

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: P332005-935

Luminaire Tested: **S123DIP-S1000D365U935-4F0-1E-UDD-D4**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P332005-935  
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-17,  
Test Lab: INNOVATION CENTER  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: NEO-RAY  
Catalog Number: S123DIP-S1000D365U935-4F0-1E-UDD-D4  
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 1000 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER  
UPLIGHT 365 LUMENS PER FOOT, BATWING OPTIC  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 4747.0 lumens  
Efficiency: N/A  
Efficacy: 109.1 lumens/watt  
Spacing Criteria (0/90/45): 1.2 / 1.26 / 1.37  
Luminous Opening: Rectangular w/ Sides (W: 0.25' x L: 4' x H: 0.08')  
CIE Type: Semi-Direct

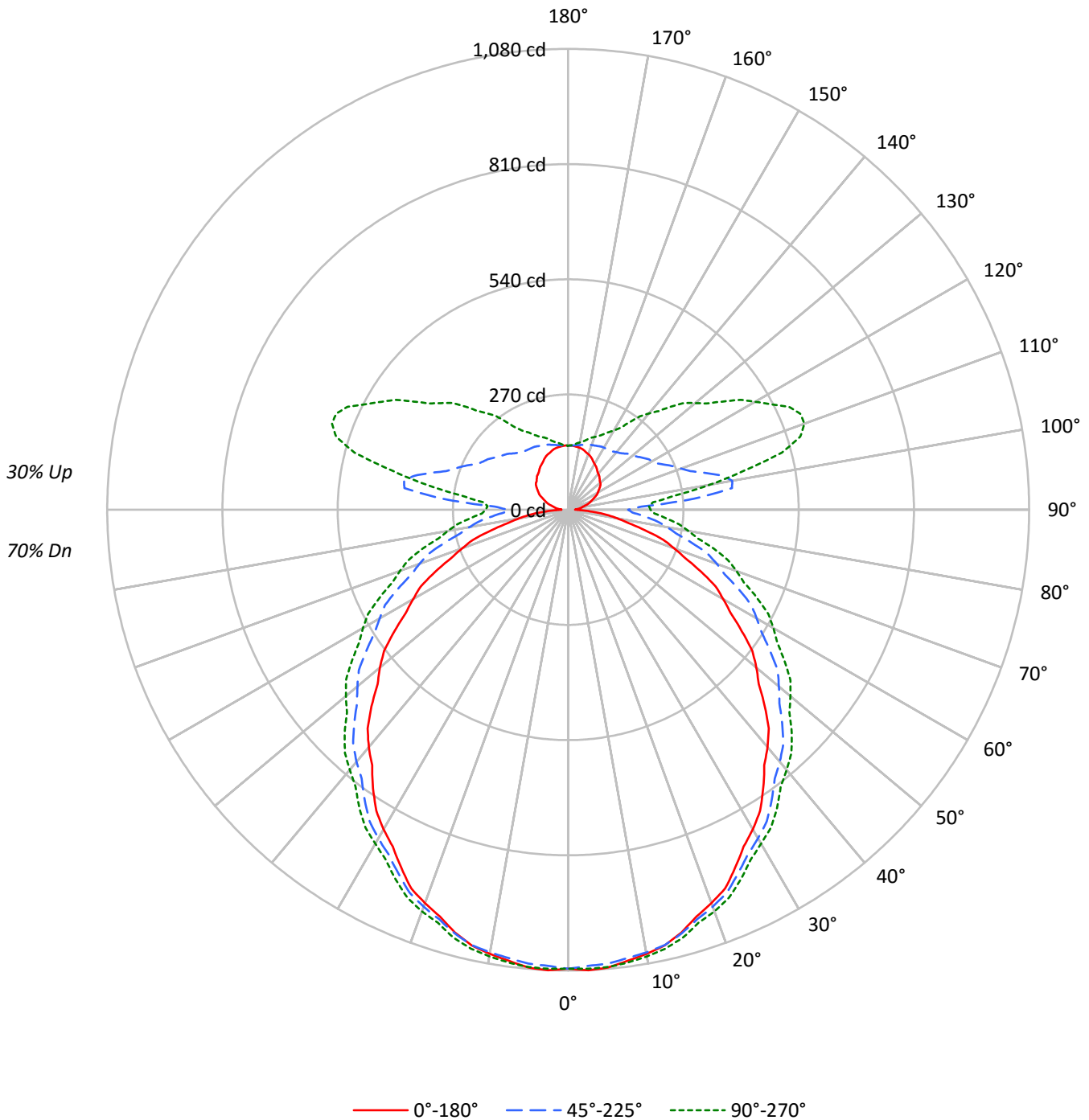
Input Watts (W): 43.5  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	50	30	10	50	30	10	50	30	10	0																			
RCR																																														
0	112	112	112	112	106	106	106	106	94	94	94	84	84	84	74	74	74	70																												
1	101	96	91	87	95	90	86	83	81	77	75	72	69	67	63	62	60	56																												
2	91	83	76	70	86	78	72	67	70	65	61	62	58	55	55	52	49	46																												
3	83	72	64	58	78	68	61	55	61	55	50	54	50	46	48	45	41	38																												
4	76	64	55	48	71	60	53	46	54	48	43	48	43	39	43	39	35	32																												
5	69	57	48	41	65	54	46	40	48	42	37	43	38	34	38	34	31	28																												
6	64	51	42	36	60	48	40	35	44	37	32	39	34	29	35	30	27	24																												
7	59	46	37	31	56	44	36	30	39	33	28	36	30	26	32	27	24	21																												
8	55	42	34	28	52	40	32	27	36	30	25	33	27	23	29	25	21	19																												
9	51	38	30	25	48	36	29	24	33	27	22	30	25	21	27	22	19	17																												
10	48	35	27	22	45	34	26	22	31	24	20	28	22	19	25	21	17	15																												

