

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: P331587

Luminaire Tested: **S122DIW-S1005D435U835-4F0-1E-UDD-D**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P331587  
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-2,  
Test Lab: INNOVATION CENTER  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: NEO-RAY  
Catalog Number: S122DIW-S1005D435U835-4F0-1E-UDD-D  
Description: DEFINE 2 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE  
DOWNLIGHT 1005 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER  
UPLIGHT 435 LUMENS PER FOOT, NO LENS  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

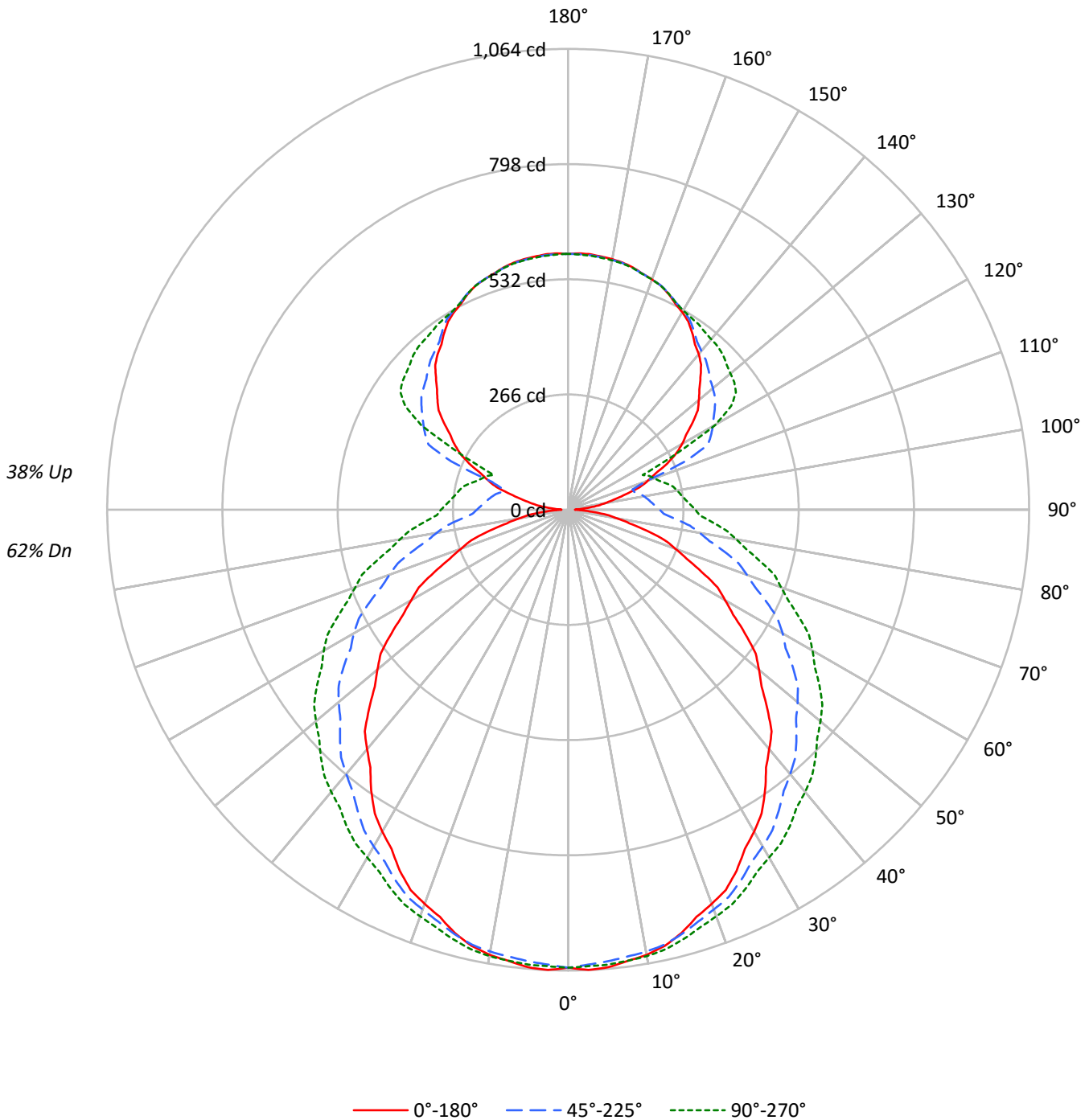
Lumens per Lamp: N/A  
Luminaire Lumens: 5766.7 lumens  
Efficiency: N/A  
Efficacy: 110.1 lumens/watt  
Spacing Criteria (0/90/45): 1.21 / 1.32 / 1.42  
Luminous Opening: Rectangular w/ Sides (W: 0.17' x L: 4' x H: 0.08')  
CIE Type: Semi-Direct

