

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: P332008-830

Luminaire Tested: **S123DIP-S1000D365U830-4F0-1E-UDD-F4**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332008-830
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-S1000D365U830-4F0-1E-UDD-F4
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 1000 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
UPLIGHT 365 LUMENS PER FOOT, BATWING OPTIC
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 5121.4 lumens
Efficiency: N/A
Efficacy: 117.7 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.18 / 1.31
Luminous Opening: Rectangular (W 0.25' x L: 4' x H: 0')
CIE Type: Semi-Direct

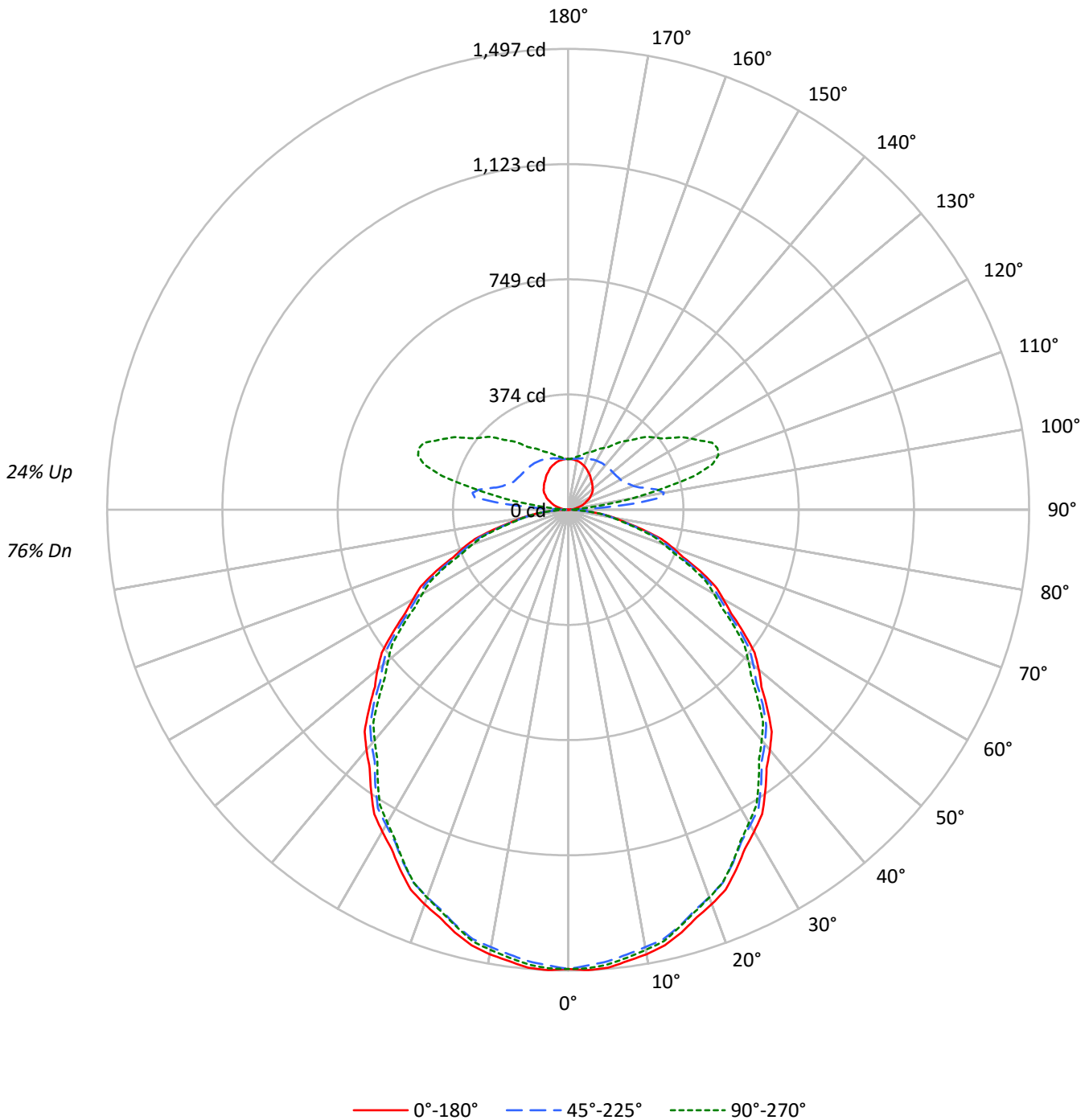
Input Watts (W): 43.5
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	113	113	113	113	108	108	108	108	98	98	98	88	88	88	80	80	80	76
1	103	99	95	91	98	94	91	87	86	83	80	78	76	74	70	69	67	64
2	94	86	80	74	89	82	77	72	75	70	66	68	65	61	62	59	57	53
3	86	76	68	62	82	73	66	60	66	61	56	60	56	52	55	51	48	45
4	79	67	59	53	75	64	57	51	59	53	48	54	49	45	49	45	42	39
5	72	60	52	45	69	58	50	44	53	46	41	48	43	39	44	40	36	34
6	67	54	46	39	63	52	44	38	48	41	36	44	38	34	40	36	32	29
7	62	49	41	35	59	47	39	34	43	37	32	40	34	30	37	32	28	26
8	58	45	37	31	55	43	35	30	40	33	29	37	31	27	34	29	25	23
9	54	41	33	28	51	39	32	27	36	30	26	34	28	24	31	26	23	21
10	50	38	30	25	48	36	29	24	34	28	23	31	26	22	29	24	21	19

