

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: P332772-927

Luminaire Tested: **S124DIW-S575D1560U927-4F0-1E-UDD-D1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332772-927
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: S124DIW-S575D1560U927-4F0-1E-UDD-D1
Description: DEFINE 4 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 575 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: 6166.1 lumens
Efficiency: N/A
Efficacy: 101.8 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-Indirect

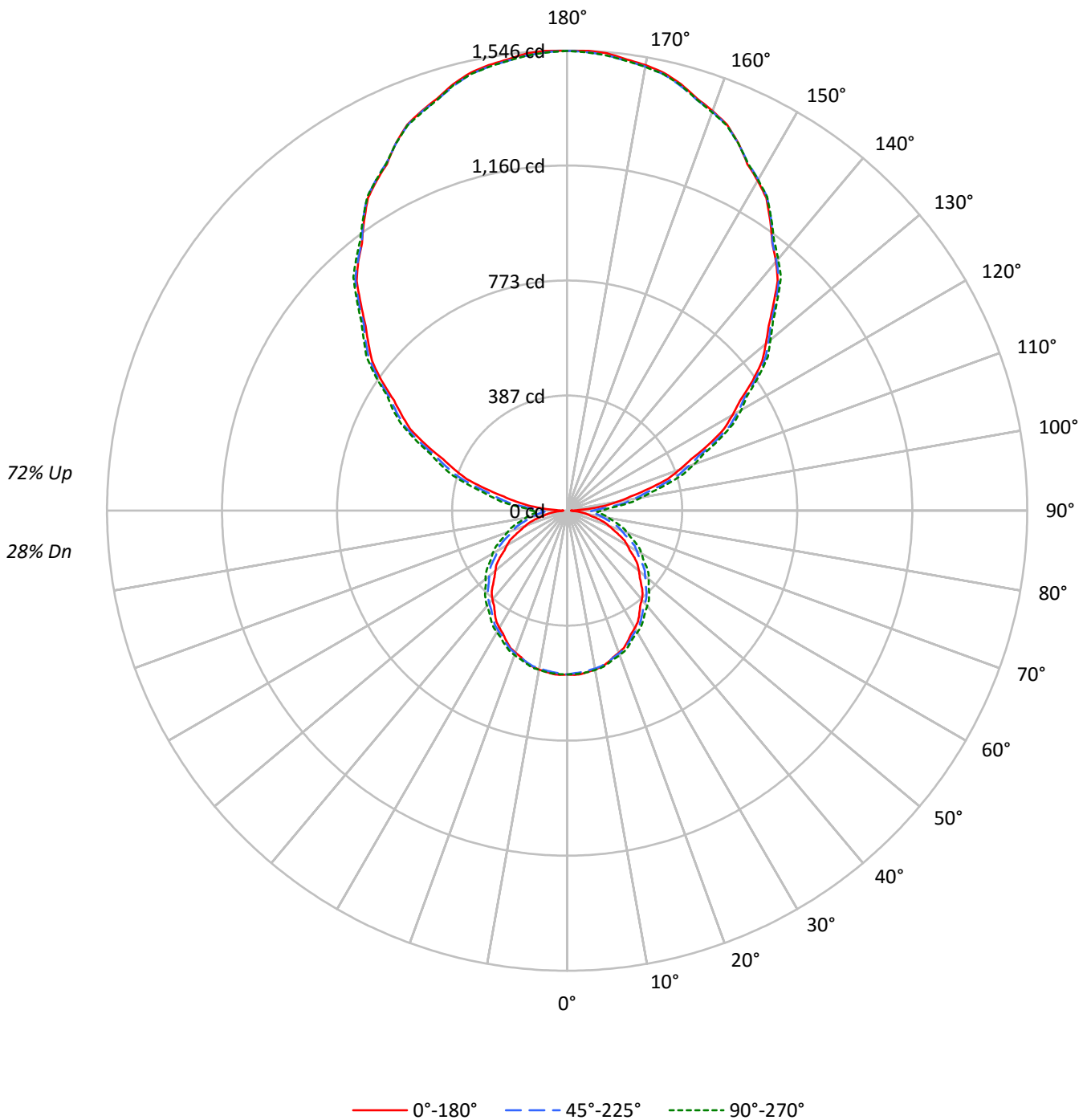
Input Watts (W): 60.6
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P332772-927

