

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: P332772-830

Luminaire Tested: **S124DIW-S575D1560U830-4F0-1E-UDD-D1**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P332772-830  
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-S575D1560U830-4F0-1E-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: 7336.5 lumens  
Efficiency: N/A  
Efficacy: 121.1 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: Semi-Indirect

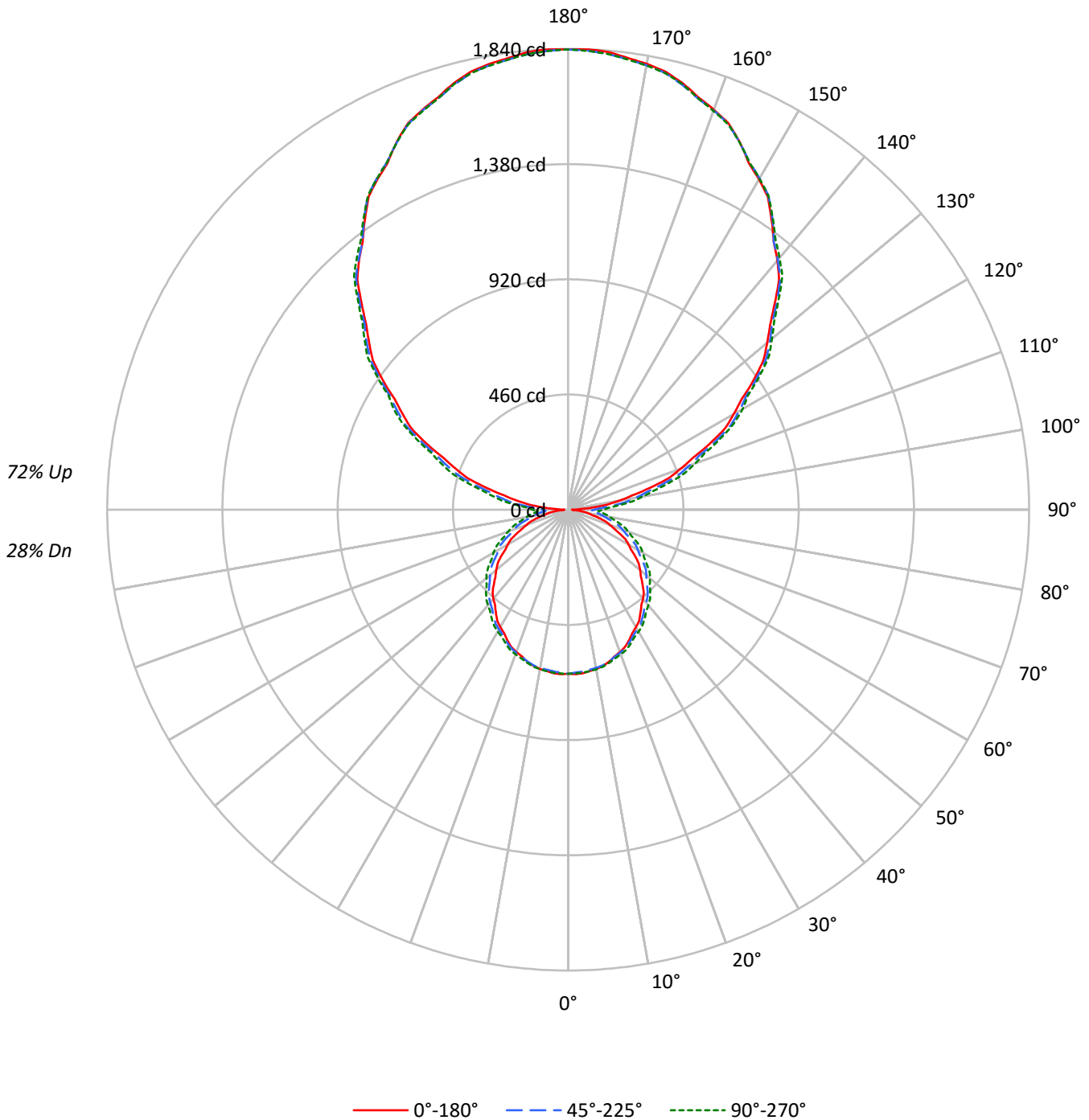
Input Watts (W): 60.6  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	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°	5288	5288	5288
5°	5304	5168	5182
10°	5272	5083	5079
15°	5225	4985	4958
20°	5153	4877	4840
25°	5073	4756	4710
30°	4986	4636	4576
35°	4887	4512	4460
40°	4809	4395	4338
45°	4692	4287	4233
50°	4593	4163	4123
55°	4491	4045	3993
60°	4332	3894	3876
65°	4156	3735	3731
70°	3945	3551	3561
75°	3649	3349	3408
80°	3322	3156	3259
85°	2903	2980	3172



