
40°	607.7	600.4	593.0	587.8	584.6	581.5	578.3	575.2
42.5°	576.6	569.2	561.7	556.3	553.0	549.8	546.4	543.2
45°	529.1	520.5	511.9	506.0	502.9	499.8	496.7	493.5
47.5°	481.1	472.2	463.3	457.2	453.7	450.3	446.9	443.3
50°	449.3	440.6	431.8	425.9	422.5	419.2	415.9	412.5
52.5°	417.6	408.7	399.9	393.7	390.2	386.8	383.3	379.9
55°	370.8	361.7	352.6	346.5	343.2	339.8	336.5	333.2
57.5°	325.1	315.9	306.7	300.8	298.3	295.8	293.3	290.7
60°	294.6	285.5	276.4	270.5	267.7	264.9	262.2	259.3
62.5°	264.6	256.2	247.8	242.5	240.2	238.0	235.8	233.6
65°	221.6	214.0	206.5	201.7	199.7	197.5	195.4	193.3
67.5°	182.0	175.5	169.1	164.7	162.4	160.1	157.7	155.4
70°	155.1	149.4	143.5	139.8	138.0	136.3	134.5	132.8
72.5°	131.0	126.0	121.1	117.9	116.2	114.6	113.0	111.4
75°	96.4	92.5	88.5	85.9	84.8	83.8	82.8	81.7
77.5°	68.3	65.9	63.5	62.2	61.9	61.6	61.3	61.0
80°	52.4	51.9	51.3	51.0	50.8	50.6	50.5	50.3
82.5°	40.7	40.3	40.0	39.7	39.5	39.3	39.2	39.0
85°	23.6	23.3	22.9	22.8	22.8	22.8	22.8	22.8
87.5°	13.5	13.7	13.8	14.0	14.2	14.4	14.7	14.9
90°	25.2	26.6	28.0	28.9	29.3	29.8	30.2	30.7
92.5°	42.1	42.9	43.8	44.3	44.6	44.8	45.1	45.4
95°	79.1	79.8	80.5	80.8	80.8	80.8	80.8	80.8
97.5°	124.6	125.4	126.2	126.6	126.6	126.6	126.6	126.6
100°	157.4	157.8	158.3	158.5	158.5	158.5	158.5	158.5
102.5°	192.2	192.8	193.5	193.9	194.0	194.2	194.4	194.6
105°	244.9	245.5	246.2	246.9	247.6	248.2	248.9	249.6
107.5°	301.8	302.5	303.2	303.4	303.4	303.4	303.3	303.3
110°	339.7	339.3	338.8	339.0	339.6	340.3	341.0	341.7





TEST NUMBER: P333046-840

CATALOG NUMBER: S124RDIW-S575D1050U840-4F0-1E-UDD-F1

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	380.6	380.5	380.4	380.4	380.6	380.7	380.8	381.0
115°	443.5	443.3	443.1	442.8	442.6	442.4	442.2	441.9
117.5°	504.0	503.2	502.5	501.9	501.4	501.0	500.5	500.1
120°	545.0	543.9	542.8	542.4	542.9	543.3	543.8	544.2
122.5°	586.7	585.9	585.1	584.3	583.5	582.7	581.9	581.1
125°	647.7	647.2	646.8	646.3	645.9	645.4	645.0	644.5
127.5°	706.0	705.6	705.1	704.7	704.3	704.0	703.6	703.3
130°	746.9	746.5	746.0	745.4	744.5	743.6	742.7	741.7
132.5°	785.4	785.0	784.5	784.1	783.8	783.4	782.9	782.6
135°	843.1	842.6	842.2	841.6	840.9	840.2	839.6	838.9
137.5°	898.9	898.3	897.7	897.5	897.6	897.8	897.9	898.0
140°	935.6	935.4	935.1	934.9	934.7	934.5	934.2	934.0
142.5°	970.4	970.3	970.3	970.2	970.2	970.2	970.1	970.1
145°	1022.6	1022.4	1022.1	1021.7	1021.0	1020.3	1019.7	1019.0
147.5°	1070.0	1069.8	1069.5	1069.3	1069.1	1068.9	1068.6	1068.4
150°	1099.7	1099.7	1099.7	1099.6	1099.4	1099.2	1098.9	1098.7
152.5°	1127.8	1128.4	1128.9	1128.9	1128.3	1127.7	1127.1	1126.6
155°	1167.1	1168.0	1168.9	1168.9	1168.0	1167.1	1166.2	1165.3
157.5°	1201.6	1202.2	1203.0	1203.0	1202.1	1201.3	1200.6	1199.8
160°	1222.8	1223.6	1224.3	1224.0	1222.8	1221.7	1220.6	1219.4
162.5°	1241.9	1243.1	1244.5	1244.5	1243.3	1242.2	1241.0	1239.9
165°	1267.2	1268.6	1269.9	1270.1	1269.2	1268.3	1267.4	1266.5
167.5°	1288.5	1289.8	1291.2	1291.2	1289.8	1288.4	1287.0	1285.6
170°	1299.9	1301.3	1302.6	1302.5	1301.0	1299.4	1297.8	1296.2
172.5°	1308.5	1310.0	1311.6	1311.5	1310.0	1308.4	1306.8	1305.1
175°	1317.8	1319.4	1321.0	1321.0	1319.4	1317.8	1316.2	1314.6
177.5°	1322.9	1324.1	1325.4	1325.3	1323.8	1322.4	1321.0	1319.5
180°	1322.8	1322.8	1322.8	1322.8	1322.8	1322.8	1322.8	1322.8

(END OF REPORT)