

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: P331423-830

Luminaire Tested: **S122DIP-S1005D330U830-4F0-1E-UDD-D**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P331423-830  
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: S122DIP-S1005D330U830-4F0-1E-UDD-D  
Description: DEFINE 2 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 1005 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER  
UPLIGHT 330 LUMENS PER FOOT, NO LENS  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 5037.7 lumens  
Efficiency: N/A  
Efficacy: 101.2 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

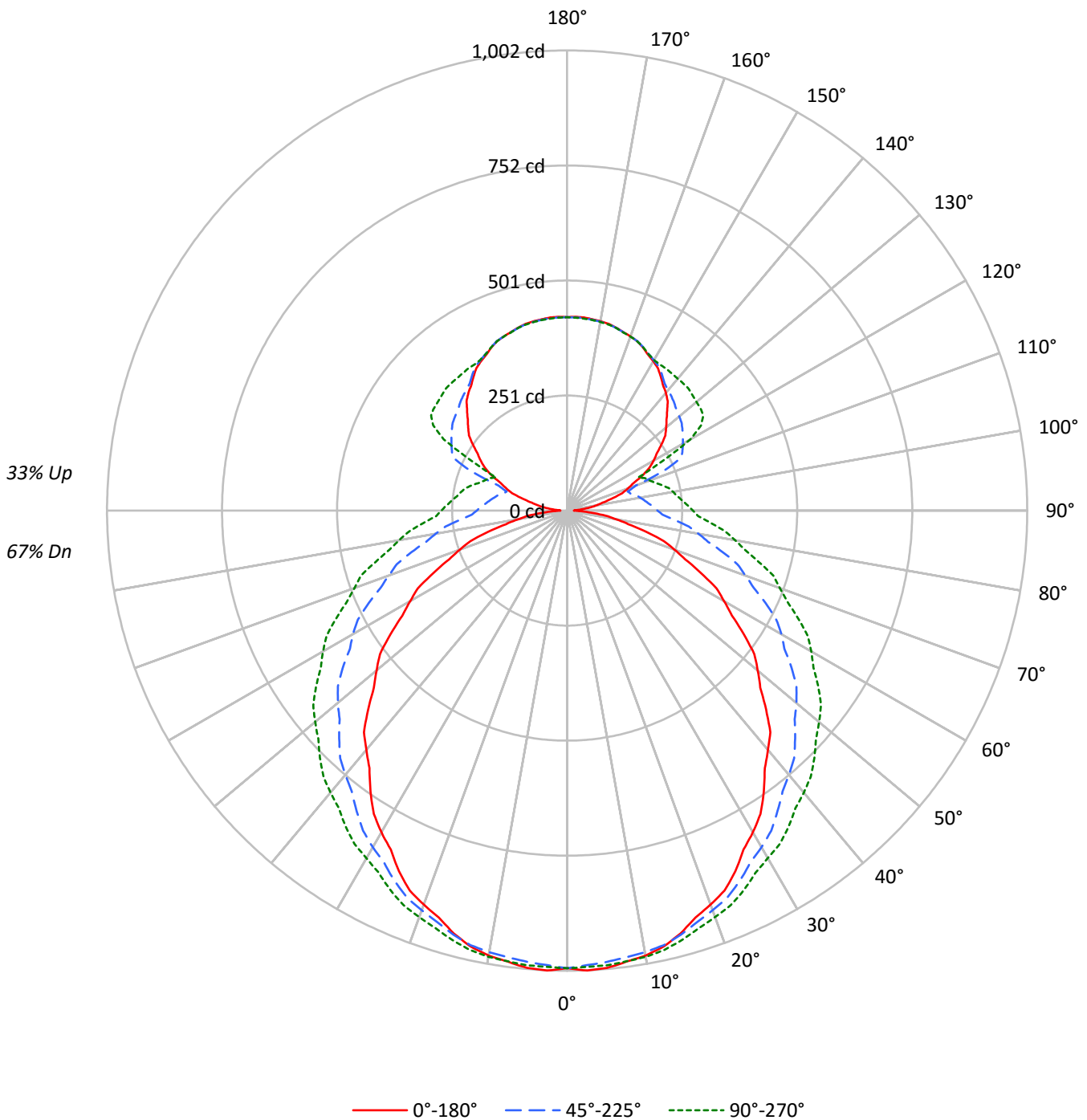
Input Watts (W): 49.8  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



