

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: P333045-840

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

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P333045-840
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-6,
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-F
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, NO LENS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 6606.7 lumens
Efficiency: N/A
Efficacy: 146.2 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: Semi-Indirect

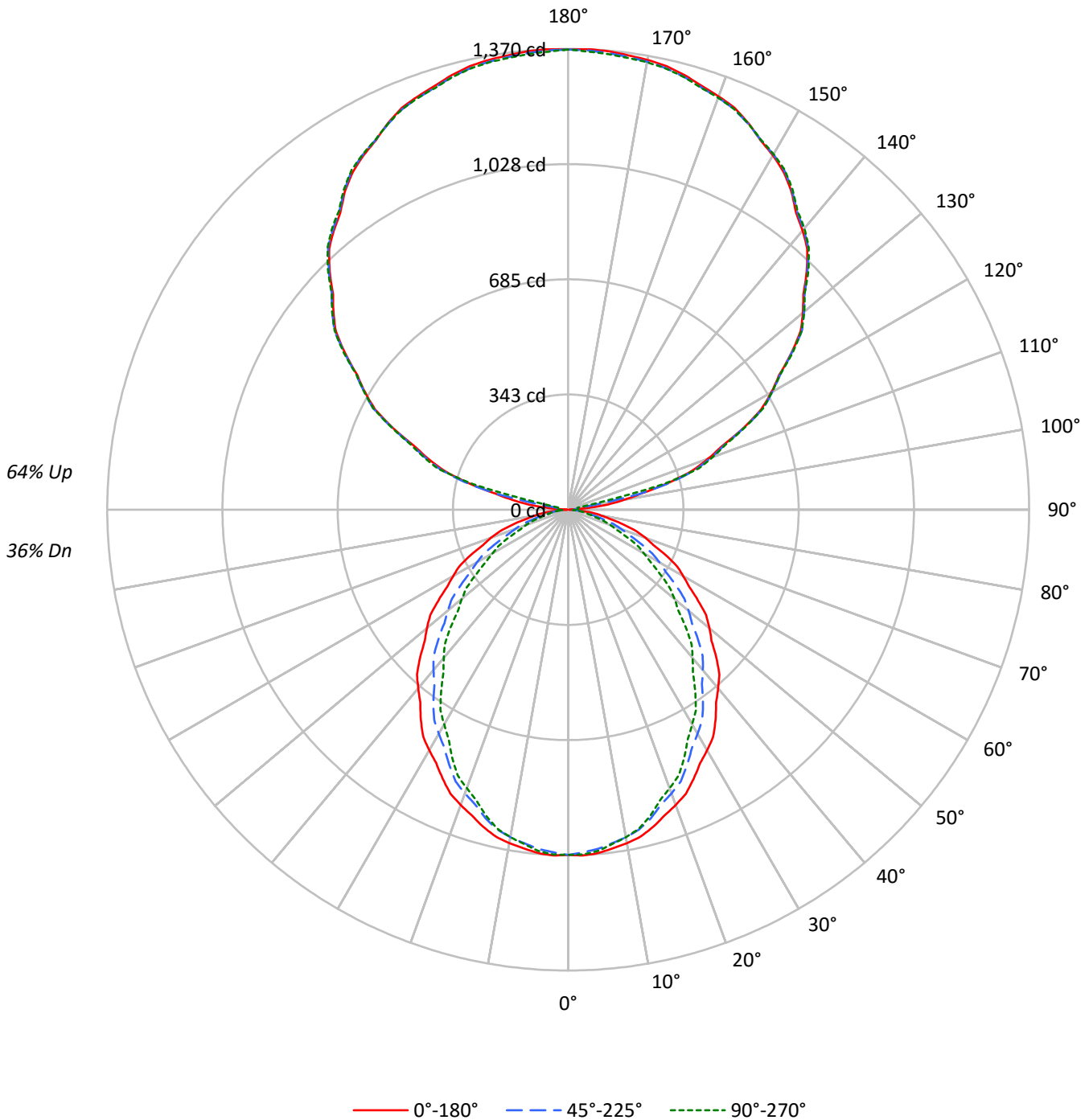
Input Watts (W): 45.2
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	104	104	104	104	94	94	94	94	76	76	76	59	59	59	43	43	43	36
1	95	91	87	84	86	82	79	76	66	64	62	52	50	49	38	38	37	31
2	86	79	73	69	78	72	67	63	58	55	52	46	43	41	34	33	31	26
3	79	70	63	57	71	64	57	53	52	47	44	41	38	35	30	28	27	22
4	72	62	54	48	65	56	50	45	46	41	37	36	33	30	27	25	23	19
5	66	55	47	41	60	50	43	38	41	36	32	33	29	26	25	22	20	17
6	61	49	42	36	55	45	38	33	37	32	28	29	26	23	22	20	18	15
7	56	45	37	31	51	41	34	29	34	28	25	27	23	20	20	18	16	13
8	52	40	33	28	47	37	30	26	31	25	22	24	21	18	19	16	14	12
9	49	37	30	25	44	34	27	23	28	23	20	22	19	16	17	15	13	11
10	45	34	27	22	41	31	25	21	26	21	18	21	17	15	16	14	12	10