CATALOG NUMBER: S124DIW-S575D1560U927-4F0-1E-UDD-D1

Luminous Intensity Polar Plot





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CATALOG NUMBER: S124DIW-S575D1560U927-4F0-1E-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	102	102	102	102	91	91	91	91	71	71	71	53	53	53	36	36	36	28
1	92	88	84	80	82	79	75	72	61	59	57	46	44	43	31	30	29	23
2	84	76	70	65	75	68	63	59	53	50	47	40	37	35	27	25	24	18
3	76	67	60	54	68	60	54	49	47	42	39	35	32	29	24	22	20	15
4	70	59	51	45	62	53	46	41	41	37	33	31	28	25	21	19	17	13
5	64	52	44	38	57	47	40	35	37	32	28	27	24	21	19	17	15	11
6	58	47	39	33	52	42	35	30	33	28	24	25	21	19	17	15	13	10
7	54	42	34	29	48	38	31	26	30	25	21	22	19	16	15	13	11	9
8	50	38	30	25	44	34	28	23	27	22	19	20	17	14	14	12	10	8
9	46	34	27	22	41	31	25	20	25	20	17	19	15	13	13	11	9	7
10	43	31	24	20	39	28	22	18	23	18	15	17	14	11	12	10	8	6

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	4444	4444	4444
5°	4458	4343	4355
10°	4431	4273	4269
15°	4391	4190	4167
20°	4331	4099	4068
25°	4264	3998	3958
30°	4191	3896	3847
35°	4108	3792	3748
40°	4041	3694	3646
45°	3943	3603	3558
50°	3860	3498	3465
55°	3775	3400	3356
60°	3640	3274	3257
65°	3494	3139	3136
70°	3315	2985	2993
75°	3068	2814	2864
80°	2794	2652	2738
85°	2439	2507	2665



TEST NUMBER: P332772-927

CATALOG NUMBER: S124DIW-S575D1560U927-4F0-1E-UDD-D1

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	52.1	0.8
10°-20°	149.4	2.4
20°-30°	225.8	3.7
30°-40°	273.2	4.4
40°-50°	288.9	4.7
50°-60°	271.9	4.4
60°-70°	225.6	3.7
70°-80°	158.4	2.6
80°-90°	94.2	1.5
90°-100°	155.1	2.5
100°-110°	341.1	5.5
110°-120°	538.6	8.7
120°-130°	690.3	11.2
130°-140°	764.9	12.4
140°-150°	746.6	12.1
150°-160°	626.9	10.2
160°-170°	417.1	6.8
170°-180°	146.1	2.4
0°-30°	427.3	6.9
0°-40°	700.6	11.4
0°-60°	1261.3	20.5
0°-90°	1739.5	28.2
90°-120°	1034.8	16.8
90°-150°	3236.6	52.5
90°-180°	4427.0	71.8
0°-180°	6166.1	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	550	550	550	550	550	
5°	551	549	545	550	549	52
15°	528	529	527	532	532	149
25°	483	487	489	495	496	223
35°	423	430	436	445	447	265
45°	353	364	376	386	390	272
55°	276	289	308	319	324	246
65°	191	211	232	247	252	189
75°	106	129	155	171	178	113
85°	33	59	86	104	111	35
90°	14	51	87	111	120	11
95°	80	111	144	164	170	86
105°	284	298	325	343	352	302
115°	524	531	547	559	563	517
125°	761	761	775	783	785	678
135°	980	986	991	998	999	758
145°	1189	1193	1194	1197	1196	744
155°	1362	1362	1360	1365	1360	626
165°	1482	1479	1476	1483	1479	418
175°	1542	1536	1535	1542	1535	146
180°	1544	1544	1544	1544	1544	



