

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: P332003-940

Luminaire Tested: **S123DIP-S1000D365U940-4F0-1E-UDD-D**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P332003-940  
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-5,  
Test Lab: INNOVATION CENTER  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: NEO-RAY  
Catalog Number: S123DIP-S1000D365U940-4F0-1E-UDD-D  
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 1000 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER  
UPLIGHT 365 LUMENS PER FOOT, NO LENS  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 5038.6 lumens  
Efficiency: N/A  
Efficacy: 115.8 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

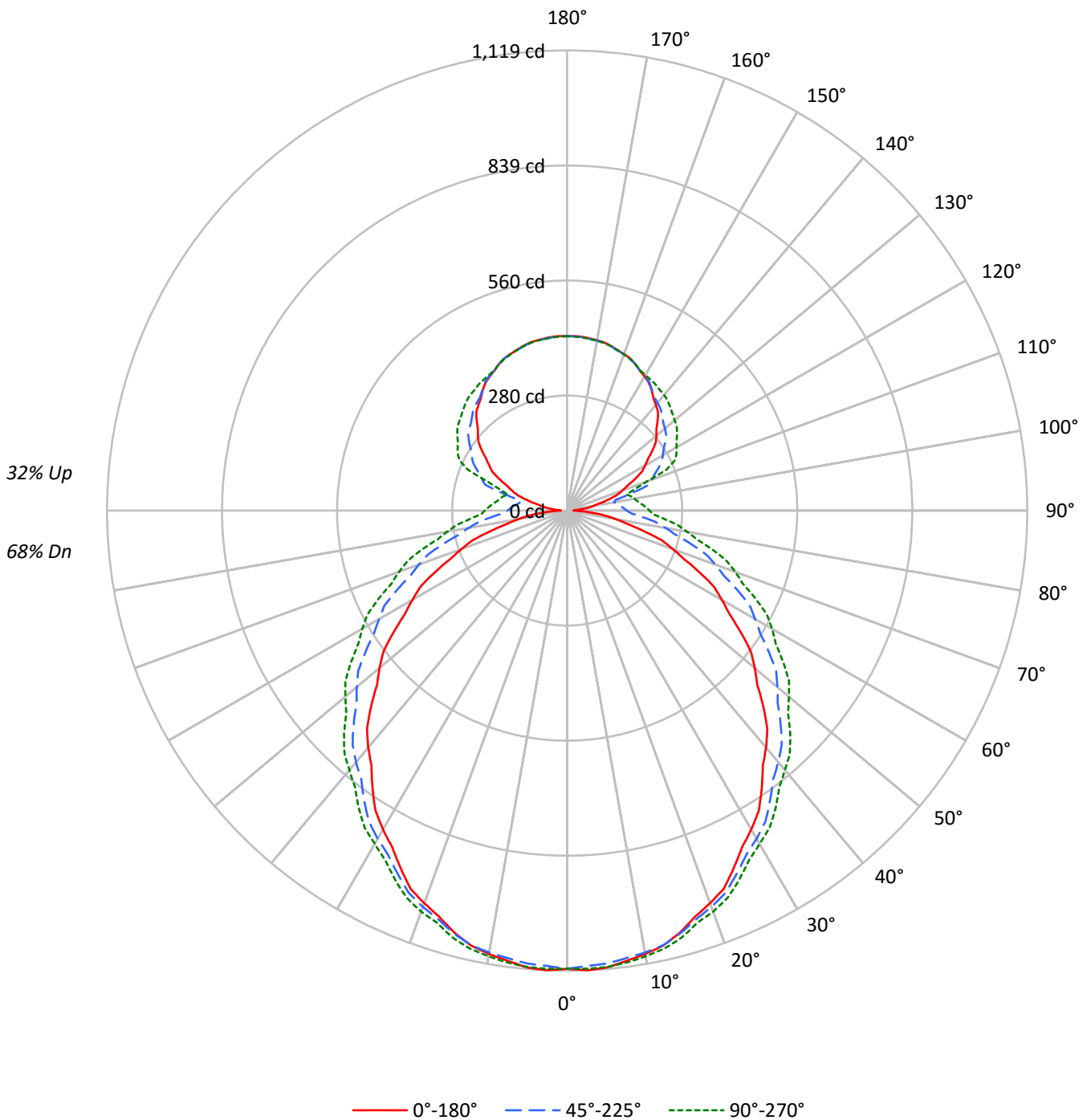
Input Watts (W): 43.5  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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### Luminous Intensity Polar Plot