Input Watts (W): 52.4  
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





TEST NUMBER: P331587

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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	110	110	110	110	103	103	103	103	90	90	90	78	78	78	67	67	67	62
1	99	93	89	85	92	87	83	80	76	73	70	66	64	61	57	55	53	49
2	89	81	74	68	83	75	69	64	66	61	57	57	53	50	49	46	43	39
3	81	70	62	55	75	66	58	53	57	52	47	50	45	41	43	39	36	32
4	74	62	53	46	68	58	50	44	51	44	39	44	39	35	38	34	31	27
5	68	55	46	40	63	52	44	38	45	39	34	39	34	30	34	30	26	23
6	62	49	40	34	58	46	38	32	41	34	29	35	30	26	31	26	23	20
7	57	44	36	30	53	42	34	28	37	30	26	32	27	23	28	24	20	18
8	53	40	32	26	50	38	30	25	33	27	23	29	24	20	25	21	18	16
9	50	37	29	23	46	35	27	22	31	25	20	27	22	18	23	19	16	14
10	46	34	26	21	43	32	25	20	28	22	18	25	20	16	22	18	15	13

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

	0°	45°	90°
0°	17073	17073	17073
5°	17157	16435	16373
10°	17049	15949	15770
15°	16814	15435	15136
20°	16517	14884	14525
25°	16223	14353	13970
30°	15810	13808	13414
35°	15392	13280	13021
40°	14952	12831	12629
45°	14535	12429	12294
50°	14086	12066	11964
55°	13616	11675	11627
60°	13040	11269	11271
65°	12441	10795	10850
70°	11770	10285	10393
75°	10911	9784	9973
80°	9555	9272	9549
85°	8259	8830	9217



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	100.2	1.7
10°-20°	287.3	5.0
20°-30°	435.4	7.6
30°-40°	530.3	9.2
40°-50°	570.5	9.9
50°-60°	554.1	9.6
60°-70°	483.8	8.4
70°-80°	372.4	6.5
80°-90°	251.4	4.4
90°-100°	191.9	3.3
100°-110°	198.0	3.4
110°-120°	276.2	4.8
120°-130°	365.2	6.3
130°-140°	358.5	6.2
140°-150°	318.5	5.5
150°-160°	253.4	4.4
160°-170°	163.3	2.8
170°-180°	56.2	1.0
0°-30°	822.9	14.3
0°-40°	1353.3	23.5
0°-60°	2477.9	43.0
0°-90°	3585.5	62.2
90°-120°	666.1	11.6
90°-150°	1708.4	29.6
90°-180°	2181.0	37.8
0°-180°	5766.7	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1057	1057	1057	1057	1057	
5°	1060	1056	1047	1055	1054	101
15°	1012	1014	1014	1028	1027	285
25°	920	930	944	962	967	423
35°	792	819	848	880	892	495
45°	650	692	745	790	808	501
55°	498	555	633	686	708	445
65°	340	416	506	566	588	338
75°	188	275	372	436	458	199
85°	55	150	248	310	334	59
90°	16	110	211	272	294	12
95°	40	100	193	251	271	44
105°	138	190	158	214	235	148
115°	252	279	356	211	190	247
125°	351	359	413	456	473	313
135°	432	439	458	493	505	334
145°	499	499	506	517	523	312
155°	549	546	550	553	550	253
165°	579	576	577	580	577	163
175°	592	589	590	592	589	56
180°	591	591	591	591	591	