TEST NUMBER: P332772-927

CATALOG NUMBER: S124DIW-S575D1560U927-4F0-1E-UDD-D1

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	550.5	550.5	550.5	550.5	550.5	550.5	550.5	550.5	550.5	550.5	550.5
2.5°	552.5	552.2	551.8	551.4	551.1	550.6	549.7	548.8	547.9	547.0	547.8
5°	551.1	550.7	550.2	549.9	549.5	548.7	547.8	546.8	545.9	544.9	546.1
7.5°	546.4	546.1	545.9	545.7	545.4	544.9	544.2	543.4	542.5	541.7	543.0
10°	542.5	542.3	542.2	542.1	541.9	541.5	540.8	540.1	539.5	538.8	540.0
12.5°	537.0	537.0	537.0	536.9	536.9	536.7	536.2	535.8	535.3	534.8	535.9
15°	528.3	528.5	528.5	528.7	528.9	528.7	528.3	527.9	527.4	527.0	528.3
17.5°	516.3	516.7	517.1	517.5	518.0	518.2	518.1	518.0	517.9	517.8	519.0
20°	507.9	508.3	508.7	509.2	509.6	509.8	510.0	510.2	510.2	510.4	511.7
22.5°	498.6	499.1	499.6	500.1	500.7	501.1	501.3	501.5	501.8	502.0	503.4
25°	483.3	484.1	485.0	485.8	486.6	487.2	487.6	488.0	488.5	488.9	490.4
27.5°	466.3	467.5	468.7	469.9	471.1	472.0	472.6	473.2	473.9	474.5	475.9
30°	455.0	456.1	457.1	458.2	459.3	460.3	461.3	462.2	463.2	464.2	465.7
32.5°	442.6	443.9	445.2	446.6	447.9	449.1	450.1	451.2	452.3	453.4	455.0
35°	422.9	424.5	426.2	427.8	429.4	430.9	432.3	433.7	435.1	436.4	438.4
37.5°	403.1	404.9	406.8	408.7	410.6	412.4	414.1	415.8	417.5	419.1	421.1
40°	390.2	392.0	393.8	395.5	397.4	399.2	401.1	403.0	405.0	406.9	408.9
42.5°	375.4	377.4	379.4	381.4	383.4	385.6	387.8	390.0	392.3	394.5	396.8
45°	352.6	355.2	357.8	360.4	363.0	365.6	368.2	370.8	373.4	376.0	378.3
47.5°	330.8	333.4	336.1	338.8	341.5	344.4	347.4	350.4	353.4	356.4	358.9
50°	315.0	318.0	321.0	324.1	327.1	330.1	333.1	336.1	339.1	342.1	344.8
52.5°	299.2	302.2	305.2	308.2	311.2	314.5	318.0	321.4	324.9	328.3	331.1
55°	276.2	279.0	281.9	284.8	287.6	291.1	295.2	299.4	303.5	307.6	310.4
57.5°	250.4	254.0	257.5	261.1	264.7	268.5	272.5	276.6	280.7	284.8	288.0
60°	233.6	237.2	240.7	244.3	247.9	251.9	256.4	260.9	265.5	270.0	273.1
62.5°	217.4	221.3	225.1	229.0	232.9	237.1	241.6	246.1	250.7	255.2	258.3
65°	191.1	195.5	199.9	204.2	208.7	213.2	217.8	222.4	227.1	231.8	235.2
67.5°	165.8	170.5	175.2	179.8	184.4	189.3	194.2	199.2	204.2	209.2	212.7
70°	148.5	153.2	157.9	162.6	167.2	172.1	177.3	182.5	187.7	193.0	196.6
72.5°	131.8	136.6	141.3	146.1	150.8	156.0	161.5	167.1	172.6	178.2	181.7
75°	106.0	111.1	116.1	121.2	126.3	131.7	137.4	143.2	149.0	154.7	158.6
77.5°	82.0	87.4	92.8	98.1	103.5	109.2	115.2	121.2	127.2	133.2	137.1
80°	67.2	72.6	78.2	83.7	89.1	94.8	100.9	106.9	113.0	119.0	123.1
82.5°	52.4	58.1	63.8	69.5	75.2	81.0	87.1	93.1	99.1	105.2	109.4
85°	32.6	38.4	44.2	49.9	55.7	61.6	67.8	74.0	80.2	86.3	90.4
87.5°	18.9	25.1	31.3	37.5	43.6	50.0	56.4	62.8	69.2	75.7	79.9
90°	13.5	21.9	30.3	38.7	47.1	55.2	63.3	71.3	79.3	87.3	92.8
92.5°	34.9	43.2	51.5	59.7	68.0	75.9	83.3	90.6	98.0	105.4	110.2
95°	79.7	86.6	93.5	100.4	107.3	114.5	122.0	129.4	137.0	144.4	148.9
97.5°	132.5	138.2	144.1	149.9	155.7	162.4	170.2	177.9	185.6	193.4	198.0
100°	174.0	178.6	183.2	187.9	192.5	198.7	206.4	214.1	221.9	229.6	233.9
102.5°	217.9	221.5	225.1	228.6	232.2	237.7	245.0	252.5	259.8	267.3	271.6
105°	283.8	286.8	289.9	292.9	295.9	300.5	306.6	312.7	318.9	325.0	329.2
107.5°	354.2	356.8	359.3	361.9	364.5	368.2	373.2	378.1	383.1	388.0	392.1
110°	401.5	403.9	406.4	408.8	411.3	414.8	419.3	423.8	428.3	432.9	435.5