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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	111	111	111	111	105	105	105	105	93	93	93	83	83	83	73	73	73	68
1	100	95	91	87	94	90	86	82	80	77	74	71	68	66	62	60	59	54
2	91	82	76	70	85	78	72	66	69	64	60	61	57	54	54	51	48	44
3	83	72	64	57	77	68	61	55	61	55	50	54	49	45	47	44	40	37
4	75	64	55	48	71	60	52	46	54	47	42	48	42	38	42	38	35	31
5	69	57	48	41	65	54	46	40	48	41	36	43	37	33	38	33	30	27
6	64	51	42	36	60	48	40	34	43	37	32	38	33	29	34	30	26	24
7	59	46	37	31	55	44	36	30	39	33	28	35	30	25	31	27	23	21
8	55	42	33	28	51	40	32	27	36	29	25	32	27	23	29	24	21	18
9	51	38	30	25	48	36	29	24	33	26	22	29	24	20	26	22	19	17
10	48	35	27	22	45	33	26	21	30	24	20	27	22	18	24	20	17	15

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

	0°	45°	90°
0°	11992	11992	11992
5°	12030	11690	11697
10°	11922	11421	11364
15°	11768	11114	11000
20°	11548	10767	10600
25°	11278	10365	10179
30°	10999	10002	9754
35°	10689	9620	9413
40°	10391	9273	9048
45°	10062	8938	8757
50°	9737	8608	8436
55°	9378	8270	8147
60°	9028	7928	7850
65°	8670	7563	7499
70°	8127	7150	7138
75°	7448	6679	6770
80°	6658	6216	6350
85°	5935	5899	6108