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

	0°	45°	90°
0°	11579	11579	11579
5°	11615	11288	11294
10°	11511	11028	10973
15°	11363	10732	10622
20°	11151	10395	10235
25°	10888	10007	9829
30°	10621	9658	9417
35°	10321	9289	9089
40°	10033	8953	8737
45°	9715	8630	8455
50°	9402	8312	8146
55°	9056	7985	7866
60°	8718	7655	7580
65°	8372	7303	7241
70°	7847	6904	6893
75°	7189	6449	6538
80°	6431	6003	6131
85°	5726	5695	5898



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	102.0	2.1
10°-20°	290.7	6.1
20°-30°	434.8	9.2
30°-40°	519.2	10.9
40°-50°	543.3	11.4
50°-60°	509.8	10.7
60°-70°	425.8	9.0
70°-80°	304.6	6.4
80°-90°	182.8	3.9
90°-100°	197.6	4.2
100°-110°	320.6	6.8
110°-120°	288.9	6.1
120°-130°	217.8	4.6
130°-140°	160.9	3.4
140°-150°	112.4	2.4
150°-160°	76.3	1.6
160°-170°	44.8	0.9
170°-180°	14.6	0.3
0°-30°	827.5	17.4
0°-40°	1346.7	28.4
0°-60°	2399.8	50.6
0°-90°	3313.1	69.8
90°-120°	807.2	17.0
90°-150°	1298.3	27.4
90°-180°	1434.0	30.2
0°-180°	4747.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1076	1076	1076	1076	1076	
5°	1077	1074	1068	1076	1076	102
15°	1025	1029	1028	1039	1038	289
25°	926	937	941	955	956	426
35°	797	815	831	848	853	498
45°	652	680	709	731	741	502
55°	497	536	578	608	619	445
65°	343	389	441	474	488	339
75°	186	242	300	337	353	199
85°	57	116	178	216	230	60
90°	16	76	140	179	193	11
95°	23	93	296	204	199	21
105°	45	91	332	547	518	47
115°	68	99	249	499	570	68
125°	90	108	212	378	442	80
135°	104	123	186	295	342	80
145°	117	133	170	223	249	73
155°	132	142	165	187	195	61
165°	144	148	158	167	170	41
175°	150	150	151	153	153	14
180°	150	150	150	150	150	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1075.7	1075.7	1075.7	1075.7	1075.7	1075.7	1075.7	1075.7	1075.7	1075.7	1075.7
2.5°	1080.5	1079.9	1079.2	1078.6	1078.0	1076.8	1075.1	1073.5	1071.8	1070.1	1071.8
5°	1076.9	1076.4	1075.9	1075.4	1074.9	1073.8	1072.3	1070.7	1069.1	1067.6	1069.6
7.5°	1066.3	1066.5	1066.6	1066.7	1066.8	1066.1	1064.6	1063.1	1061.5	1060.1	1062.6
10°	1057.0	1057.6	1058.1	1058.6	1059.1	1058.7	1057.4	1056.1	1054.8	1053.5	1056.1
12.5°	1045.8	1046.5	1047.2	1047.9	1048.7	1048.6	1047.8	1046.8	1045.9	1045.1	1047.5
15°	1025.4	1026.1	1026.9	1027.7	1028.5	1028.7	1028.5	1028.2	1027.9	1027.7	1030.4
17.5°	999.6	1001.2	1002.7	1004.3	1005.8	1006.6	1006.5	1006.3	1006.3	1006.2	1008.5
20°	980.9	982.4	984.0	985.5	987.1	988.2	988.7	989.2	989.7	990.2	992.6
22.5°	961.1	962.7	964.3	965.9	967.4	968.5	969.3	970.0	970.8	971.5	974.4