TEST NUMBER: P331423-830

CATALOG NUMBER: S122DIP-S1005D330U830-4F0-1E-UDD-D

### Luminous Intensity Polar Plot





TEST NUMBER: P331423-830

CATALOG NUMBER: S122DIP-S1005D330U830-4F0-1E-UDD-D

**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	111	111	111	111	105	105	105	105	93	93	93	82	82	82	72	72	72	67
1	100	94	90	85	93	89	85	81	78	75	72	69	67	64	60	58	57	52
2	90	81	74	68	84	77	70	65	68	63	58	59	56	52	52	49	46	42
3	82	71	62	56	76	67	59	53	59	53	48	52	47	43	45	42	38	35
4	74	62	53	47	70	59	51	45	52	46	40	46	41	36	40	36	33	29
5	68	55	46	40	64	52	44	38	46	40	35	41	36	31	36	32	28	25
6	63	50	41	34	59	47	39	33	42	35	30	37	31	27	33	28	25	22
7	58	45	36	30	54	42	34	29	38	31	26	34	28	24	30	25	22	19
8	54	41	32	26	50	38	31	25	34	28	23	31	25	21	27	23	19	17
9	50	37	29	24	47	35	28	23	32	25	21	28	23	19	25	21	17	15
10	47	34	26	21	44	32	25	20	29	23	19	26	21	17	23	19	16	14

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

	0°	45°	90°
0°	16091	16091	16091
5°	16172	15491	15432
10°	16069	15033	14865
15°	15848	14548	14266
20°	15567	14030	13691
25°	15292	13528	13167
30°	14902	13015	12643
35°	14508	12517	12274
40°	14092	12094	11903
45°	13700	11715	11587
50°	13277	11373	11276
55°	12834	11004	10959
60°	12292	10623	10624
65°	11728	10173	10227
70°	11096	9693	9797
75°	10286	9222	9401
80°	9006	8739	9001
85°	7780	8321	8687



TEST NUMBER: P331423-830

CATALOG NUMBER: S122DIP-S1005D330U830-4F0-1E-UDD-D

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	94.4	1.9
10°-20°	270.8	5.4
20°-30°	410.4	8.1
30°-40°	499.9	9.9
40°-50°	537.8	10.7
50°-60°	522.2	10.4
60°-70°	456.0	9.1
70°-80°	351.0	7.0
80°-90°	236.6	4.7
90°-100°	176.4	3.5
100°-110°	170.0	3.4
110°-120°	216.0	4.3
120°-130°	271.0	5.4
130°-140°	260.1	5.2
140°-150°	227.9	4.5
150°-160°	180.7	3.6
160°-170°	116.4	2.3
170°-180°	40.1	0.8
0°-30°	775.7	15.4
0°-40°	1275.5	25.3
0°-60°	2335.5	46.4
0°-90°	3379.2	67.1
90°-120°	562.4	11.2
90°-150°	1321.4	26.2
90°-180°	1659.0	32.9
0°-180°	5037.7	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	997	997	997	997	997	
5°	1000	995	987	995	994	95
15°	953	956	956	968	968	268
25°	867	877	890	906	911	398
35°	747	772	799	829	841	467
45°	612	652	702	745	761	473
55°	470	523	596	647	667	420
65°	321	392	477	534	555	318
75°	178	259	351	411	432	188
85°	52	142	234	292	315	56
90°	15	102	197	254	274	11
95°	31	91	178	232	252	33
105°	100	148	143	195	214	107
115°	181	205	275	182	171	178
125°	251	257	307	346	362	224
135°	308	314	330	362	374	238
145°	356	356	360	371	377	223
155°	392	389	392	394	392	180
165°	413	411	412	414	412	117
175°	422	420	421	422	420	40
180°	421	421	421	421	421	