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	62.0	0.8
10°-20°	177.7	2.4
20°-30°	268.7	3.7
30°-40°	325.1	4.4
40°-50°	343.7	4.7
50°-60°	323.5	4.4
60°-70°	268.4	3.7
70°-80°	188.5	2.6
80°-90°	112.1	1.5
90°-100°	184.5	2.5
100°-110°	405.9	5.5
110°-120°	640.8	8.7
120°-130°	821.3	11.2
130°-140°	910.1	12.4
140°-150°	888.4	12.1
150°-160°	745.9	10.2
160°-170°	496.2	6.8
170°-180°	173.8	2.4
0°-30°	508.4	6.9
0°-40°	833.5	11.4
0°-60°	1500.7	20.5
0°-90°	2069.6	28.2
90°-120°	1231.2	16.8
90°-150°	3851.0	52.5
90°-180°	5267.0	71.8
0°-180°	7336.5	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	655	655	655	655	655	
5°	656	653	648	654	654	62
15°	629	629	627	633	633	177
25°	575	579	582	589	590	265
35°	503	512	519	529	532	315
45°	420	433	447	459	464	324
55°	329	344	366	380	385	293
65°	227	251	276	293	300	225
75°	126	153	184	204	211	134
85°	39	70	103	124	132	41
90°	16	61	104	133	142	13
95°	95	132	172	195	202	102
105°	338	355	387	409	419	359
115°	624	631	651	665	670	615
125°	905	906	922	932	934	807
135°	1166	1174	1179	1188	1188	901
145°	1415	1420	1421	1424	1423	885
155°	1620	1620	1619	1624	1619	745
165°	1764	1760	1757	1764	1759	497
175°	1835	1828	1826	1835	1826	174
180°	1838	1838	1838	1838	1838	