TEST NUMBER: P332772-927

CATALOG NUMBER: S124DIW-S575D1560U927-4F0-1E-UDD-D1

CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	450.7	452.5	454.3	456.1	457.9	460.9	464.9	469.1	473.2	477.3	480.2
115°	524.5	525.7	527.0	528.2	529.4	532.0	535.8	539.6	543.5	547.4	550.1
117.5°	594.6	595.6	596.5	597.5	598.4	600.7	604.4	608.2	611.9	615.6	617.5
120°	641.0	642.4	643.9	645.4	646.8	649.1	652.4	655.5	658.7	661.9	663.3
122.5°	689.7	690.1	690.7	691.2	691.7	693.6	697.0	700.4	703.8	707.2	709.0
125°	761.0	760.8	760.7	760.6	760.4	761.9	765.1	768.3	771.4	774.6	776.7
127.5°	826.1	826.7	827.4	828.1	828.7	830.1	832.3	834.6	836.8	838.9	840.9
130°	871.4	872.1	872.7	873.4	874.1	875.5	877.7	879.9	882.1	884.2	886.2
132.5°	918.2	918.7	919.2	919.6	920.0	921.1	922.6	924.2	925.7	927.2	929.0
135°	979.5	981.1	982.7	984.3	985.9	987.1	988.1	989.0	990.1	991.0	992.7
137.5°	1046.9	1047.5	1048.1	1048.7	1049.3	1050.0	1050.9	1051.9	1052.7	1053.6	1054.9
140°	1091.8	1092.2	1092.6	1093.0	1093.4	1093.6	1093.8	1093.9	1094.1	1094.2	1095.7
142.5°	1132.4	1132.9	1133.4	1133.9	1134.4	1134.5	1134.2	1133.9	1133.6	1133.3	1134.9
145°	1189.1	1190.0	1191.0	1191.9	1192.8	1193.4	1193.7	1194.0	1194.2	1194.5	1195.0
147.5°	1245.5	1246.7	1247.8	1249.0	1250.1	1250.5	1250.3	1250.1	1249.9	1249.7	1249.6
150°	1279.9	1280.8	1281.8	1282.7	1283.6	1284.0	1284.0	1284.0	1284.0	1284.0	1284.0
152.5°	1311.9	1312.5	1313.1	1313.8	1314.3	1314.8	1314.9	1315.2	1315.4	1315.6	1316.2
155°	1361.7	1361.7	1361.7	1361.7	1361.7	1361.6	1361.3	1361.0	1360.8	1360.5	1361.6
157.5°	1403.7	1403.3	1402.8	1402.3	1401.8	1401.6	1401.5	1401.4	1401.4	1401.4	1402.2
160°	1428.6	1428.3	1428.1	1427.8	1427.5	1427.3	1427.0	1426.7	1426.5	1426.2	1427.0
162.5°	1451.5	1450.9	1450.2	1449.5	1448.7	1448.3	1448.0	1447.8	1447.5	1447.2	1448.7
165°	1482.3	1481.5	1480.7	1480.0	1479.2	1478.5	1478.0	1477.4	1476.9	1476.4	1478.0
167.5°	1506.0	1504.9	1503.8	1502.7	1501.6	1501.0	1501.1	1501.1	1501.2	1501.3	1502.8
170°	1519.4	1518.1	1516.7	1515.4	1514.1	1513.5	1513.8	1514.1	1514.3	1514.6	1516.2
172.5°	1528.9	1527.8	1526.7	1525.6	1524.5	1523.9	1524.0	1524.1	1524.1	1524.2	1526.0
175°	1542.1	1540.7	1539.4	1538.1	1536.8	1536.0	1535.7	1535.4	1535.2	1534.9	1536.8
177.5°	1546.3	1545.3	1544.3	1543.2	1542.1	1541.6	1541.6	1541.6	1541.6	1541.6	1543.1
180°	1544.4	1544.4	1544.4	1544.4	1544.4	1544.4	1544.4	1544.4	1544.4	1544.4	1544.4