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	1.5
10°-20°	268.8	4.1
20°-30°	388.2	5.9
30°-40°	440.0	6.7
40°-50°	424.9	6.4
50°-60°	353.4	5.3
60°-70°	244.0	3.7
70°-80°	123.7	1.9
80°-90°	35.7	0.5
90°-100°	46.8	0.7
100°-110°	298.3	4.5
110°-120°	570.7	8.6
120°-130°	724.4	11.0
130°-140°	775.1	11.7
140°-150°	724.8	11.0
150°-160°	584.5	8.8
160°-170°	377.0	5.7
170°-180°	129.9	2.0
0°-30°	753.5	11.4
0°-40°	1193.5	18.1
0°-60°	1971.8	29.8
0°-90°	2375.1	36.0
90°-120°	915.8	13.9
90°-150°	3140.1	47.5
90°-180°	4232.0	64.1
0°-180°	6606.7	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	5
95°	56	23	22	28	30	72
105°	308	314	319	326	292	322
115°	575	578	577	579	579	566
125°	808	812	810	813	814	721
135°	1003	1002	1006	1008	1010	772
145°	1156	1159	1159	1160	1162	722
155°	1268	1268	1266	1269	1267	584
165°	1337	1332	1332	1339	1331	378
175°	1368	1362	1363	1371	1360	130
180°	1368	1368	1368	1368	1368	



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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°	12.9	13.0	13.1	13.3	13.4	14.4	16.3	18.1	19.9	21.7	23.0
95°	56.2	48.6	40.8	33.1	25.3	21.6	21.8	22.0	22.3	22.5	23.8
97.5°	119.5	124.3	129.2	134.0	138.8	128.6	103.1	77.8	52.4	27.0	27.2
100°	167.8	171.9	176.0	180.1	184.2	170.6	139.2	107.8	76.4	45.0	41.2
102.5°	221.9	224.8	227.8	230.9	233.8	233.3	229.2	225.1	221.0	216.9	175.2
105°	308.0	309.3	310.7	312.0	313.5	314.7	315.8	317.0	318.1	319.2	321.2
107.5°	388.0	388.7	389.3	390.0	390.7	391.8	393.3	395.0	396.5	398.0	399.0
110°	442.0	442.7	443.3	444.0	444.7	445.8	447.2	448.5	449.9	451.2	451.7



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	494.4	495.6	496.9	498.1	499.3	500.3	500.9	501.5	502.1	502.8	502.7
115°	575.0	575.7	576.4	577.0	577.7	577.9	577.7	577.5	577.3	577.0	577.5
117.5°	647.6	648.5	649.4	650.4	651.3	652.0	652.5	653.0	653.5	654.0	653.9
120°	696.8	697.7	698.6	699.5	700.4	700.7	700.5	700.3	700.0	699.8	700.3
122.5°	742.7	743.2	743.7	744.3	744.8	745.3	745.6	745.9	746.2	746.5	746.8
125°	808.3	809.2	810.1	811.0	811.9	812.1	811.7	811.2	810.8	810.3	811.0
127.5°	870.5	870.7	871.0	871.2	871.4	872.0	873.1	874.1	875.1	876.3	876.2
130°	910.6	910.9	911.1	911.3	911.5	912.0	912.7	913.3	914.0	914.7	914.9
132.5°	947.5	947.9	948.3	948.7	949.1	949.8	950.6	951.5	952.3	953.2	953.4
135°	1002.7	1002.5	1002.3	1002.0	1001.8	1002.2	1003.1	1004.0	1004.9	1005.8	1006.2
137.5°	1051.6	1051.7	1051.8	1051.9	1052.0	1052.5	1053.5	1054.5	1055.5	1056.5	1057.0
140°	1083.6	1084.0	1084.5	1084.9	1085.4	1085.8	1086.3	1086.7	1087.2	1087.6	1088.3
142.5°	1112.2	1113.0	1113.8	1114.7	1115.5	1116.0	1116.3	1116.5	1116.8	1117.1	1117.6
145°	1156.2	1156.9	1157.5	1158.2	1158.9	1159.2	1159.2	1159.2	1159.2	1159.2	1159.5
147.5°	1191.1	1192.4	1193.8	1195.0	1196.3	1196.8	1196.6	1196.4	1196.1	1195.9	1196.1
150°	1216.6	1217.5	1218.4	1219.3	1220.2	1220.5	1220.3	1220.1	1219.8	1219.6	1219.6
152.5°	1237.8	1238.6	1239.3	1240.0	1240.7	1240.9	1240.5	1240.1	1239.7	1239.3	1239.6
155°	1267.7	1268.0	1268.2	1268.4	1268.6	1268.4	1267.7	1267.1	1266.4	1265.7	1266.6
157.5°	1292.9	1292.7	1292.6	1292.4	1292.3	1291.9	1291.1	1290.3	1289.6	1288.8	1290.0
160°	1307.6	1307.0	1306.3	1305.6	1304.8	1304.4	1304.2	1303.9	1303.7	1303.5	1304.8
162.5°	1320.7	1319.9	1319.0	1318.1	1317.3	1316.7	1316.5	1316.3	1316.1	1315.8	1317.2
165°	1337.3	1336.2	1335.0	1333.8	1332.7	1332.2	1332.2	1332.2	1332.2	1332.2	1334.0
167.5°	1350.4	1349.2	1348.1	1346.9	1345.6	1345.0	1344.8	1344.7	1344.6	1344.4	1346.5
170°	1357.8	1356.3	1355.0	1353.6	1352.3	1351.7	1351.9	1352.2	1352.4	1352.6	1354.4
172.5°	1362.6	1361.3	1359.9	1358.6	1357.2	1356.7	1356.9	1357.1	1357.4	1357.6	1359.4
175°	1368.0	1366.7	1365.2	1363.9	1362.5	1362.0	1362.2	1362.4	1362.6	1362.9	1364.9
177.5°	1370.4	1369.2	1367.9	1366.7	1365.3	1364.9	1365.2	1365.6	1365.9	1366.3	1367.8
180°	1368.0	1368.0	1368.0	1368.0	1368.0	1368.0	1368.0	1368.0	1368.0	1368.0	1368.0