TEST NUMBER: P331587

CATALOG NUMBER: S122DIW-S1005D435U835-4F0-1E-UDD-D

**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1057.4	1057.4	1057.4	1057.4	1057.4	1057.4	1057.4	1057.4	1057.4	1057.4	1057.4
2.5°	1063.6	1062.8	1061.9	1061.1	1060.3	1058.9	1057.0	1055.1	1053.2	1051.3	1052.7
5°	1060.5	1059.5	1058.5	1057.4	1056.4	1054.9	1052.9	1050.8	1048.8	1046.7	1048.8
7.5°	1051.0	1050.3	1049.6	1049.0	1048.3	1047.2	1045.6	1044.0	1042.5	1040.9	1043.3
10°	1043.7	1043.0	1042.3	1041.6	1040.9	1040.1	1039.1	1038.0	1037.0	1036.0	1038.7
12.5°	1031.4	1031.5	1031.7	1031.8	1031.9	1031.6	1030.9	1030.1	1029.4	1028.6	1031.4
15°	1011.5	1012.2	1012.8	1013.5	1014.2	1014.5	1014.5	1014.5	1014.5	1014.5	1017.6
17.5°	985.7	987.2	988.6	990.0	991.4	992.7	993.8	994.9	996.0	997.1	1000.3
20°	968.6	970.3	972.0	973.7	975.4	976.9	978.3	979.6	981.0	982.4	986.1
22.5°	950.2	952.1	954.1	956.1	958.1	960.0	961.9	963.8	965.7	967.6	971.4
25°	919.5	921.9	924.3	926.7	929.1	931.8	934.8	937.9	941.0	944.0	948.1
27.5°	882.7	886.6	890.5	894.4	898.3	902.0	905.6	909.2	912.8	916.5	921.6
30°	858.2	862.6	867.1	871.5	875.9	880.4	884.8	889.2	893.6	898.1	903.5
32.5°	831.2	836.2	841.2	846.2	851.1	856.2	861.5	866.7	872.0	877.2	883.5
35°	792.3	798.1	803.9	809.7	815.5	821.6	828.1	834.5	841.0	847.5	855.0
37.5°	750.0	756.7	763.4	770.0	776.7	784.2	792.6	801.0	809.4	817.8	826.1
40°	721.8	729.3	736.8	744.3	751.8	760.1	769.3	778.5	787.7	796.9	805.8
42.5°	694.9	702.3	709.8	717.3	724.8	733.8	744.4	755.0	765.5	776.1	785.7
45°	649.8	659.0	668.2	677.4	686.6	697.1	709.1	721.0	732.9	744.8	755.4
47.5°	605.4	615.4	625.4	635.4	645.4	657.4	671.4	685.3	699.3	713.2	724.3
50°	574.7	585.3	595.8	606.4	616.9	629.9	645.2	660.5	675.8	691.2	702.8
52.5°	545.3	556.4	567.5	578.6	589.7	603.3	619.4	635.6	651.7	667.9	679.7
55°	498.1	510.3	522.6	534.9	547.1	562.1	579.8	597.5	615.2	632.9	645.2
57.5°	451.5	465.3	479.1	493.0	506.8	522.7	540.8	558.8	576.9	594.9	608.1
60°	418.4	433.0	447.7	462.3	477.0	494.0	513.4	532.8	552.2	571.6	584.6
62.5°	389.0	404.1	419.3	434.5	449.7	467.0	486.4	505.8	525.3	544.7	558.4
65°	340.2	356.9	373.6	390.3	407.0	425.4	445.5	465.5	485.6	505.7	519.7
67.5°	295.5	312.9	330.3	347.8	365.2	384.2	404.8	425.4	445.9	466.5	480.6
70°	263.6	281.3	299.0	316.7	334.4	353.8	375.0	396.1	417.2	438.3	452.9
72.5°	234.2	252.4	270.7	288.9	307.2	327.0	348.4	369.8	391.2	412.6	426.9
75°	188.5	207.6	226.6	245.7	264.8	285.2	307.0	328.8	350.6	372.4	387.0
77.5°	144.4	164.3	184.3	204.2	224.2	245.2	267.4	289.5	311.6	333.8	348.4
80°	114.9	135.7	156.5	177.3	198.0	219.5	241.6	263.8	285.9	308.0	322.3
82.5°	90.4	110.9	131.4	151.9	172.4	193.9	216.3	238.7	261.1	283.5	297.8
85°	55.2	76.3	97.4	118.5	139.6	161.1	182.9	204.7	226.5	248.3	262.6
87.5°	30.1	50.6	71.1	91.6	112.1	133.4	155.3	177.3	199.2	221.2	235.2
90°	15.8	36.6	57.3	78.1	98.9	120.6	143.2	165.7	188.3	210.8	224.9
92.5°	22.7	41.0	59.3	77.6	95.9	115.7	137.1	158.5	179.8	201.2	214.8
95°	40.0	52.9	65.8	78.7	91.5	108.5	129.6	150.7	171.8	192.9	206.3
97.5°	65.9	71.3	76.7	82.1	87.5	100.8	121.9	143.1	164.2	185.4	198.4
100°	86.4	86.0	85.6	85.1	84.7	94.9	115.6	136.2	156.9	177.6	191.0
102.5°	107.7	116.5	125.2	134.0	142.7	149.6	154.7	159.7	164.7	169.7	183.0
105°	137.6	150.3	163.0	175.8	188.5	190.8	182.5	174.3	166.1	157.9	170.8
107.5°	173.5	183.6	193.8	204.0	214.2	212.3	198.1	184.0	169.9	155.7	166.1
110°	195.5	204.3	213.1	221.9	230.7	229.7	219.0	208.2	197.4	186.7	188.1