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	16060	16060	16060
5°	16134	15913	16024
10°	16027	15774	15872
15°	15840	15597	15624
20°	15621	15341	15356
25°	15327	15037	15007
30°	15003	14701	14588
35°	14666	14345	14160
40°	14313	13952	13735
45°	13922	13592	13259
50°	13534	13147	12782
55°	13024	12688	12301
60°	12510	12152	11765
65°	12055	11566	11207
70°	11383	10902	10414
75°	10405	10031	9603
80°	9385	8988	8901
85°	8238	7929	7595



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	140.5	2.7
10°-20°	396.8	7.7
20°-30°	586.2	11.4
30°-40°	684.7	13.4
40°-50°	688.4	13.4
50°-60°	604.7	11.8
60°-70°	450.5	8.8
70°-80°	256.7	5.0
80°-90°	74.9	1.5
90°-100°	91.6	1.8
100°-110°	259.3	5.1
110°-120°	255.1	5.0
120°-130°	203.5	4.0
130°-140°	160.4	3.1
140°-150°	119.7	2.3
150°-160°	83.4	1.6
160°-170°	49.0	1.0
170°-180°	16.0	0.3
0°-30°	1123.5	21.9
0°-40°	1808.2	35.3
0°-60°	3101.3	60.6
0°-90°	3883.4	75.8
90°-120°	605.9	11.8
90°-150°	1089.5	21.3
90°-180°	1238.0	24.2
0°-180°	5121.4	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1492	1492	1492	1492	1492	
5°	1493	1486	1473	1485	1483	141
15°	1421	1416	1400	1409	1402	401
25°	1290	1282	1266	1267	1264	594
35°	1116	1108	1092	1084	1078	698
45°	915	909	893	878	871	706
55°	694	692	676	662	656	621
65°	473	467	454	444	440	467
75°	250	245	241	235	231	267
85°	67	64	64	62	62	73
90°	1	4	8	9	10	4
95°	11	37	198	58	39	12
105°	39	57	268	468	424	41
115°	68	85	205	449	515	68
125°	95	112	191	346	406	84
135°	111	133	188	285	329	86
145°	127	145	186	234	258	80
155°	144	156	180	205	214	66
165°	158	162	173	183	186	44
175°	164	164	166	168	168	16
180°	165	165	165	165	165	