25°	925.7	928.3	931.0	933.6	936.2	937.9	938.7	939.4	940.2	941.0	944.3
27.5°	890.1	893.1	896.0	899.1	902.0	904.3	906.0	907.7	909.3	911.0	914.0
30°	864.8	868.2	871.6	874.9	878.4	881.1	883.2	885.3	887.3	889.4	892.6
32.5°	836.7	840.5	844.3	848.1	851.9	855.1	857.9	860.6	863.3	866.0	869.4
35°	796.9	801.0	805.2	809.3	813.6	817.3	820.7	824.1	827.4	830.9	834.7
37.5°	754.7	759.4	764.1	768.7	773.4	777.8	782.0	786.2	790.3	794.5	798.9
40°	726.5	731.2	735.9	740.6	745.3	750.3	755.4	760.7	765.9	771.1	775.5
42.5°	695.6	701.4	707.1	712.8	718.5	724.1	729.5	734.9	740.4	745.8	750.6
45°	651.5	657.8	664.1	670.3	676.6	682.9	689.4	695.9	702.5	708.9	713.9
47.5°	605.4	612.4	619.6	626.6	633.7	641.0	648.4	655.9	663.3	670.8	676.3
50°	575.4	582.6	590.0	597.3	604.5	612.3	620.3	628.4	636.5	644.5	650.5
52.5°	543.5	551.2	559.0	566.6	574.4	582.6	591.6	600.5	609.3	618.3	624.5
55°	496.9	505.5	514.0	522.6	531.2	540.2	549.6	559.0	568.3	577.7	584.8
57.5°	451.4	460.4	469.3	478.3	487.2	496.9	507.1	517.4	527.6	537.9	544.9
60°	419.6	428.9	438.2	447.6	457.0	467.0	477.7	488.4	499.1	509.8	517.0
62.5°	389.5	399.1	408.7	418.3	427.8	438.3	449.6	460.9	472.2	483.5	490.8
65°	343.4	353.5	363.7	373.8	384.0	394.8	406.2	417.7	429.1	440.7	448.4
67.5°	296.4	307.3	318.1	328.8	339.6	350.9	362.5	374.2	385.8	397.5	406.0
70°	263.6	274.8	286.0	297.3	308.5	320.3	332.8	345.3	357.8	370.3	378.7
72.5°	233.7	244.9	256.1	267.3	278.4	290.5	303.4	316.3	329.2	342.2	350.7
75°	186.3	198.5	210.8	223.1	235.3	247.9	261.0	274.0	287.0	300.0	308.6
77.5°	145.1	157.4	169.8	182.1	194.4	207.2	220.3	233.4	246.6	259.7	268.7
80°	116.0	128.8	141.5	154.3	167.0	180.2	193.7	207.3	220.8	234.4	243.2
82.5°	90.7	103.7	116.7	129.6	142.6	155.9	169.7	183.4	197.2	210.9	219.8
85°	57.4	70.4	83.4	96.5	109.5	123.0	136.7	150.5	164.3	178.1	187.0
87.5°	31.3	44.3	57.5	70.6	83.7	96.9	110.5	123.9	137.3	150.8	159.6
90°	15.8	29.2	42.6	56.2	69.7	83.3	97.5	111.7	125.8	140.0	148.6
92.5°	18.1	31.4	45.5	59.3	73.4	90.2	111.2	137.4	163.3	171.7	168.8
95°	23.2	34.3	47.8	63.1	81.2	104.5	143.2	201.2	263.9	296.4	270.4
97.5°	29.1	38.6	50.4	64.1	81.0	104.5	141.5	204.7	300.1	387.2	414.5
100°	33.1	41.7	52.2	64.7	80.4	102.4	135.7	192.7	284.7	390.1	457.5
102.5°	37.2	45.3	54.7	66.2	80.2	100.8	131.6	181.7	264.7	368.7	454.2
105°	44.7	51.8	59.9	69.8	81.9	100.0	127.6	170.1	238.8	332.5	427.1
107.5°	51.4	57.6	64.7	73.6	84.4	101.1	126.1	162.8	219.8	299.9	386.2
110°	56.3	61.9	68.1	76.2	86.0	102.1	126.2	159.7	210.9	281.3	360.8