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	105.6	2.1
10°-20°	301.1	6.0
20°-30°	450.3	8.9
30°-40°	537.8	10.7
40°-50°	562.6	11.2
50°-60°	528.0	10.5
60°-70°	441.0	8.8
70°-80°	315.5	6.3
80°-90°	189.3	3.8
90°-100°	133.5	2.6
100°-110°	160.2	3.2
110°-120°	234.5	4.7
120°-130°	257.9	5.1
130°-140°	255.0	5.1
140°-150°	227.8	4.5
150°-160°	181.2	3.6
160°-170°	116.9	2.3
170°-180°	40.3	0.8
0°-30°	857.0	17.0
0°-40°	1394.8	27.7
0°-60°	2485.4	49.3
0°-90°	3431.2	68.1
90°-120°	528.2	10.5
90°-150°	1268.9	25.2
90°-180°	1607.0	31.9
0°-180°	5038.6	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1114	1114	1114	1114	1114	
5°	1115	1113	1106	1115	1114	106
15°	1062	1065	1064	1076	1075	299
25°	959	970	975	989	990	442
35°	825	844	860	878	884	516
45°	675	704	734	757	767	520
55°	515	555	598	630	641	461
65°	356	403	456	491	505	351
75°	193	250	311	349	365	206
85°	60	120	184	224	238	62
90°	16	79	145	186	200	12
95°	32	69	130	168	182	34
105°	104	136	160	140	150	109
115°	182	200	245	276	288	180
125°	252	256	291	316	326	225
135°	312	313	327	349	355	240
145°	358	359	360	370	375	224
155°	393	392	393	394	392	181
165°	414	413	413	415	413	117
175°	424	423	423	425	423	40
180°	424	424	424	424	424	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1114.1	1114.1	1114.1	1114.1	1114.1	1114.1	1114.1	1114.1	1114.1	1114.1	1114.1
2.5°	1119.0	1118.4	1117.7	1117.0	1116.4	1115.2	1113.5	1111.8	1110.0	1108.3	1110.0
5°	1115.4	1114.8	1114.3	1113.7	1113.2	1112.1	1110.5	1108.8	1107.2	1105.6	1107.8
7.5°	1104.4	1104.6	1104.7	1104.7	1104.8	1104.1	1102.6	1101.0	1099.4	1097.9	1100.5
10°	1094.8	1095.3	1095.8	1096.4	1096.9	1096.4	1095.1	1093.8	1092.4	1091.1	1093.8
12.5°	1083.1	1083.8	1084.6	1085.3	1086.1	1086.0	1085.1	1084.1	1083.3	1082.4	1084.9
15°	1061.9	1062.7	1063.5	1064.3	1065.1	1065.4	1065.1	1064.9	1064.6	1064.3	1067.1
17.5°	1035.3	1036.9	1038.5	1040.1	1041.7	1042.5	1042.4	1042.2	1042.1	1042.1	1044.5
20°	1015.8	1017.4	1019.0	1020.7	1022.3	1023.4	1024.0	1024.5	1025.0	1025.6	1028.0
22.5°	995.4	997.0	998.7	1000.3	1001.9	1003.1	1003.9	1004.6	1005.4	1006.1	1009.1
25°	958.8	961.4	964.2	966.9	969.6	971.3	972.1	972.9	973.7	974.6	978.0
27.5°	921.9	925.0	928.0	931.1	934.2	936.6	938.3	940.0	941.7	943.5	946.6
30°	895.6	899.2	902.7	906.2	909.7	912.5	914.7	916.9	919.0	921.1	924.4
32.5°	866.6	870.5	874.4	878.3	882.3	885.6	888.5	891.3	894.1	896.9	900.4
35°	825.3	829.6	833.9	838.2	842.6	846.4	850.0	853.5	856.9	860.5	864.5
37.5°	781.6	786.5	791.3	796.1	801.0	805.6	809.9	814.2	818.5	822.9	827.4
40°	752.4	757.3	762.1	767.0	771.9	777.0	782.4	787.8	793.2	798.6	803.2
42.5°	720.4	726.4	732.3	738.2	744.1	749.9	755.5	761.2	766.8	772.4	777.4
45°	674.8	681.3	687.8	694.2	700.7	707.3	714.0	720.8	727.5	734.2	739.4
47.5°	627.0	634.3	641.7	649.0	656.3	663.9	671.5	679.3	687.0	694.7	700.4
50°	595.9	603.4	611.0	618.6	626.1	634.1	642.4	650.8	659.2	667.5	673.7
52.5°	562.8	570.9	578.9	586.8	594.9	603.4	612.7	621.9	631.1	640.3	646.8
55°	514.6	523.5	532.4	541.3	550.2	559.5	569.2	578.9	588.6	598.3	605.6
57.5°	467.5	476.8	486.1	495.3	504.6	514.6	525.2	535.8	546.4	557.1	564.4
60°	434.5	444.2	453.9	463.6	473.3	483.7	494.7	505.9	516.9	528.0	535.5
62.5°	403.4	413.3	423.3	433.2	443.1	454.0	465.7	477.3	489.0	500.8	508.3
65°	355.6	366.1	376.7	387.2	397.7	408.8	420.7	432.6	444.4	456.4	464.4
67.5°	307.0	318.3	329.4	340.5	351.7	363.4	375.4	387.5	399.6	411.7	420.5
70°	273.0	284.6	296.2	307.9	319.5	331.7	344.6	357.7	370.6	383.5	392.2
72.5°	242.0	253.6	265.2	276.8	288.4	300.9	314.2	327.6	341.0	354.4	363.2
75°	193.0	205.6	218.3	231.0	243.7	256.7	270.3	283.7	297.2	310.7	319.6
77.5°	150.3	163.0	175.8	188.6	201.3	214.5	228.2	241.7	255.4	268.9	278.3
80°	120.1	133.4	146.6	159.8	173.0	186.6	200.6	214.7	228.7	242.7	251.9
82.5°	93.9	107.4	120.8	134.2	147.7	161.5	175.8	189.9	204.2	218.5	227.7
85°	59.5	72.9	86.4	100.0	113.4	127.3	141.6	155.9	170.1	184.5	193.7
87.5°	32.4	45.9	59.5	73.0	86.7	100.4	114.3	128.2	142.2	156.1	165.3
90°	16.1	30.1	44.0	57.9	71.8	86.1	100.7	115.4	130.0	144.7	154.2
92.5°	20.7	32.4	44.1	55.8	67.6	80.5	94.8	109.0	123.2	137.4	146.9
95°	32.5	40.2	47.9	55.6	63.1	74.0	87.9	101.9	115.9	129.9	138.8
97.5°	50.6	58.8	67.0	75.2	83.4	91.2	98.8	106.4	114.0	121.5	130.2
100°	64.2	74.2	84.3	94.3	104.3	110.0	111.6	113.0	114.5	116.0	124.4
102.5°	79.8	88.6	97.4	106.2	114.9	119.5	119.8	119.9	120.2	120.5	126.4
105°	103.6	110.8	118.1	125.4	132.6	138.8	144.2	149.5	154.7	160.1	155.2
107.5°	127.5	133.6	139.7	145.9	151.9	161.0	173.0	185.0	197.0	209.0	207.1
110°	143.4	148.8	154.3	159.6	165.1	173.5	185.1	196.7	208.2	219.8	224.4