TEST NUMBER: P332008-830

CATALOG NUMBER: S123DIP-S1000D365U830-4F0-1E-UDD-F4

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1492.0	1492.0	1492.0	1492.0	1492.0	1492.0	1492.0	1492.0	1492.0	1492.0	1492.0
2.5°	1497.0	1496.2	1495.2	1494.3	1493.5	1491.7	1489.2	1486.7	1484.2	1481.7	1483.9
5°	1493.2	1491.8	1490.3	1488.9	1487.5	1485.3	1482.1	1478.9	1475.8	1472.7	1475.6
7.5°	1478.6	1477.2	1475.7	1474.3	1472.9	1470.6	1467.4	1464.1	1460.8	1457.5	1460.1
10°	1466.3	1464.9	1463.4	1462.0	1460.6	1458.0	1454.3	1450.6	1446.9	1443.2	1445.8
12.5°	1449.8	1448.7	1447.5	1446.2	1445.1	1442.7	1439.3	1435.8	1432.3	1428.8	1430.7
15°	1421.4	1420.2	1419.1	1418.0	1416.8	1414.4	1410.7	1407.0	1403.3	1399.6	1401.8
17.5°	1388.3	1386.8	1385.3	1383.8	1382.3	1379.8	1376.0	1372.3	1368.7	1364.9	1366.5
20°	1363.7	1362.0	1360.3	1358.5	1356.8	1354.1	1350.4	1346.7	1343.0	1339.3	1340.4
22.5°	1336.0	1334.3	1332.6	1330.8	1329.1	1326.4	1322.7	1319.0	1315.3	1311.5	1312.5
25°	1290.5	1288.8	1287.1	1285.4	1283.6	1281.0	1277.2	1273.6	1269.9	1266.1	1266.4
27.5°	1242.1	1240.4	1238.7	1237.1	1235.4	1232.6	1228.6	1224.6	1220.6	1216.6	1216.8
30°	1207.1	1205.7	1204.3	1202.9	1201.5	1198.7	1194.8	1190.7	1186.8	1182.8	1182.8
32.5°	1172.2	1170.4	1168.5	1166.6	1164.7	1162.2	1159.1	1156.1	1153.0	1149.9	1148.3
35°	1116.1	1114.4	1112.7	1111.0	1109.2	1106.5	1102.8	1099.1	1095.4	1091.7	1090.0
37.5°	1058.6	1056.4	1054.2	1052.1	1049.9	1047.0	1043.2	1039.4	1035.7	1031.9	1029.8
40°	1018.6	1016.8	1015.1	1013.4	1011.7	1008.9	1004.8	1000.9	996.9	992.9	990.6
42.5°	978.5	976.6	974.7	972.7	970.8	967.8	963.8	959.9	955.8	951.9	949.6
45°	914.6	913.5	912.4	911.3	910.1	907.7	904.0	900.2	896.5	892.9	889.5
47.5°	851.3	849.6	848.0	846.3	844.7	842.1	838.7	835.2	831.7	828.2	824.8
50°	808.2	806.7	805.3	803.9	802.5	799.9	796.2	792.5	788.8	785.1	781.9
52.5°	763.0	762.0	761.1	760.2	759.1	756.7	752.8	748.9	744.9	740.9	738.3
55°	694.0	693.7	693.4	693.1	692.9	690.9	687.2	683.4	679.8	676.1	672.9
57.5°	628.3	627.4	626.4	625.5	624.4	622.5	619.5	616.5	613.6	610.7	607.8
60°	581.1	580.8	580.5	580.2	579.9	578.2	574.7	571.3	567.9	564.5	561.8
62.5°	539.0	538.3	537.5	536.8	536.1	534.0	530.6	527.2	523.8	520.3	517.7
65°	473.3	471.9	470.5	469.1	467.7	465.5	462.7	459.9	456.9	454.1	451.9
67.5°	403.9	402.6	401.3	400.1	398.8	397.1	394.9	392.8	390.6	388.4	386.4
70°	361.7	360.1	358.4	356.7	355.0	353.2	351.5	349.8	348.1	346.4	344.4
72.5°	317.6	316.4	315.1	313.9	312.6	311.0	309.1	307.2	305.2	303.2	301.5
75°	250.2	249.0	247.9	246.8	245.6	244.6	243.7	242.9	242.0	241.2	239.8
77.5°	190.4	189.7	189.1	188.5	187.8	187.0	186.1	185.0	184.0	182.9	182.0
80°	151.4	150.5	149.7	148.8	148.0	147.2	146.7	146.1	145.5	145.0	144.7
82.5°	113.4	113.2	113.1	112.9	112.7	112.5	112.4	112.4	112.3	112.2	111.6
85°	66.7	66.2	65.6	65.0	64.5	64.2	64.2	64.2	64.2	64.2	63.5
87.5°	26.9	26.3	25.7	25.3	24.7	24.3	24.3	24.3	24.3	24.2	23.9
90°	0.7	1.3	2.0	3.0	3.7	4.3	5.4	6.3	7.4	8.3	8.0
92.5°	4.1	6.1	9.0	11.5	14.3	19.2	28.0	42.3	56.4	51.2	38.6
95°	11.3	12.3	16.0	21.7	30.3	43.3	71.6	121.2	175.9	197.6	160.2
97.5°	19.3	19.6	22.5	27.4	36.0	50.0	77.1	133.0	224.1	306.1	327.4
100°	24.7	25.0	27.3	32.0	40.0	53.0	76.3	125.5	213.2	315.5	381.1
102.5°	30.3	30.8	32.9	37.3	44.5	56.5	77.4	119.1	197.2	298.1	383.7
105°	38.6	39.7	41.7	45.6	51.9	62.3	80.3	114.6	177.6	267.8	363.4
107.5°	47.6	48.5	50.5	54.4	60.3	69.9	85.8	114.2	165.0	241.0	327.8
110°	53.9	55.0	56.6	60.3	66.0	75.3	90.3	115.6	160.2	225.8	305.5