TEST NUMBER: P331423-830

CATALOG NUMBER: S122DIP-S1005D330U830-4F0-1E-UDD-D

**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	996.6	996.6	996.6	996.6	996.6	996.6	996.6	996.6	996.6	996.6	996.6
2.5°	1002.5	1001.7	1000.9	1000.1	999.4	998.1	996.3	994.5	992.7	990.9	992.2
5°	999.6	998.6	997.7	996.6	995.7	994.3	992.4	990.4	988.5	986.6	988.5
7.5°	990.6	990.0	989.3	988.7	988.1	987.0	985.5	984.0	982.6	981.1	983.4
10°	983.7	983.1	982.4	981.8	981.1	980.3	979.4	978.4	977.4	976.5	979.0
12.5°	972.1	972.2	972.4	972.5	972.6	972.3	971.7	970.9	970.3	969.5	972.1
15°	953.4	954.0	954.6	955.3	955.9	956.2	956.2	956.2	956.2	956.2	959.1
17.5°	929.1	930.5	931.8	933.1	934.4	935.7	936.7	937.7	938.8	939.8	942.8
20°	912.9	914.5	916.2	917.8	919.4	920.8	922.1	923.3	924.6	926.0	929.4
22.5°	895.6	897.4	899.3	901.2	903.1	904.8	906.6	908.4	910.2	912.0	915.6
25°	866.7	868.9	871.2	873.5	875.7	878.3	881.1	884.0	886.9	889.8	893.6
27.5°	832.0	835.7	839.3	843.0	846.7	850.2	853.6	857.0	860.4	863.8	868.6
30°	808.9	813.0	817.3	821.4	825.6	829.8	834.0	838.1	842.3	846.5	851.6
32.5°	783.4	788.2	792.9	797.6	802.2	807.0	812.0	816.9	821.9	826.8	832.7
35°	746.8	752.2	757.7	763.2	768.6	774.4	780.5	786.6	792.7	798.8	805.9
37.5°	706.9	713.2	719.5	725.8	732.1	739.1	747.1	755.0	762.9	770.8	778.6
40°	680.3	687.4	694.5	701.5	708.6	716.4	725.1	733.8	742.4	751.1	759.5
42.5°	655.0	661.9	669.0	676.1	683.2	691.6	701.6	711.6	721.5	731.5	740.6
45°	612.5	621.1	629.8	638.5	647.1	657.0	668.4	679.6	690.8	702.0	712.0
47.5°	570.6	580.0	589.5	598.9	608.3	619.6	632.8	645.9	659.1	672.2	682.7
50°	541.7	551.7	561.6	571.6	581.5	593.7	608.1	622.5	637.0	651.5	662.4
52.5°	514.0	524.4	534.9	545.4	555.8	568.6	583.8	599.1	614.3	629.5	640.6
55°	469.5	481.0	492.6	504.2	515.7	529.8	546.5	563.2	579.9	596.5	608.1
57.5°	425.6	438.6	451.6	464.7	477.7	492.7	509.7	526.7	543.8	560.7	573.2
60°	394.4	408.1	422.0	435.7	449.6	465.6	483.9	502.2	520.5	538.8	551.0
62.5°	366.6	380.9	395.2	409.5	423.9	440.2	458.5	476.7	495.1	513.4	526.3
65°	320.7	336.4	352.1	367.9	383.6	401.0	419.9	438.8	457.7	476.6	489.8
67.5°	278.5	294.9	311.3	327.8	344.2	362.1	381.5	401.0	420.3	439.7	453.0
70°	248.5	265.1	281.8	298.5	315.2	333.5	353.5	373.3	393.2	413.1	426.9
72.5°	220.7	237.9	255.1	272.3	289.5	308.2	328.4	348.6	368.7	388.9	402.4
75°	177.7	195.7	213.6	231.6	249.6	268.8	289.4	309.9	330.5	351.0	364.8
77.5°	136.1	154.9	173.7	192.5	211.3	231.1	252.0	272.9	293.7	314.6	328.4
80°	108.3	127.9	147.5	167.1	186.6	206.9	227.7	248.6	269.5	290.3	303.8
82.5°	85.2	104.5	123.9	143.2	162.5	182.8	203.9	225.0	246.1	267.2	280.7
85°	52.0	71.9	91.8	111.7	131.6	151.8	172.4	192.9	213.5	234.0	247.5
87.5°	28.4	47.7	66.9	86.2	105.5	125.5	146.1	166.7	187.4	208.1	221.2
90°	14.7	34.1	53.4	72.9	92.2	112.4	133.5	154.6	175.7	196.8	209.9
92.5°	19.4	36.7	54.0	71.3	88.5	107.2	127.2	147.2	167.3	187.4	200.1
95°	31.4	44.2	57.0	69.9	82.8	99.1	118.8	138.6	158.3	178.0	190.6
97.5°	49.4	56.6	63.6	70.8	77.9	91.2	110.8	130.4	150.1	169.6	181.7
100°	64.1	66.6	69.3	71.8	74.5	85.3	104.4	123.6	142.7	161.8	174.3
102.5°	79.0	87.8	96.8	105.7	114.5	122.9	130.7	138.6	146.4	154.2	166.5
105°	99.9	111.2	122.5	133.9	145.2	150.0	148.2	146.4	144.6	142.8	154.8
107.5°	125.4	134.4	143.5	152.6	161.7	163.2	156.9	150.8	144.6	138.4	148.5
110°	140.8	148.6	156.5	164.3	172.1	174.2	170.3	166.5	162.6	158.8	162.3