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	159.5	164.1	168.5	173.0	177.5	185.3	196.4	207.6	218.7	229.9	236.7
115°	182.2	185.8	189.5	193.1	196.8	203.8	214.2	224.5	234.9	245.2	252.4
117.5°	205.1	207.6	210.1	212.7	215.2	221.1	230.6	240.0	249.4	258.9	265.8
120°	218.5	220.4	222.5	224.4	226.4	231.9	241.0	250.2	259.3	268.4	275.2
122.5°	233.1	234.3	235.6	236.7	238.0	243.0	251.7	260.5	269.2	277.9	284.3
125°	251.9	252.5	253.1	253.6	254.2	258.5	266.6	274.7	282.9	290.9	296.8
127.5°	271.3	271.6	272.0	272.2	272.5	276.1	282.9	289.7	296.5	303.3	308.9
130°	283.5	283.7	284.0	284.4	284.6	287.6	293.3	298.9	304.6	310.3	315.7
132.5°	294.1	294.6	295.1	295.6	296.1	298.6	303.2	307.7	312.3	316.8	322.0
135°	311.6	311.7	311.8	312.0	312.2	313.9	317.1	320.3	323.6	326.8	331.9
137.5°	326.5	326.7	327.1	327.3	327.7	328.8	330.6	332.4	334.2	336.1	340.6
140°	335.6	336.0	336.4	336.8	337.2	338.0	338.9	340.0	341.0	342.0	346.3
142.5°	344.8	345.1	345.3	345.4	345.7	346.0	346.3	346.7	347.1	347.5	351.3
145°	357.9	358.1	358.4	358.6	358.8	359.0	359.1	359.3	359.4	359.5	361.9
147.5°	369.0	369.3	369.6	370.0	370.2	370.5	370.7	370.8	371.0	371.0	371.8
150°	376.6	376.7	376.9	377.2	377.4	377.6	377.7	377.8	378.0	378.1	378.3
152.5°	383.3	383.4	383.5	383.6	383.7	383.9	383.9	384.0	384.1	384.1	384.4
155°	393.0	392.8	392.6	392.5	392.4	392.4	392.4	392.4	392.5	392.6	393.0
157.5°	400.4	400.4	400.4	400.3	400.3	400.3	400.2	400.1	400.0	400.0	400.4
160°	404.9	404.8	404.7	404.7	404.7	404.6	404.5	404.4	404.4	404.3	404.7
162.5°	409.2	409.0	408.8	408.7	408.5	408.3	408.2	408.2	408.1	408.0	408.5
165°	414.4	414.1	413.9	413.8	413.5	413.4	413.3	413.2	413.1	413.1	413.7
167.5°	418.4	418.1	417.9	417.6	417.2	417.1	417.1	417.1	417.1	417.1	417.7
170°	420.6	420.4	420.1	419.8	419.5	419.4	419.4	419.4	419.4	419.4	420.0
172.5°	422.1	421.9	421.5	421.2	420.8	420.7	420.7	420.8	420.9	420.9	421.5
175°	424.1	423.7	423.4	423.1	422.8	422.6	422.7	422.8	422.8	422.8	423.4
177.5°	424.6	424.4	424.1	423.8	423.5	423.4	423.5	423.5	423.6	423.7	424.1
180°	424.1	424.1	424.1	424.1	424.1	424.1	424.1	424.1	424.1	424.1	424.1