TEST NUMBER: P332772-830

CATALOG NUMBER: S124DIW-S575D1560U830-4F0-1E-UDD-D1

**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	655.0	655.0	655.0	655.0	655.0	655.0	655.0	655.0	655.0	655.0	655.0
2.5°	657.3	657.0	656.6	656.1	655.7	655.1	654.0	653.0	651.9	650.8	651.8
5°	655.7	655.3	654.7	654.2	653.7	652.9	651.8	650.6	649.5	648.4	649.7
7.5°	650.2	649.8	649.5	649.2	648.9	648.4	647.4	646.5	645.5	644.5	646.0
10°	645.5	645.3	645.1	645.0	644.8	644.3	643.5	642.6	641.9	641.0	642.5
12.5°	638.9	638.9	638.9	638.9	638.9	638.6	638.0	637.4	636.9	636.3	637.6
15°	628.6	628.8	628.9	629.1	629.2	629.1	628.6	628.1	627.5	627.1	628.6
17.5°	614.3	614.8	615.3	615.8	616.3	616.5	616.4	616.3	616.2	616.1	617.6
20°	604.4	604.8	605.3	605.9	606.3	606.6	606.8	607.0	607.1	607.3	608.9
22.5°	593.2	593.8	594.5	595.0	595.7	596.2	596.4	596.7	597.0	597.3	599.0
25°	575.0	576.0	577.0	578.0	578.9	579.7	580.1	580.6	581.2	581.6	583.4
27.5°	554.8	556.2	557.6	559.1	560.5	561.6	562.3	563.1	563.8	564.6	566.3
30°	541.3	542.6	543.8	545.2	546.5	547.7	548.8	550.0	551.1	552.3	554.1
32.5°	526.6	528.2	529.7	531.3	532.9	534.3	535.6	536.9	538.1	539.4	541.4
35°	503.1	505.1	507.1	509.0	511.0	512.7	514.3	516.0	517.6	519.2	521.6
37.5°	479.6	481.7	484.0	486.3	488.5	490.7	492.7	494.7	496.7	498.7	501.1
40°	464.3	466.4	468.5	470.6	472.8	474.9	477.2	479.5	481.8	484.1	486.5
42.5°	446.7	449.0	451.4	453.8	456.2	458.7	461.4	464.0	466.7	469.4	472.1
45°	419.5	422.6	425.7	428.9	431.9	435.0	438.1	441.2	444.3	447.4	450.2
47.5°	393.6	396.7	399.9	403.1	406.3	409.7	413.3	416.9	420.5	424.0	427.0
50°	374.8	378.3	381.9	385.6	389.2	392.8	396.3	399.9	403.5	407.1	410.3
52.5°	356.0	359.6	363.2	366.7	370.3	374.2	378.3	382.4	386.5	390.6	393.9
55°	328.6	332.0	335.5	338.8	342.2	346.4	351.3	356.2	361.1	366.0	369.3
57.5°	297.9	302.2	306.4	310.7	314.9	319.4	324.2	329.1	334.0	338.8	342.7
60°	278.0	282.2	286.4	290.7	294.9	299.7	305.1	310.5	315.8	321.2	325.0
62.5°	258.6	263.3	267.9	272.5	277.1	282.1	287.5	292.8	298.3	303.7	307.4
65°	227.3	232.6	237.8	243.0	248.3	253.6	259.1	264.7	270.2	275.8	279.8
67.5°	197.3	202.8	208.4	214.0	219.4	225.2	231.1	237.0	243.0	248.9	253.1
70°	176.7	182.3	187.8	193.4	199.0	204.8	210.9	217.2	223.4	229.6	233.9
72.5°	156.8	162.5	168.1	173.8	179.5	185.6	192.2	198.8	205.4	212.0	216.2
75°	126.1	132.1	138.2	144.2	150.2	156.7	163.5	170.4	177.3	184.1	188.7
77.5°	97.6	104.0	110.4	116.7	123.1	129.9	137.0	144.2	151.4	158.5	163.2
80°	79.9	86.4	93.0	99.5	106.0	112.8	120.1	127.2	134.4	141.6	146.5
82.5°	62.3	69.1	75.9	82.7	89.4	96.4	103.6	110.7	117.9	125.2	130.2
85°	38.8	45.7	52.6	59.4	66.3	73.3	80.7	88.0	95.4	102.6	107.5
87.5°	22.5	29.9	37.2	44.6	51.9	59.5	67.1	74.7	82.4	90.0	95.1
90°	16.0	26.0	36.0	46.0	56.0	65.7	75.3	84.8	94.3	103.9	110.5
92.5°	41.6	51.4	61.3	71.1	81.0	90.3	99.1	107.8	116.6	125.4	131.1
95°	94.8	103.0	111.2	119.5	127.7	136.3	145.2	154.0	163.0	171.8	177.2
97.5°	157.6	164.5	171.4	178.3	185.2	193.2	202.5	211.7	220.8	230.1	235.5
100°	207.1	212.5	218.0	223.6	229.0	236.4	245.6	254.8	264.0	273.1	278.2
102.5°	259.3	263.5	267.8	272.0	276.3	282.8	291.5	300.4	309.2	318.0	323.2
105°	337.7	341.3	344.9	348.5	352.0	357.5	364.8	372.0	379.4	386.6	391.7
107.5°	421.4	424.5	427.5	430.6	433.7	438.1	444.0	449.9	455.8	461.7	466.6
110°	477.7	480.6	483.5	486.4	489.4	493.5	498.9	504.3	509.6	515.1	518.2