TEST NUMBER: P332008-830

CATALOG NUMBER: S123DIP-S1000D365U830-4F0-1E-UDD-F4

CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	59.9	60.8	62.5	66.2	71.8	80.9	94.8	118.3	157.5	215.7	286.0
115°	68.2	69.7	71.6	74.9	80.6	89.6	102.3	122.5	156.6	204.8	262.5
117.5°	76.7	78.2	79.9	83.0	89.4	97.6	110.2	128.3	157.1	198.4	248.3
120°	82.6	83.6	85.3	88.6	94.9	103.2	115.3	132.5	158.3	195.5	240.8
122.5°	87.7	88.7	90.3	94.0	100.0	108.9	120.6	136.6	160.0	193.7	234.7
125°	94.9	95.6	97.6	101.2	107.5	116.6	128.3	142.9	162.9	191.1	226.9
127.5°	100.5	101.4	104.0	107.6	114.6	123.7	134.9	148.1	166.1	190.0	219.9
130°	104.0	104.9	107.9	111.9	118.9	127.9	138.9	151.6	168.2	189.2	216.1
132.5°	106.6	107.8	111.1	115.9	122.9	131.7	142.3	154.8	169.8	188.9	212.7
135°	111.2	112.5	116.2	121.2	128.3	137.2	147.5	158.9	172.2	188.5	208.2
137.5°	115.6	117.1	120.6	125.9	132.9	141.2	151.2	161.9	173.8	187.8	204.2
140°	118.6	120.3	123.6	128.9	135.5	143.9	153.5	163.5	174.8	187.6	201.8
142.5°	121.8	123.2	126.8	131.6	138.3	146.0	155.4	165.1	175.7	187.0	199.7
145°	126.9	127.9	130.9	135.9	141.6	149.2	157.9	166.8	176.2	186.2	196.8
147.5°	132.1	132.7	135.6	140.0	145.4	151.9	159.9	168.0	176.2	184.9	194.1
150°	135.5	135.9	138.6	142.9	147.5	153.5	161.2	168.2	176.2	183.9	192.2
152.5°	139.0	139.1	141.8	145.5	149.7	155.4	162.0	168.7	175.4	182.6	190.0
155°	144.2	144.2	146.2	149.6	153.3	157.9	163.5	168.9	174.6	180.2	186.8
157.5°	148.4	148.6	150.2	153.2	156.3	159.9	164.4	169.2	173.4	178.1	183.2
160°	151.6	151.6	152.9	155.5	157.9	161.2	165.2	169.2	172.9	176.5	180.9
162.5°	153.9	153.9	155.0	157.1	159.2	162.0	165.5	168.9	171.8	174.9	178.4
165°	157.5	157.2	157.9	159.6	160.9	163.2	165.9	168.2	170.2	172.6	175.2
167.5°	160.2	159.9	160.2	161.5	162.4	163.9	165.8	167.7	168.6	170.1	172.1
170°	161.8	161.2	161.6	162.5	163.2	163.9	165.5	166.8	167.6	168.5	170.2
172.5°	163.0	162.5	162.6	163.3	163.7	164.1	165.5	166.6	166.7	167.2	168.3
175°	164.2	163.9	163.5	164.2	164.2	164.6	165.2	165.9	165.5	165.5	166.2
177.5°	164.9	164.6	164.3	164.6	164.6	164.6	164.9	165.3	164.9	164.6	164.9
180°	164.6	164.6	164.6	164.6	164.6	164.6	164.6	164.6	164.6	164.6	164.6