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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°	24.4	25.8	27.2	27.9	28.0	28.1	28.2	28.3
95°	25.2	26.6	28.0	28.8	29.0	29.2	29.5	29.7
97.5°	27.3	27.5	27.6	27.8	28.0	28.2	28.4	28.7
100°	37.3	33.4	29.6	27.8	28.0	28.2	28.4	28.7
102.5°	133.5	91.8	50.1	29.3	29.3	29.4	29.4	29.5
105°	323.4	325.4	327.4	324.4	316.2	308.0	299.8	291.6
107.5°	400.0	401.0	402.0	402.9	403.8	404.7	405.6	406.4
110°	452.1	452.6	453.0	453.6	454.3	454.9	455.7	456.4



TEST NUMBER: P333045-840

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

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	502.6	502.5	502.4	502.8	503.7	504.5	505.4	506.2
115°	577.9	578.5	578.9	579.2	579.2	579.2	579.2	579.2
117.5°	653.8	653.8	653.7	653.6	653.5	653.4	653.3	653.2
120°	700.7	701.3	701.7	701.7	701.3	700.7	700.3	699.8
122.5°	747.1	747.3	747.6	747.5	747.1	746.6	746.2	745.7
125°	811.7	812.4	813.0	813.5	813.7	814.0	814.3	814.5
127.5°	876.0	875.9	875.7	875.6	875.4	875.1	874.9	874.8
130°	915.1	915.4	915.6	915.7	915.7	915.7	915.7	915.7
132.5°	953.6	953.9	954.1	954.1	953.9	953.7	953.6	953.4
135°	1006.7	1007.1	1007.6	1008.0	1008.6	1009.0	1009.5	1009.9
137.5°	1057.5	1058.0	1058.5	1058.7	1058.5	1058.4	1058.3	1058.1
140°	1089.0	1089.6	1090.4	1090.9	1091.1	1091.3	1091.5	1091.8
142.5°	1118.1	1118.6	1119.1	1119.3	1119.4	1119.4	1119.5	1119.5
145°	1159.7	1159.9	1160.1	1160.5	1160.9	1161.4	1161.8	1162.4
147.5°	1196.3	1196.4	1196.6	1196.8	1197.1	1197.3	1197.5	1197.7
150°	1219.6	1219.6	1219.6	1219.7	1219.9	1220.2	1220.4	1220.6
152.5°	1240.0	1240.3	1240.7	1240.8	1240.7	1240.5	1240.4	1240.3
155°	1267.5	1268.4	1269.3	1269.4	1268.7	1268.1	1267.4	1266.7
157.5°	1291.1	1292.3	1293.5	1293.5	1292.3	1291.1	1290.0	1288.8
160°	1306.3	1307.6	1309.0	1309.0	1307.6	1306.3	1304.8	1303.5
162.5°	1318.5	1319.9	1321.2	1321.2	1319.6	1318.1	1316.6	1314.9
165°	1335.8	1337.7	1339.5	1339.3	1337.3	1335.2	1333.2	1331.1
167.5°	1348.5	1350.5	1352.4	1352.3	1350.1	1347.8	1345.5	1343.2
170°	1356.2	1358.1	1359.9	1359.7	1357.4	1355.1	1352.8	1350.6
172.5°	1361.2	1363.0	1364.8	1364.5	1362.0	1359.6	1357.2	1354.6
175°	1367.0	1369.0	1371.1	1370.7	1368.0	1365.2	1362.5	1359.8
177.5°	1369.3	1370.7	1372.2	1371.8	1369.6	1367.5	1365.2	1363.1
180°	1368.0	1368.0	1368.0	1368.0	1368.0	1368.0	1368.0	1368.0

(END OF REPORT)