TEST NUMBER: P332772-830

CATALOG NUMBER: S124DIW-S575D1560U830-4F0-1E-UDD-D1

**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	536.2	538.4	540.5	542.7	544.8	548.4	553.2	558.1	563.0	567.9	571.4
115°	624.1	625.5	627.0	628.5	629.9	632.9	637.5	642.1	646.7	651.3	654.5
117.5°	707.5	708.6	709.7	710.9	712.0	714.7	719.2	723.6	728.0	732.4	734.7
120°	762.6	764.3	766.1	767.9	769.6	772.3	776.2	780.0	783.7	787.5	789.2
122.5°	820.6	821.1	821.8	822.4	823.0	825.3	829.3	833.3	837.4	841.4	843.6
125°	905.4	905.2	905.0	904.9	904.7	906.5	910.3	914.1	917.8	921.6	924.1
127.5°	982.9	983.6	984.4	985.2	986.0	987.7	990.3	993.0	995.6	998.2	1000.5
130°	1036.8	1037.6	1038.4	1039.2	1040.0	1041.7	1044.2	1046.9	1049.5	1052.1	1054.4
132.5°	1092.5	1093.1	1093.6	1094.1	1094.7	1095.9	1097.7	1099.6	1101.4	1103.2	1105.3
135°	1165.5	1167.3	1169.2	1171.1	1173.0	1174.5	1175.6	1176.8	1178.0	1179.1	1181.1
137.5°	1245.6	1246.3	1247.0	1247.7	1248.5	1249.3	1250.4	1251.5	1252.5	1253.6	1255.2
140°	1299.0	1299.5	1300.0	1300.4	1300.9	1301.2	1301.4	1301.6	1301.7	1301.8	1303.6
142.5°	1347.4	1347.9	1348.5	1349.2	1349.7	1349.8	1349.5	1349.2	1348.8	1348.4	1350.3
145°	1414.9	1415.9	1417.0	1418.1	1419.2	1419.9	1420.2	1420.6	1420.9	1421.2	1421.8
147.5°	1481.9	1483.3	1484.6	1486.0	1487.3	1487.9	1487.6	1487.3	1487.1	1486.9	1486.8
150°	1522.9	1523.9	1525.0	1526.2	1527.2	1527.8	1527.8	1527.8	1527.8	1527.8	1527.8
152.5°	1560.9	1561.6	1562.4	1563.1	1563.8	1564.3	1564.5	1564.8	1565.1	1565.3	1566.0
155°	1620.1	1620.1	1620.1	1620.1	1620.1	1620.0	1619.7	1619.4	1619.1	1618.7	1620.0
157.5°	1670.2	1669.6	1669.1	1668.5	1667.9	1667.6	1667.5	1667.5	1667.5	1667.4	1668.3
160°	1699.8	1699.4	1699.1	1698.8	1698.5	1698.2	1697.9	1697.5	1697.2	1697.0	1697.9
162.5°	1727.0	1726.3	1725.4	1724.6	1723.7	1723.2	1722.9	1722.6	1722.2	1721.9	1723.6
165°	1763.7	1762.7	1761.8	1760.9	1759.9	1759.2	1758.5	1757.8	1757.3	1756.6	1758.5
167.5°	1791.9	1790.5	1789.2	1787.9	1786.6	1785.9	1786.0	1786.0	1786.1	1786.2	1788.1
170°	1807.8	1806.2	1804.6	1803.0	1801.5	1800.8	1801.1	1801.5	1801.8	1802.0	1803.9
172.5°	1819.1	1817.8	1816.5	1815.1	1813.8	1813.2	1813.3	1813.4	1813.4	1813.5	1815.6
175°	1834.8	1833.2	1831.6	1830.0	1828.4	1827.5	1827.2	1826.8	1826.6	1826.3	1828.4
177.5°	1839.8	1838.6	1837.4	1836.1	1834.8	1834.2	1834.2	1834.2	1834.2	1834.2	1836.0
180°	1837.6	1837.6	1837.6	1837.6	1837.6	1837.6	1837.6	1837.6	1837.6	1837.6	1837.6