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	217.4	224.8	232.3	239.8	247.3	255.6	264.7	273.8	282.9	292.0	268.2
115°	251.9	257.3	262.6	268.0	273.3	284.9	302.6	320.3	338.0	355.7	321.9
117.5°	281.2	285.5	289.7	294.0	298.2	308.3	324.1	339.9	355.7	371.5	370.9
120°	303.8	306.6	309.4	312.1	314.9	324.0	339.3	354.7	370.0	385.3	396.0
122.5°	322.9	325.0	327.0	329.1	331.1	339.5	354.1	368.8	383.5	398.1	408.1
125°	350.6	351.8	353.0	354.3	355.5	362.5	375.2	387.9	400.6	413.3	423.1
127.5°	377.0	378.0	379.0	380.1	381.1	386.7	396.8	406.9	417.1	427.2	436.6
130°	393.7	394.9	396.1	397.3	398.4	403.1	411.3	419.5	427.7	435.9	445.1
132.5°	410.8	411.8	412.7	413.7	414.6	418.4	424.9	431.5	438.1	444.6	453.4
135°	431.5	433.0	434.6	436.1	437.6	440.5	444.7	449.0	453.3	457.5	465.6
137.5°	454.0	455.0	456.0	457.0	458.0	459.7	462.2	464.6	467.1	469.6	476.8
140°	468.7	469.1	469.5	470.0	470.4	471.4	473.2	474.9	476.6	478.4	484.7
142.5°	481.0	481.4	481.7	482.0	482.4	483.2	484.6	485.9	487.2	488.6	493.7
145°	498.8	498.7	498.6	498.5	498.4	499.2	500.8	502.4	504.0	505.6	508.3
147.5°	515.6	515.3	514.9	514.6	514.2	514.8	516.4	518.0	519.6	521.2	522.0
150°	526.6	525.9	525.2	524.6	523.9	524.3	525.9	527.4	528.9	530.4	531.0
152.5°	535.8	535.1	534.3	533.6	532.8	533.2	534.6	536.1	537.5	539.0	539.5
155°	549.2	548.4	547.5	546.7	545.8	546.0	547.1	548.2	549.4	550.5	551.1
157.5°	559.7	559.0	558.3	557.6	556.9	556.9	557.7	558.5	559.3	560.1	560.7
160°	565.9	565.3	564.8	564.2	563.6	563.6	564.2	564.8	565.3	565.9	566.5
162.5°	571.4	570.8	570.2	569.7	569.1	569.1	569.5	570.0	570.5	571.0	571.7
165°	578.7	578.2	577.6	577.0	576.4	576.3	576.6	576.9	577.2	577.4	578.1
167.5°	584.2	583.6	583.1	582.5	581.9	581.8	582.0	582.3	582.6	582.8	583.5
170°	587.3	586.7	586.1	585.6	585.0	584.8	585.0	585.2	585.4	585.6	586.2
172.5°	589.3	588.8	588.2	587.6	587.0	586.9	587.0	587.2	587.4	587.6	588.3
175°	592.0	591.3	590.6	590.0	589.3	589.1	589.3	589.5	589.6	589.8	590.5
177.5°	592.4	591.9	591.3	590.8	590.3	590.0	590.1	590.2	590.3	590.3	590.9
180°	590.7	590.7	590.7	590.7	590.7	590.7	590.7	590.7	590.7	590.7	590.7