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	61.6	66.5	71.8	79.0	88.1	103.2	126.0	157.4	203.3	266.4	337.2
115°	68.2	72.6	77.5	83.7	92.0	106.4	127.4	155.3	195.7	249.3	308.2
117.5°	75.8	79.0	82.5	87.2	95.0	107.9	128.1	153.5	188.6	235.2	286.9
120°	80.2	82.4	85.2	89.5	96.6	109.2	128.7	153.1	185.1	227.8	275.2
122.5°	84.8	86.4	88.6	92.6	98.8	111.2	130.2	152.9	182.6	221.4	264.7
125°	90.2	90.8	92.6	96.0	101.8	113.8	132.0	152.9	178.7	212.2	250.2
127.5°	95.3	95.9	97.9	101.1	107.2	118.4	134.9	153.3	175.9	204.1	236.5
130°	98.4	99.1	101.6	105.0	111.1	121.7	137.1	153.8	174.3	198.6	228.2
132.5°	100.0	101.1	104.0	108.3	114.6	124.7	138.6	154.1	172.0	193.6	220.2
135°	104.0	105.0	108.0	112.3	118.5	127.9	140.3	153.4	168.5	186.2	208.9
137.5°	107.7	108.8	111.9	116.6	122.7	131.0	141.6	153.2	165.6	179.9	199.1
140°	109.5	111.0	114.1	118.9	125.0	133.0	142.6	152.5	163.7	176.0	193.0
142.5°	112.4	113.5	116.6	120.7	126.6	133.7	142.4	151.4	161.3	171.8	186.8
145°	117.1	117.8	120.2	124.5	129.4	136.3	144.2	152.4	160.9	170.0	181.9
147.5°	120.7	121.2	123.9	127.9	132.9	138.8	146.0	153.4	160.9	168.9	177.9
150°	123.8	124.2	126.6	130.5	134.7	140.3	147.2	153.7	160.9	168.0	175.6
152.5°	127.0	127.1	129.5	132.9	136.7	142.0	148.0	154.1	160.2	166.8	173.6
155°	131.7	131.7	133.5	136.6	140.0	144.2	149.4	154.3	159.5	164.6	170.7
157.5°	135.5	135.8	137.2	139.9	142.8	146.0	150.2	154.5	158.4	162.7	167.4
160°	138.4	138.4	139.7	142.1	144.2	147.2	150.9	154.5	157.9	161.3	165.2
162.5°	140.6	140.6	141.6	143.5	145.4	148.0	151.2	154.3	157.0	159.8	163.0
165°	143.9	143.6	144.2	145.8	147.0	149.1	151.5	153.7	155.5	157.6	160.1
167.5°	146.4	146.0	146.4	147.5	148.4	149.7	151.4	153.2	154.0	155.4	157.2
170°	147.8	147.2	147.6	148.4	149.1	149.7	151.2	152.4	153.1	153.9	155.5
172.5°	148.9	148.4	148.5	149.2	149.6	149.9	151.2	152.2	152.3	152.7	153.8
175°	150.0	149.7	149.4	150.0	150.0	150.3	150.9	151.5	151.2	151.2	151.8
177.5°	150.6	150.3	150.1	150.3	150.3	150.3	150.6	151.0	150.6	150.3	150.6
180°	150.3	150.3	150.3	150.3	150.3	150.3	150.3	150.3	150.3	150.3	150.3