TEST NUMBER: P332772-830

CATALOG NUMBER: S124DIW-S575D1560U830-4F0-1E-UDD-D1

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	655.0	655.0	655.0	655.0	655.0	655.0	655.0	655.0
2.5°	652.7	653.6	654.5	654.9	654.8	654.6	654.5	654.4
5°	651.0	652.2	653.6	654.1	654.0	653.8	653.7	653.5
7.5°	647.5	648.9	650.4	651.1	650.9	650.7	650.5	650.4
10°	643.9	645.5	646.9	647.5	647.4	647.2	647.1	646.9
12.5°	639.0	640.4	641.7	642.3	642.3	642.2	642.2	642.2
15°	630.0	631.5	632.9	633.6	633.5	633.3	633.1	632.9
17.5°	619.1	620.6	622.1	622.7	622.6	622.5	622.4	622.3
20°	610.6	612.2	613.8	614.6	614.6	614.6	614.6	614.6
22.5°	600.6	602.2	603.8	604.8	605.0	605.3	605.6	605.9
25°	585.2	587.0	588.8	589.7	589.9	590.1	590.2	590.4
27.5°	568.0	569.6	571.3	572.2	572.4	572.6	572.8	573.0
30°	555.9	557.7	559.5	560.5	560.8	561.2	561.5	561.8
32.5°	543.5	545.5	547.6	548.7	549.1	549.4	549.8	550.1
35°	523.9	526.1	528.4	529.8	530.3	530.7	531.2	531.8
37.5°	503.4	505.7	508.0	509.4	509.9	510.5	511.0	511.5
40°	489.0	491.4	493.9	495.4	496.1	496.7	497.4	498.0
42.5°	474.9	477.5	480.2	481.8	482.4	482.9	483.4	483.9
45°	453.0	455.7	458.5	460.2	461.1	461.9	462.7	463.5
47.5°	429.8	432.7	435.5	437.4	438.5	439.4	440.5	441.4
50°	413.6	416.9	420.1	422.3	423.2	424.1	425.2	426.1
52.5°	397.2	400.4	403.7	405.8	406.8	407.7	408.7	409.7
55°	372.5	375.8	379.0	381.2	382.1	383.1	384.1	385.0
57.5°	346.6	350.5	354.4	356.8	357.7	358.5	359.5	360.4
60°	328.8	332.5	336.2	338.7	340.1	341.4	342.7	344.0
62.5°	311.1	314.9	318.7	321.1	322.4	323.8	325.1	326.4
65°	283.9	288.0	292.1	294.7	296.1	297.4	298.7	300.0
67.5°	257.2	261.4	265.5	268.2	269.5	270.7	272.0	273.2
70°	238.4	242.8	247.1	250.0	251.1	252.2	253.4	254.5
72.5°	220.5	224.8	229.0	231.8	233.1	234.3	235.6	236.9
75°	193.2	197.7	202.4	205.4	206.8	208.3	209.8	211.2
77.5°	167.9	172.5	177.1	180.2	181.7	183.3	184.8	186.4
80°	151.4	156.2	161.1	164.2	165.5	166.8	168.1	169.5
82.5°	135.2	140.2	145.2	148.5	149.9	151.3	152.7	154.2
85°	112.4	117.3	122.2	125.5	127.1	128.8	130.4	132.1
87.5°	100.2	105.4	110.5	113.8	115.4	116.9	118.5	120.0
90°	117.2	123.8	130.4	134.7	136.6	138.6	140.4	142.4
92.5°	136.9	142.6	148.3	152.0	153.7	155.3	157.0	158.7
95°	182.5	187.8	193.2	196.6	198.1	199.5	201.0	202.5
97.5°	240.9	246.3	251.8	255.1	256.6	258.0	259.3	260.7
100°	283.2	288.3	293.3	296.4	297.6	298.7	299.8	301.0
102.5°	328.3	333.5	338.7	342.0	343.5	345.0	346.6	348.1
105°	396.7	401.7	406.7	410.4	412.6	414.9	417.2	419.4
107.5°	471.5	476.4	481.3	484.3	485.4	486.5	487.6	488.7
110°	521.3	524.4	527.5	530.2	532.4	534.7	537.0	539.2