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1057.4	1057.4	1057.4	1057.4	1057.4	1057.4	1057.4	1057.4
2.5°	1054.0	1055.4	1056.8	1057.2	1056.6	1056.1	1055.5	1055.0
5°	1050.8	1052.9	1054.9	1055.7	1055.4	1055.1	1054.7	1054.4
7.5°	1045.8	1048.3	1050.7	1051.8	1051.4	1051.1	1050.7	1050.4
10°	1041.4	1044.2	1046.9	1048.1	1047.7	1047.4	1047.1	1046.7
12.5°	1034.1	1036.8	1039.5	1040.7	1040.4	1040.0	1039.7	1039.4
15°	1020.7	1023.7	1026.8	1028.2	1027.8	1027.5	1027.1	1026.8
17.5°	1003.5	1006.7	1009.9	1011.5	1011.5	1011.5	1011.5	1011.5
20°	989.8	993.6	997.3	999.2	999.2	999.2	999.2	999.2
22.5°	975.1	978.9	982.6	984.8	985.3	985.9	986.4	987.0
25°	952.2	956.3	960.4	962.9	964.0	965.0	966.0	967.0
27.5°	926.8	932.0	937.2	940.1	940.9	941.6	942.4	943.1
30°	909.0	914.4	919.9	923.1	924.1	925.1	926.2	927.2
32.5°	889.8	896.0	902.3	906.3	908.2	910.0	911.9	913.7
35°	862.5	870.0	877.5	882.4	884.8	887.2	889.6	891.9
37.5°	834.4	842.7	851.0	856.4	858.9	861.5	864.0	866.5
40°	814.6	823.5	832.3	838.3	841.4	844.4	847.5	850.6
42.5°	795.4	805.1	814.8	821.1	824.2	827.3	830.3	833.4
45°	765.9	776.5	787.0	794.0	797.4	800.8	804.2	807.6
47.5°	735.3	746.3	757.4	764.8	768.5	772.3	776.0	779.8
50°	714.3	725.9	737.5	745.2	748.9	752.6	756.4	760.1
52.5°	691.6	703.4	715.3	723.2	727.2	731.3	735.3	739.3
55°	657.5	669.7	682.0	690.3	694.7	699.2	703.6	708.0
57.5°	621.4	634.6	647.8	656.6	661.1	665.6	670.1	674.6
60°	597.5	610.5	623.4	632.3	637.0	641.8	646.6	651.3
62.5°	572.2	585.9	599.7	608.8	613.3	617.8	622.3	626.8
65°	533.7	547.6	561.6	570.8	575.2	579.6	584.1	588.5
67.5°	494.7	508.8	522.9	532.3	536.9	541.5	546.2	550.8
70°	467.6	482.2	496.9	506.2	510.3	514.4	518.5	522.6
72.5°	441.3	455.7	470.0	479.7	484.6	489.5	494.4	499.3
75°	401.7	416.3	431.0	440.5	444.9	449.4	453.8	458.2
77.5°	362.9	377.5	392.1	401.8	406.5	411.3	416.1	420.8
80°	336.6	351.0	365.3	374.8	379.6	384.3	389.1	393.9
82.5°	312.1	326.4	340.7	350.1	354.6	359.1	363.6	368.1
85°	276.9	291.2	305.5	315.0	319.8	324.6	329.3	334.1
87.5°	249.1	263.1	277.1	286.3	290.7	295.1	299.5	303.9
90°	239.0	253.1	267.2	276.4	280.7	285.0	289.2	293.5
92.5°	228.4	242.0	255.6	264.5	268.7	272.9	277.1	281.3
95°	219.7	233.2	246.6	255.3	259.3	263.3	267.3	271.2
97.5°	211.3	224.3	237.3	245.9	250.0	254.1	258.3	262.4
100°	204.3	217.7	231.1	239.7	243.6	247.6	251.5	255.5
102.5°	196.4	209.7	223.0	231.6	235.7	239.7	243.7	247.7
105°	183.8	196.8	209.7	218.3	222.4	226.5	230.7	234.8
107.5°	176.5	186.9	197.2	204.5	208.6	212.8	216.9	221.0
110°	189.5	190.9	192.3	195.0	199.2	203.3	207.4	211.5