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1075.7	1075.7	1075.7	1075.7	1075.7	1075.7	1075.7	1075.7
2.5°	1073.5	1075.1	1076.8	1077.5	1077.3	1077.1	1076.9	1076.7
5°	1071.7	1073.8	1075.9	1076.8	1076.5	1076.2	1076.0	1075.7
7.5°	1065.2	1067.9	1070.5	1071.6	1071.3	1071.0	1070.7	1070.4
10°	1058.7	1061.3	1063.9	1065.0	1064.5	1063.9	1063.4	1062.9
12.5°	1049.8	1052.2	1054.6	1055.6	1055.1	1054.6	1054.0	1053.5
15°	1032.9	1035.5	1038.1	1039.3	1039.1	1038.8	1038.5	1038.3
17.5°	1010.8	1013.2	1015.5	1016.5	1016.2	1015.8	1015.5	1015.0
20°	994.9	997.2	999.6	1000.9	1001.2	1001.4	1001.7	1001.9
22.5°	977.4	980.3	983.3	984.7	984.6	984.5	984.3	984.1
25°	947.8	951.1	954.5	956.2	956.2	956.2	956.2	956.2
27.5°	916.8	919.7	922.6	924.2	924.5	924.6	924.9	925.1
30°	895.7	898.8	901.9	903.5	903.5	903.5	903.5	903.5
32.5°	872.7	876.0	879.3	881.3	881.9	882.5	883.2	883.8
35°	838.6	842.6	846.4	848.9	850.0	851.0	852.0	853.1
37.5°	803.4	807.8	812.3	814.9	815.7	816.5	817.3	818.2
40°	779.9	784.4	788.8	791.5	792.6	793.6	794.6	795.7
42.5°	755.4	760.3	765.2	768.3	769.7	771.2	772.7	774.1
45°	718.8	723.8	728.8	732.3	734.3	736.4	738.6	740.6
47.5°	681.9	687.5	693.0	696.6	698.3	699.9	701.5	703.1
50°	656.5	662.5	668.5	672.4	674.2	676.1	677.9	679.7
52.5°	630.7	636.9	643.1	647.3	649.5	651.8	654.0	656.3
55°	591.8	598.8	605.9	610.4	612.5	614.6	616.6	618.7
57.5°	552.1	559.1	566.2	571.0	573.4	575.8	578.3	580.7
60°	524.3	531.7	538.9	544.0	546.9	549.7	552.6	555.4
62.5°	498.1	505.4	512.6	517.6	520.3	523.0	525.6	528.3
65°	456.2	464.1	471.8	477.1	479.7	482.2	484.9	487.5
67.5°	414.6	423.1	431.6	437.0	439.2	441.4	443.6	445.7
70°	386.9	395.3	403.6	409.1	411.7	414.3	416.9	419.6
72.5°	359.3	367.8	376.3	381.9	384.5	387.1	389.8	392.4
75°	317.2	325.8	334.3	340.3	343.4	346.5	349.6	352.8
77.5°	277.8	286.9	295.9	301.7	304.0	306.4	308.8	311.3
80°	252.1	261.0	269.8	275.5	278.1	280.7	283.4	285.9
82.5°	228.7	237.5	246.3	252.1	254.7	257.3	259.8	262.5
85°	195.8	204.7	213.5	219.3	221.9	224.5	227.0	229.7
87.5°	168.5	177.5	186.3	192.2	194.8	197.4	200.1	202.6
90°	157.7	166.9	176.1	182.4	184.7	187.6	190.5	192.8
92.5°	167.8	171.2	177.5	181.4	183.2	184.7	187.4	189.2
95°	241.7	214.5	206.4	200.8	197.6	197.5	197.9	199.3
97.5°	396.1	349.6	318.1	286.9	267.0	255.9	250.3	250.3
100°	475.8	458.7	430.7	392.5	364.4	344.7	335.5	338.5
102.5°	498.2	504.8	491.4	469.0	447.6	432.7	425.3	420.9
105°	498.0	535.7	548.8	545.7	534.1	524.9	517.5	518.2
107.5°	465.2	521.6	555.3	570.7	573.3	571.6	570.7	570.2
110°	437.2	500.0	545.1	570.8	581.4	585.9	587.4	588.8