TEST NUMBER: P332008-830

CATALOG NUMBER: S123DIP-S1000D365U830-4F0-1E-UDD-F4

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1492.0	1492.0	1492.0	1492.0	1492.0	1492.0	1492.0	1492.0
2.5°	1486.2	1488.6	1490.8	1491.9	1491.6	1491.4	1491.1	1490.9
5°	1478.4	1481.2	1484.1	1485.3	1484.7	1484.1	1483.6	1483.0
7.5°	1462.7	1465.3	1467.8	1469.0	1468.6	1468.3	1467.9	1467.5
10°	1448.3	1450.9	1453.5	1454.4	1453.9	1453.3	1452.7	1452.2
12.5°	1432.6	1434.5	1436.3	1437.1	1436.8	1436.4	1436.1	1435.8
15°	1404.1	1406.4	1408.7	1409.0	1407.3	1405.5	1403.8	1402.1
17.5°	1368.1	1369.7	1371.3	1371.8	1371.2	1370.6	1369.9	1369.3
20°	1341.5	1342.7	1343.9	1344.0	1343.1	1342.3	1341.4	1340.6
22.5°	1313.4	1314.3	1315.2	1315.1	1314.1	1313.0	1311.9	1310.8
25°	1266.7	1267.1	1267.3	1267.1	1266.1	1265.3	1264.4	1263.6
27.5°	1217.1	1217.3	1217.6	1217.1	1216.1	1214.9	1213.9	1212.8
30°	1182.8	1182.8	1182.8	1181.8	1179.8	1177.8	1175.8	1173.7
32.5°	1146.7	1145.2	1143.6	1142.2	1141.1	1140.0	1139.0	1137.8
35°	1088.3	1086.6	1084.9	1083.3	1081.9	1080.4	1079.0	1077.6
37.5°	1027.8	1025.8	1023.7	1022.2	1021.3	1020.4	1019.5	1018.6
40°	988.4	986.1	983.8	982.0	980.9	979.8	978.6	977.5
42.5°	947.3	945.0	942.7	941.0	939.9	938.8	937.6	936.5
45°	886.0	882.6	879.2	876.8	875.3	873.9	872.5	871.0
47.5°	821.4	818.1	814.7	812.5	811.2	809.9	808.7	807.4
50°	778.8	775.7	772.5	770.2	768.5	766.7	765.0	763.3
52.5°	735.6	732.9	730.3	728.0	726.3	724.6	722.9	721.2
55°	669.8	666.7	663.5	661.2	659.8	658.4	657.0	655.5
57.5°	605.0	602.3	599.5	597.2	595.6	593.9	592.3	590.6
60°	559.3	556.8	554.2	552.2	550.7	549.3	547.9	546.5
62.5°	515.2	512.6	510.0	508.3	507.3	506.3	505.4	504.4
65°	449.6	447.2	445.0	443.5	442.6	441.8	440.8	440.0
67.5°	384.5	382.5	380.5	378.9	377.7	376.5	375.2	374.1
70°	342.3	340.4	338.4	336.7	335.3	333.8	332.4	330.9
72.5°	299.7	297.9	296.1	294.9	294.2	293.4	292.8	292.0
75°	238.4	236.9	235.4	234.3	233.5	232.6	231.8	230.9
77.5°	181.0	180.0	179.1	178.6	178.6	178.6	178.6	178.6
80°	144.4	144.1	143.8	143.6	143.6	143.6	143.6	143.6
82.5°	111.1	110.6	110.1	109.7	109.4	109.2	109.1	108.8
85°	63.0	62.4	61.8	61.5	61.5	61.5	61.5	61.5
87.5°	23.8	23.7	23.5	23.5	23.4	23.5	23.6	23.5
90°	8.3	8.7	9.0	9.6	9.3	9.6	10.0	9.6
92.5°	28.1	22.2	19.6	17.9	17.3	16.3	16.7	16.0
95°	119.9	81.2	63.6	51.7	45.3	42.3	40.0	38.6
97.5°	298.9	239.4	196.4	156.7	132.1	117.1	108.0	105.2
100°	392.7	365.7	326.8	279.5	245.8	221.5	208.5	208.9
102.5°	423.9	423.0	400.3	370.3	344.1	324.9	314.1	306.3
105°	433.0	466.3	472.6	464.0	448.7	436.0	425.4	423.7
107.5°	406.7	460.8	490.0	501.9	502.2	497.9	494.3	491.3
110°	381.7	443.0	484.9	508.3	517.6	520.3	519.6	519.0