TEST NUMBER: P331423-830

CATALOG NUMBER: S122DIP-S1005D330U830-4F0-1E-UDD-D

**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	156.4	163.1	169.7	176.3	183.0	191.3	201.5	211.6	221.8	231.9	217.4
115°	181.0	185.7	190.4	195.0	199.7	210.2	226.3	242.4	258.5	274.7	253.0
117.5°	201.6	205.2	208.8	212.4	215.9	225.0	239.5	254.0	268.5	283.0	285.0
120°	217.6	220.0	222.3	224.5	226.9	235.1	249.1	263.2	277.2	291.2	301.0
122.5°	231.3	232.9	234.5	236.1	237.6	245.2	258.5	271.9	285.3	298.7	307.9
125°	250.6	251.6	252.4	253.3	254.2	260.4	271.9	283.5	295.1	306.6	315.8
127.5°	269.5	270.1	270.8	271.5	272.1	277.0	286.3	295.6	304.8	314.1	322.6
130°	281.4	282.2	283.0	283.7	284.5	288.6	296.1	303.6	311.0	318.6	327.0
132.5°	293.6	294.3	294.8	295.4	296.1	299.3	305.2	311.2	317.2	323.1	331.1
135°	308.0	309.2	310.2	311.3	312.4	314.8	318.7	322.4	326.3	330.1	337.5
137.5°	324.0	324.7	325.5	326.1	326.9	328.2	330.4	332.4	334.5	336.7	343.2
140°	334.5	334.8	335.0	335.2	335.5	336.2	337.6	339.0	340.4	341.8	347.5
142.5°	343.3	343.5	343.7	343.8	344.0	344.6	345.5	346.5	347.5	348.5	353.2
145°	355.6	355.6	355.5	355.4	355.3	355.9	357.0	358.3	359.4	360.5	362.9
147.5°	367.7	367.4	367.1	366.8	366.6	367.0	368.2	369.4	370.5	371.6	372.2
150°	375.4	374.9	374.5	374.0	373.5	373.9	374.9	376.1	377.1	378.2	378.6
152.5°	382.0	381.5	381.0	380.4	379.9	380.1	381.2	382.2	383.2	384.3	384.7
155°	391.6	391.0	390.4	389.7	389.2	389.3	390.1	390.9	391.7	392.5	392.9
157.5°	399.1	398.6	398.0	397.6	397.0	397.1	397.7	398.2	398.8	399.4	399.8
160°	403.5	403.1	402.7	402.3	401.9	401.9	402.3	402.7	403.1	403.5	403.9
162.5°	407.4	407.0	406.6	406.1	405.8	405.8	406.0	406.4	406.8	407.2	407.6
165°	412.6	412.3	411.8	411.4	411.0	410.9	411.1	411.3	411.5	411.7	412.2
167.5°	416.5	416.1	415.8	415.3	414.9	414.8	415.0	415.2	415.4	415.6	416.0
170°	418.8	418.3	417.9	417.5	417.1	417.0	417.1	417.3	417.4	417.5	418.0
172.5°	420.2	419.8	419.3	419.0	418.6	418.4	418.6	418.7	418.9	419.0	419.4
175°	422.1	421.6	421.1	420.7	420.2	420.0	420.2	420.3	420.5	420.6	421.0
177.5°	422.4	422.0	421.6	421.2	420.8	420.8	420.8	420.8	420.8	420.9	421.3
180°	421.1	421.1	421.1	421.1	421.1	421.1	421.1	421.1	421.1	421.1	421.1