TEST NUMBER: P332005-935

CATALOG NUMBER: S123DIP-S1000D365U935-4F0-1E-UDD-D4

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	408.5	472.3	521.9	553.6	571.5	581.3	586.0	588.4
115°	370.7	429.8	480.8	518.1	543.0	558.5	566.7	570.3
117.5°	340.6	392.5	438.9	476.6	502.5	519.9	530.6	534.8
120°	324.1	371.2	413.6	448.3	474.2	493.0	502.1	505.8
122.5°	310.0	352.9	392.5	424.9	448.1	465.2	475.1	479.2
125°	290.3	329.0	363.6	391.6	412.9	428.1	437.6	441.5
127.5°	272.2	306.9	338.5	364.0	383.1	396.4	405.0	408.7
130°	260.5	292.8	322.4	346.4	364.1	376.6	384.5	388.6
132.5°	249.3	279.3	306.9	329.9	346.8	359.6	367.0	370.5
135°	234.0	260.3	284.7	305.1	321.3	331.7	338.5	341.9
137.5°	219.7	241.5	262.7	280.4	294.3	304.8	310.7	313.5
140°	211.2	230.6	249.1	264.8	277.7	287.5	293.7	294.6
142.5°	202.4	219.3	235.4	249.2	260.4	269.2	274.9	275.9
145°	193.7	205.9	217.7	228.1	236.7	244.1	247.6	249.3
147.5°	186.8	195.4	203.8	210.9	217.6	222.8	226.1	227.2
150°	182.5	189.6	196.0	202.0	207.1	210.9	213.3	213.8
152.5°	179.9	185.9	191.6	196.4	200.1	203.3	204.5	204.7
155°	175.9	180.7	185.3	188.9	191.7	194.2	194.8	195.0
157.5°	171.6	175.6	179.2	182.1	184.4	186.2	186.8	186.7
160°	169.2	172.5	175.6	177.7	179.8	181.7	181.7	181.3
162.5°	166.3	169.1	171.9	173.8	175.2	176.8	176.8	176.5
165°	162.5	164.3	166.4	168.0	169.2	170.4	170.0	170.0
167.5°	159.2	160.6	161.8	162.9	163.4	164.3	164.0	164.0
170°	157.0	157.9	159.1	159.7	160.1	160.7	160.3	160.3
172.5°	155.1	155.8	156.7	157.0	157.1	157.7	157.2	157.0
175°	152.4	152.7	153.3	153.3	153.3	153.7	153.3	153.1
177.5°	150.8	151.0	151.3	151.3	151.0	151.3	150.8	150.8
180°	150.3	150.3	150.3	150.3	150.3	150.3	150.3	150.3

(END OF REPORT)