TEST NUMBER: P332008-830

CATALOG NUMBER: S123DIP-S1000D365U830-4F0-1E-UDD-F4

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	356.9	419.5	466.6	496.5	513.6	521.9	524.4	524.5
115°	324.0	382.0	431.0	467.3	492.3	506.9	513.6	515.3
117.5°	300.3	350.3	394.3	431.1	457.2	474.0	483.5	485.8
120°	287.8	332.7	372.7	406.3	432.6	451.3	459.3	461.3
122.5°	278.0	318.6	355.6	386.9	410.3	427.1	435.8	438.4
125°	264.8	301.1	333.1	359.8	381.1	395.7	404.1	406.3
127.5°	253.4	285.7	314.5	338.8	357.8	370.3	377.9	379.9
130°	246.1	276.2	303.1	325.7	343.4	355.4	362.4	365.0
132.5°	239.5	267.0	292.2	313.8	330.4	342.3	348.6	350.4
135°	230.5	254.1	275.8	294.7	311.1	321.1	327.1	329.4
137.5°	222.3	241.7	260.3	276.8	290.5	300.7	305.7	307.3
140°	217.5	234.5	250.4	264.8	277.5	286.8	292.1	291.8
142.5°	213.0	227.5	241.4	253.8	264.7	273.0	277.7	277.4
145°	207.5	218.5	229.1	238.8	247.1	254.1	256.8	257.5
147.5°	203.0	211.8	220.4	227.2	233.6	238.3	240.8	241.1
150°	199.8	207.5	214.5	220.8	225.8	229.5	231.5	231.5
152.5°	196.9	203.5	209.7	215.0	218.9	222.3	223.5	223.5
155°	192.6	197.8	202.8	206.8	209.8	212.5	213.2	213.5
157.5°	187.8	192.3	196.1	199.3	201.9	203.9	204.4	204.3
160°	185.2	188.9	192.2	194.5	196.8	198.9	198.9	198.5
162.5°	182.0	185.1	188.2	190.3	191.8	193.5	193.5	193.2
165°	177.9	179.8	182.2	183.9	185.2	186.5	186.2	186.2
167.5°	174.3	175.8	177.1	178.3	178.9	179.8	179.6	179.6
170°	171.8	172.9	174.2	174.8	175.2	175.9	175.5	175.5
172.5°	169.8	170.5	171.5	171.9	172.0	172.7	172.1	171.8
175°	166.8	167.2	167.9	167.9	167.9	168.2	167.9	167.6
177.5°	165.0	165.3	165.6	165.6	165.3	165.6	165.0	165.0
180°	164.6	164.6	164.6	164.6	164.6	164.6	164.6	164.6

(END OF REPORT)