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1114.1	1114.1	1114.1	1114.1	1114.1	1114.1	1114.1	1114.1
2.5°	1111.8	1113.5	1115.2	1116.0	1115.7	1115.5	1115.4	1115.1
5°	1109.9	1112.1	1114.3	1115.2	1114.9	1114.6	1114.4	1114.1
7.5°	1103.2	1106.0	1108.7	1109.8	1109.6	1109.2	1108.8	1108.6
10°	1096.4	1099.1	1101.9	1103.0	1102.4	1101.9	1101.4	1100.8
12.5°	1087.3	1089.8	1092.3	1093.2	1092.7	1092.2	1091.6	1091.1
15°	1069.8	1072.5	1075.1	1076.4	1076.1	1075.8	1075.6	1075.3
17.5°	1046.9	1049.4	1051.8	1052.8	1052.4	1052.0	1051.7	1051.2
20°	1030.4	1032.8	1035.3	1036.6	1036.9	1037.1	1037.4	1037.7
22.5°	1012.3	1015.3	1018.4	1019.8	1019.7	1019.6	1019.4	1019.2
25°	981.6	985.1	988.6	990.3	990.3	990.3	990.3	990.3
27.5°	949.5	952.5	955.6	957.2	957.4	957.6	957.9	958.1
30°	927.6	930.9	934.1	935.8	935.8	935.8	935.8	935.8
32.5°	903.8	907.2	910.7	912.8	913.4	914.0	914.7	915.3
35°	868.5	872.6	876.6	879.2	880.3	881.4	882.4	883.5
37.5°	832.1	836.6	841.2	843.9	844.8	845.6	846.5	847.4
40°	807.7	812.3	816.9	819.7	820.8	821.9	823.0	824.0
42.5°	782.4	787.4	792.5	795.7	797.2	798.7	800.2	801.7
45°	744.5	749.7	754.7	758.4	760.5	762.7	764.9	767.0
47.5°	706.2	712.0	717.7	721.5	723.2	724.9	726.5	728.2
50°	679.9	686.1	692.3	696.3	698.3	700.2	702.0	703.9
52.5°	653.2	659.6	666.0	670.4	672.7	675.0	677.3	679.7
55°	612.9	620.2	627.5	632.1	634.4	636.5	638.6	640.8
57.5°	571.8	579.1	586.4	591.4	593.9	596.4	599.0	601.5
60°	543.1	550.6	558.1	563.4	566.4	569.4	572.3	575.2
62.5°	515.9	523.4	530.9	536.1	538.9	541.6	544.4	547.2
65°	472.5	480.6	488.7	494.1	496.8	499.4	502.2	504.9
67.5°	429.4	438.2	447.0	452.6	454.9	457.2	459.4	461.6
70°	400.7	409.4	418.0	423.7	426.4	429.1	431.8	434.5
72.5°	372.1	380.9	389.8	395.6	398.2	400.9	403.7	406.4
75°	328.5	337.4	346.3	352.4	355.6	358.8	362.0	365.3
77.5°	287.8	297.1	306.5	312.5	314.9	317.4	319.9	322.4
80°	261.1	270.3	279.4	285.3	288.0	290.7	293.5	296.1
82.5°	236.8	245.9	255.1	261.1	263.8	266.4	269.1	271.9
85°	202.8	212.0	221.1	227.1	229.8	232.5	235.1	237.9
87.5°	174.6	183.8	193.1	199.0	201.7	204.5	207.1	209.9
90°	163.6	173.1	182.5	188.7	191.5	194.3	197.2	200.0
92.5°	156.2	165.7	175.0	181.0	183.6	186.2	188.7	191.3
95°	147.6	156.5	165.3	171.1	173.8	176.5	179.1	181.9
97.5°	138.8	147.3	156.0	161.7	164.4	167.2	170.0	172.7
100°	132.8	141.2	149.5	155.1	157.8	160.6	163.4	166.1
102.5°	132.2	138.1	144.0	148.3	151.1	154.0	156.8	159.6
105°	150.3	145.5	140.6	139.6	142.0	144.6	147.2	149.8
107.5°	205.3	203.4	201.5	197.2	190.2	183.2	176.3	169.2
110°	229.2	233.9	238.6	237.0	229.2	221.3	213.5	205.6