TEST NUMBER: P331587

CATALOG NUMBER: S122DIW-S1005D435U835-4F0-1E-UDD-D

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	244.5	220.7	196.9	187.1	191.1	195.2	199.2	203.3
115°	288.1	254.4	220.6	202.2	199.1	196.0	192.9	189.8
117.5°	370.4	369.8	369.3	359.5	340.5	321.5	302.5	283.5
120°	406.7	417.4	428.0	428.8	419.8	410.7	401.6	392.5
122.5°	418.0	428.0	437.9	443.3	444.0	444.7	445.4	446.1
125°	433.0	442.9	452.7	459.3	462.7	466.0	469.4	472.7
127.5°	446.0	455.4	464.9	471.1	474.1	477.2	480.3	483.3
130°	454.4	463.6	472.8	478.7	481.3	484.0	486.6	489.2
132.5°	462.2	471.0	479.8	485.5	488.1	490.8	493.4	496.0
135°	473.7	481.8	489.9	495.2	497.8	500.3	502.9	505.4
137.5°	484.0	491.2	498.4	503.0	505.0	506.9	508.9	510.9
140°	491.0	497.3	503.6	507.5	509.1	510.6	512.2	513.8
142.5°	498.8	504.0	509.1	512.3	513.6	514.9	516.2	517.5
145°	511.0	513.8	516.5	518.4	519.7	520.9	522.1	523.3
147.5°	522.7	523.5	524.3	524.8	525.3	525.7	526.1	526.5
150°	531.6	532.1	532.7	532.8	532.3	531.8	531.3	530.9
152.5°	540.1	540.7	541.3	541.2	540.6	540.0	539.3	538.7
155°	551.7	552.2	552.8	552.7	551.9	551.2	550.4	549.7
157.5°	561.4	562.0	562.7	562.6	561.9	561.1	560.4	559.7
160°	567.0	567.6	568.2	568.1	567.5	566.8	566.1	565.5
162.5°	572.3	573.0	573.6	573.5	572.7	571.9	571.1	570.3
165°	578.8	579.4	580.1	580.1	579.4	578.8	578.1	577.4
167.5°	584.2	584.8	585.5	585.4	584.5	583.7	582.8	582.0
170°	586.9	587.6	588.2	588.1	587.3	586.4	585.6	584.7
172.5°	588.9	589.6	590.3	590.2	589.3	588.5	587.6	586.8
175°	591.2	591.8	592.5	592.4	591.4	590.5	589.5	588.6
177.5°	591.4	591.9	592.5	592.4	591.7	591.0	590.3	589.7
180°	590.7	590.7	590.7	590.7	590.7	590.7	590.7	590.7

(END OF REPORT)