TEST NUMBER: P332772-927

CATALOG NUMBER: S124DIW-S575D1560U927-4F0-1E-UDD-D1

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	550.5	550.5	550.5	550.5	550.5	550.5	550.5	550.5
2.5°	548.6	549.3	550.1	550.4	550.3	550.2	550.1	550.0
5°	547.2	548.2	549.3	549.8	549.7	549.5	549.4	549.2
7.5°	544.2	545.4	546.7	547.2	547.1	546.9	546.8	546.7
10°	541.2	542.5	543.7	544.2	544.2	544.0	543.8	543.7
12.5°	537.1	538.2	539.3	539.9	539.9	539.8	539.8	539.8
15°	529.5	530.8	532.0	532.5	532.4	532.3	532.1	532.0
17.5°	520.3	521.6	522.8	523.4	523.3	523.2	523.1	523.0
20°	513.2	514.5	515.9	516.6	516.6	516.6	516.6	516.6
22.5°	504.8	506.1	507.5	508.3	508.5	508.7	509.0	509.2
25°	491.9	493.4	494.9	495.7	495.8	496.0	496.1	496.2
27.5°	477.4	478.7	480.1	480.9	481.1	481.3	481.4	481.6
30°	467.2	468.7	470.2	471.1	471.3	471.7	471.9	472.2
32.5°	456.8	458.5	460.3	461.2	461.5	461.8	462.1	462.3
35°	440.3	442.2	444.1	445.3	445.7	446.1	446.5	446.9
37.5°	423.1	425.0	427.0	428.2	428.6	429.0	429.4	429.9
40°	411.0	413.0	415.1	416.4	416.9	417.5	418.0	418.6
42.5°	399.1	401.3	403.6	405.0	405.4	405.8	406.3	406.7
45°	380.7	383.0	385.3	386.8	387.5	388.2	388.9	389.6
47.5°	361.2	363.7	366.1	367.7	368.5	369.3	370.2	371.0
50°	347.6	350.4	353.1	354.9	355.7	356.5	357.4	358.1
52.5°	333.8	336.5	339.3	341.0	341.9	342.7	343.5	344.4
55°	313.1	315.8	318.5	320.4	321.2	322.0	322.8	323.6
57.5°	291.3	294.6	297.9	299.8	300.6	301.3	302.1	302.9
60°	276.3	279.5	282.6	284.7	285.8	286.9	288.0	289.1
62.5°	261.5	264.7	267.8	269.9	271.0	272.1	273.2	274.3
65°	238.6	242.1	245.5	247.7	248.8	249.9	251.0	252.2
67.5°	216.2	219.7	223.2	225.4	226.5	227.5	228.6	229.7
70°	200.3	204.1	207.7	210.1	211.0	212.0	212.9	213.9
72.5°	185.3	188.9	192.5	194.8	195.9	196.9	198.0	199.1
75°	162.4	166.2	170.1	172.6	173.8	175.1	176.3	177.5
77.5°	141.1	145.0	148.9	151.5	152.7	154.1	155.3	156.7
80°	127.2	131.3	135.4	138.0	139.1	140.2	141.3	142.4
82.5°	113.6	117.8	122.1	124.8	126.0	127.1	128.3	129.6
85°	94.5	98.6	102.7	105.5	106.9	108.2	109.6	111.0
87.5°	84.2	88.6	92.8	95.6	97.0	98.2	99.6	100.8
90°	98.5	104.0	109.6	113.2	114.8	116.5	118.0	119.7
92.5°	115.0	119.9	124.6	127.8	129.2	130.6	132.0	133.4
95°	153.4	157.9	162.4	165.2	166.5	167.7	169.0	170.2
97.5°	202.5	207.0	211.6	214.4	215.6	216.8	217.9	219.1
100°	238.1	242.3	246.5	249.1	250.1	251.0	252.0	252.9
102.5°	275.9	280.3	284.6	287.4	288.7	289.9	291.3	292.6
105°	333.4	337.6	341.8	344.9	346.8	348.7	350.6	352.5
107.5°	396.2	400.4	404.5	407.0	408.0	408.9	409.8	410.7
110°	438.2	440.8	443.4	445.6	447.5	449.4	451.3	453.2