TEST NUMBER: P332772-830

CATALOG NUMBER: S124DIW-S575D1560U830-4F0-1E-UDD-D1

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	574.9	578.3	581.8	584.3	585.8	587.3	588.8	590.3
115°	657.8	661.1	664.4	666.4	667.2	668.1	668.9	669.7
117.5°	737.1	739.4	741.7	743.2	743.9	744.5	745.2	745.8
120°	790.9	792.5	794.2	796.0	798.0	799.8	801.8	803.8
122.5°	845.7	847.9	850.2	851.2	851.3	851.3	851.4	851.4
125°	926.5	929.0	931.4	932.8	933.2	933.5	933.9	934.2
127.5°	1002.8	1005.1	1007.4	1008.8	1009.5	1010.0	1010.7	1011.3
130°	1056.7	1059.0	1061.3	1062.3	1062.1	1061.8	1061.5	1061.2
132.5°	1107.5	1109.7	1111.9	1113.2	1113.7	1114.2	1114.7	1115.1
135°	1183.1	1185.1	1187.0	1188.0	1188.1	1188.1	1188.1	1188.2
137.5°	1256.7	1258.3	1259.8	1261.1	1262.2	1263.1	1264.1	1265.2
140°	1305.5	1307.3	1309.1	1310.2	1310.7	1311.3	1311.7	1312.2
142.5°	1352.1	1353.9	1355.7	1356.8	1357.4	1358.1	1358.7	1359.3
145°	1422.5	1423.1	1423.8	1424.0	1423.7	1423.4	1423.1	1422.9
147.5°	1486.6	1486.5	1486.4	1486.4	1486.6	1486.9	1487.0	1487.2
150°	1527.8	1527.8	1527.8	1527.7	1527.3	1527.0	1526.7	1526.4
152.5°	1566.8	1567.5	1568.3	1568.3	1567.4	1566.7	1565.8	1565.0
155°	1621.3	1622.5	1623.8	1623.8	1622.5	1621.3	1620.0	1618.7
157.5°	1669.2	1670.2	1671.1	1671.0	1670.0	1669.0	1667.8	1666.8
160°	1698.8	1699.8	1700.7	1700.3	1698.8	1697.2	1695.6	1694.0
162.5°	1725.3	1727.0	1728.7	1728.8	1727.2	1725.7	1724.1	1722.5
165°	1760.4	1762.3	1764.2	1764.5	1763.2	1762.0	1760.7	1759.4
167.5°	1790.0	1791.9	1793.8	1793.8	1791.8	1789.8	1787.8	1785.8
170°	1805.9	1807.8	1809.7	1809.5	1807.3	1805.1	1802.9	1800.6
172.5°	1817.8	1819.9	1822.0	1822.0	1819.8	1817.6	1815.3	1813.2
175°	1830.7	1832.9	1835.1	1835.1	1832.9	1830.7	1828.4	1826.3
177.5°	1837.8	1839.5	1841.3	1841.2	1839.1	1837.1	1835.1	1833.1
180°	1837.6	1837.6	1837.6	1837.6	1837.6	1837.6	1837.6	1837.6

(END OF REPORT)