TEST NUMBER: P331423-830

CATALOG NUMBER: S122DIP-S1005D330U830-4F0-1E-UDD-D

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	996.6	996.6	996.6	996.6	996.6	996.6	996.6	996.6
2.5°	993.4	994.8	996.1	996.5	995.9	995.4	994.9	994.4
5°	990.4	992.4	994.3	995.0	994.8	994.5	994.1	993.8
7.5°	985.7	988.1	990.3	991.4	991.0	990.7	990.3	990.0
10°	981.6	984.2	986.7	987.9	987.5	987.2	986.9	986.6
12.5°	974.7	977.2	979.8	980.9	980.6	980.2	980.0	979.7
15°	962.1	964.9	967.8	969.1	968.7	968.5	968.1	967.8
17.5°	945.8	948.9	951.9	953.4	953.4	953.4	953.4	953.4
20°	932.9	936.5	940.0	941.8	941.8	941.8	941.8	941.8
22.5°	919.1	922.7	926.1	928.2	928.7	929.3	929.7	930.3
25°	897.5	901.4	905.2	907.6	908.6	909.6	910.5	911.4
27.5°	873.5	878.4	883.4	886.1	886.8	887.5	888.3	888.9
30°	856.8	861.9	867.0	870.1	871.0	871.9	873.0	873.9
32.5°	838.7	844.5	850.5	854.2	856.0	857.7	859.5	861.2
35°	812.9	820.0	827.1	831.7	834.0	836.2	838.5	840.7
37.5°	786.5	794.3	802.1	807.2	809.5	812.0	814.4	816.7
40°	767.8	776.2	784.5	790.1	793.1	795.9	798.8	801.7
42.5°	749.7	758.8	768.0	773.9	776.8	779.8	782.6	785.5
45°	721.9	731.9	741.8	748.4	751.6	754.8	758.0	761.2
47.5°	693.1	703.4	713.9	720.9	724.3	727.9	731.4	735.0
50°	673.3	684.2	695.1	702.4	705.9	709.4	712.9	716.4
52.5°	651.9	663.0	674.2	681.6	685.4	689.3	693.1	696.8
55°	619.7	631.2	642.8	650.6	654.8	659.0	663.2	667.3
57.5°	585.7	598.1	610.6	618.9	623.1	627.4	631.6	635.8
60°	563.2	575.4	587.6	596.0	600.4	604.9	609.4	613.9
62.5°	539.3	552.2	565.2	573.8	578.1	582.3	586.5	590.8
65°	503.0	516.1	529.3	538.0	542.2	546.3	550.5	554.7
67.5°	466.3	479.6	492.9	501.7	506.1	510.4	514.8	519.2
70°	440.7	454.5	468.3	477.1	481.0	484.8	488.7	492.6
72.5°	415.9	429.5	443.0	452.1	456.8	461.4	466.0	470.6
75°	378.6	392.4	406.2	415.2	419.3	423.6	427.7	431.9
77.5°	342.0	355.8	369.6	378.7	383.1	387.7	392.2	396.6
80°	317.3	330.8	344.3	353.3	357.8	362.2	366.7	371.3
82.5°	294.2	307.6	321.1	330.0	334.2	338.5	342.7	346.9
85°	261.0	274.5	287.9	296.9	301.4	305.9	310.4	314.9
87.5°	234.4	247.6	260.7	269.4	273.5	277.7	281.8	285.9
90°	223.1	236.3	249.5	258.1	262.0	266.1	270.0	274.0
92.5°	212.8	225.6	238.4	246.8	250.6	254.6	258.5	262.5
95°	203.1	215.7	228.2	236.3	240.1	243.8	247.7	251.5
97.5°	193.9	206.0	218.2	226.2	230.1	233.9	237.8	241.7
100°	186.6	199.1	211.5	219.5	223.2	226.9	230.5	234.2
102.5°	178.9	191.1	203.5	211.5	215.3	219.0	222.7	226.4
105°	166.7	178.8	190.8	198.6	202.5	206.2	210.0	213.9
107.5°	158.4	168.5	178.5	185.4	189.3	193.0	196.8	200.7
110°	165.8	169.3	172.8	176.4	180.2	184.0	187.8	191.6