TEST NUMBER: P332003-940

CATALOG NUMBER: S123DIP-S1000D365U940-4F0-1E-UDD-D

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	243.5	250.4	257.2	260.7	261.0	261.3	261.5	261.8
115°	259.6	266.7	273.8	278.7	281.2	283.6	286.0	288.5
117.5°	272.9	279.8	286.8	291.3	293.6	295.7	297.8	300.0
120°	282.0	288.6	295.4	299.8	301.7	303.5	305.4	307.3
122.5°	290.7	297.0	303.4	307.6	309.5	311.5	313.4	315.4
125°	302.6	308.4	314.1	318.1	320.0	322.1	324.1	326.2
127.5°	314.4	320.0	325.6	329.2	330.9	332.6	334.3	336.0
130°	321.1	326.5	331.9	335.4	336.8	338.3	339.8	341.3
132.5°	327.2	332.3	337.5	341.0	342.6	344.2	345.9	347.5
135°	337.0	342.1	347.1	350.2	351.3	352.5	353.6	354.7
137.5°	345.3	349.8	354.5	357.4	358.6	359.8	361.0	362.2
140°	350.7	355.0	359.4	362.1	363.3	364.5	365.7	366.9
142.5°	355.2	359.0	362.8	365.3	366.5	367.7	368.7	369.9
145°	364.1	366.4	368.7	370.4	371.5	372.6	373.6	374.7
147.5°	372.6	373.4	374.3	375.0	375.6	376.2	376.8	377.6
150°	378.4	378.5	378.7	378.9	379.2	379.6	379.9	380.2
152.5°	384.7	385.0	385.2	385.2	385.0	384.8	384.6	384.3
155°	393.3	393.7	394.0	394.0	393.6	393.2	392.7	392.3
157.5°	400.8	401.3	401.7	401.6	401.1	400.6	399.9	399.4
160°	405.1	405.6	406.0	405.9	405.5	404.9	404.5	403.9
162.5°	409.0	409.5	409.9	410.0	409.6	409.1	408.7	408.2
165°	414.2	414.8	415.4	415.4	414.9	414.4	413.9	413.4
167.5°	418.2	418.8	419.4	419.4	418.8	418.2	417.7	417.1
170°	420.5	421.1	421.6	421.6	421.1	420.5	420.0	419.4
172.5°	422.0	422.6	423.1	423.1	422.5	421.9	421.2	420.6
175°	423.8	424.4	424.8	424.8	424.3	423.7	423.1	422.6
177.5°	424.5	425.0	425.4	425.3	424.8	424.3	423.7	423.1
180°	424.1	424.1	424.1	424.1	424.1	424.1	424.1	424.1

(END OF REPORT)