TEST NUMBER: P332772-927

CATALOG NUMBER: S124DIW-S575D1560U927-4F0-1E-UDD-D1

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	483.2	486.1	489.0	491.1	492.3	493.6	494.9	496.1
115°	552.9	555.6	558.4	560.1	560.8	561.5	562.2	562.8
117.5°	619.5	621.5	623.4	624.6	625.2	625.7	626.3	626.9
120°	664.7	666.1	667.5	669.0	670.7	672.2	673.9	675.6
122.5°	710.8	712.6	714.5	715.4	715.5	715.5	715.6	715.6
125°	778.7	780.8	782.8	784.0	784.3	784.6	784.9	785.2
127.5°	842.8	844.8	846.7	847.9	848.4	848.9	849.5	849.9
130°	888.1	890.1	892.0	892.9	892.6	892.4	892.2	891.9
132.5°	930.8	932.7	934.5	935.6	936.0	936.4	936.8	937.2
135°	994.3	996.0	997.7	998.5	998.5	998.5	998.5	998.6
137.5°	1056.2	1057.6	1058.8	1059.9	1060.8	1061.6	1062.5	1063.3
140°	1097.3	1098.8	1100.3	1101.2	1101.6	1102.1	1102.5	1102.9
142.5°	1136.4	1137.9	1139.4	1140.3	1140.9	1141.5	1141.9	1142.5
145°	1195.6	1196.1	1196.7	1196.8	1196.6	1196.4	1196.1	1195.9
147.5°	1249.4	1249.4	1249.3	1249.3	1249.4	1249.7	1249.8	1250.0
150°	1284.0	1284.0	1284.0	1284.0	1283.7	1283.4	1283.2	1282.9
152.5°	1316.8	1317.5	1318.1	1318.1	1317.4	1316.8	1316.1	1315.3
155°	1362.6	1363.7	1364.8	1364.8	1363.7	1362.6	1361.6	1360.5
157.5°	1403.0	1403.7	1404.5	1404.5	1403.6	1402.7	1401.8	1400.9
160°	1427.8	1428.6	1429.4	1429.1	1427.8	1426.5	1425.1	1423.8
162.5°	1450.1	1451.5	1452.9	1453.0	1451.7	1450.4	1449.1	1447.7
165°	1479.6	1481.1	1482.7	1483.0	1481.9	1480.9	1479.8	1478.8
167.5°	1504.4	1506.0	1507.6	1507.6	1505.9	1504.3	1502.6	1500.9
170°	1517.8	1519.4	1521.0	1520.8	1519.0	1517.1	1515.3	1513.4
172.5°	1527.8	1529.5	1531.4	1531.4	1529.5	1527.6	1525.7	1523.9
175°	1538.7	1540.5	1542.4	1542.4	1540.5	1538.7	1536.8	1534.9
177.5°	1544.6	1546.0	1547.5	1547.4	1545.7	1544.0	1542.4	1540.6
180°	1544.4	1544.4	1544.4	1544.4	1544.4	1544.4	1544.4	1544.4

(END OF REPORT)