TEST NUMBER: P331423-830

CATALOG NUMBER: S122DIP-S1005D330U830-4F0-1E-UDD-D

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	203.0	188.6	174.2	168.8	172.6	176.3	180.0	183.8
115°	231.2	209.5	187.8	176.3	174.9	173.6	172.2	170.9
117.5°	286.9	288.8	290.8	285.3	272.6	259.9	247.1	234.3
120°	310.9	320.7	330.5	332.5	327.0	321.3	315.8	310.1
122.5°	317.2	326.4	335.6	340.8	342.0	343.3	344.6	345.8
125°	324.9	334.0	343.2	349.3	352.4	355.5	358.5	361.7
127.5°	331.3	340.0	348.6	354.4	357.2	360.1	363.0	365.9
130°	335.5	343.9	352.3	357.8	360.3	362.8	365.3	367.8
132.5°	339.2	347.3	355.4	360.7	363.2	365.7	368.2	370.7
135°	345.0	352.3	359.8	364.7	367.1	369.6	372.0	374.4
137.5°	349.8	356.4	362.9	367.2	369.1	371.1	373.1	375.0
140°	353.3	359.0	364.8	368.4	370.0	371.6	373.2	374.8
142.5°	357.8	362.5	367.1	370.1	371.5	372.8	374.1	375.4
145°	365.3	367.7	370.1	371.9	373.2	374.5	375.8	377.0
147.5°	372.9	373.4	374.1	374.6	375.0	375.6	376.1	376.5
150°	379.0	379.4	379.8	379.8	379.6	379.2	378.8	378.5
152.5°	385.1	385.5	385.9	385.9	385.4	385.0	384.6	384.1
155°	393.3	393.7	394.2	394.1	393.5	393.0	392.5	391.9
157.5°	400.3	400.8	401.1	401.1	400.6	400.1	399.5	399.1
160°	404.4	404.7	405.1	405.1	404.6	404.2	403.7	403.2
162.5°	408.0	408.5	409.0	409.0	408.3	407.7	407.2	406.6
165°	412.6	413.1	413.6	413.6	413.1	412.6	412.2	411.7
167.5°	416.5	417.0	417.5	417.4	416.8	416.1	415.6	414.9
170°	418.5	419.0	419.4	419.3	418.8	418.1	417.5	416.9
172.5°	419.9	420.4	420.8	420.8	420.2	419.6	419.0	418.4
175°	421.5	422.0	422.4	422.4	421.7	421.0	420.3	419.6
177.5°	421.7	422.1	422.4	422.4	421.9	421.4	420.9	420.5
180°	421.1	421.1	421.1	421.1	421.1	421.1	421.1	421.1

(END OF REPORT)