

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: P332086-840

Luminaire Tested: **S123DIP-S1165D1195U840-4F0-1E-UDD-D4**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332086-840
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-S1165D1195U840-4F0-1E-UDD-D4
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 1165 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER
UPLIGHT 1195 LUMENS PER FOOT, BATWING OPTIC
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 9262.2 lumens
Efficiency: N/A
Efficacy: 129.2 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: General Diffuse

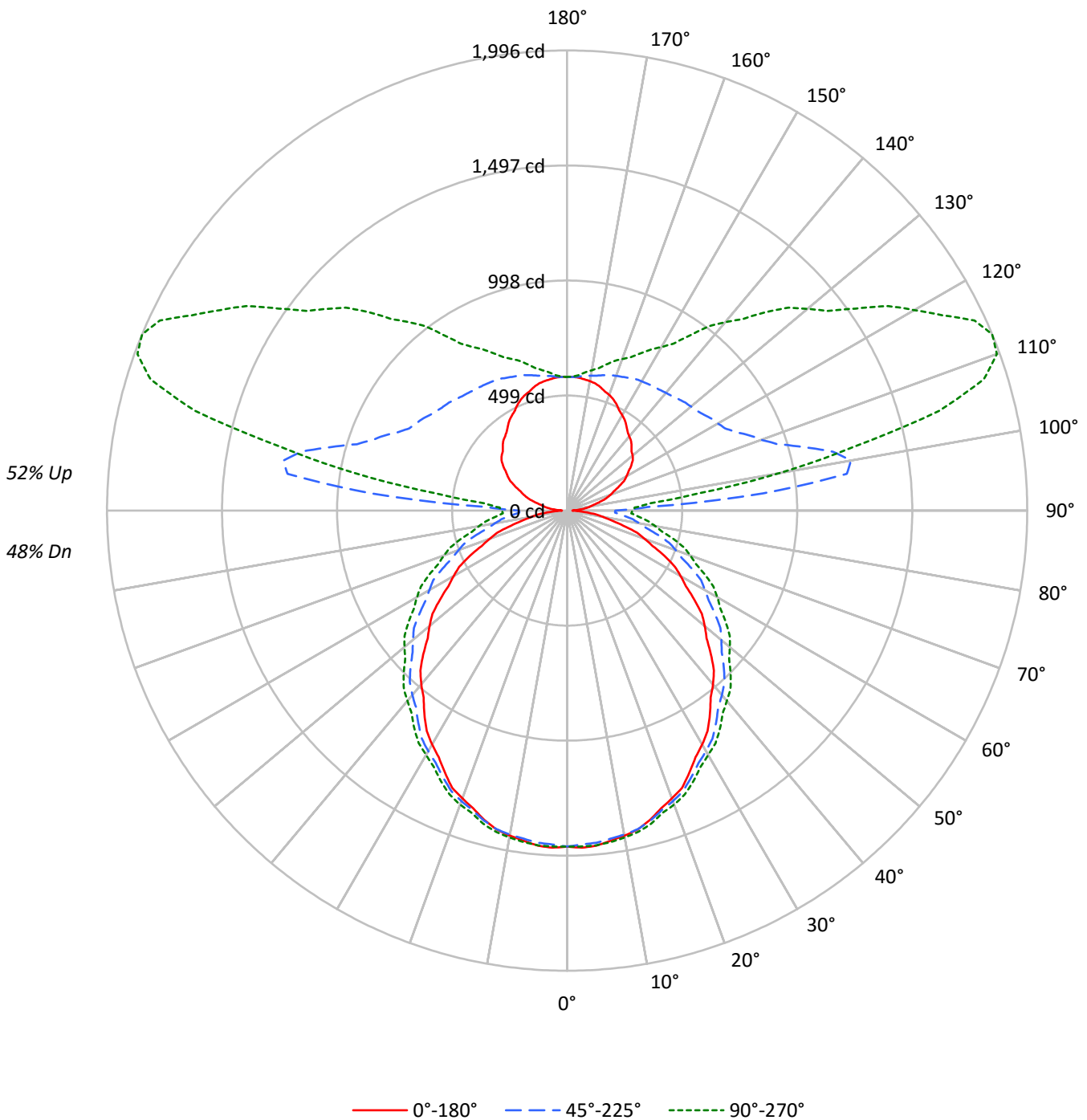
Input Watts (W): 71.7
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	0
RCR																		
0	107	107	107	107	98	98	98	98	82	82	82	68	68	68	55	55	55	48
1	96	92	87	84	88	84	81	77	71	68	66	58	56	55	47	45	44	39
2	87	79	73	67	80	73	67	63	61	57	53	51	47	45	41	38	36	32
3	79	69	62	56	73	64	57	52	54	49	45	44	41	37	36	33	31	26
4	73	61	53	47	66	57	49	44	48	42	38	39	35	32	32	29	26	22
5	66	54	46	40	61	50	43	37	42	37	32	35	31	27	28	25	23	19
6	61	49	40	34	56	45	38	32	38	32	28	32	27	24	26	22	20	17
7	56	44	36	30	52	41	33	28	35	29	25	29	24	21	23	20	17	15
8	52	40	32	26	48	37	30	25	31	26	22	26	22	19	21	18	16	13
9	49	36	29	24	45	34	27	22	29	23	19	24	20	17	20	16	14	12
10	45	33	26	21	42	31	24	20	26	21	17	22	18	15	18	15	13	11

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	15685	15685	15685
5°	15735	15290	15299
10°	15593	14937	14863
15°	15393	14539	14387
20°	15105	14082	13865
25°	14751	13556	13315
30°	14388	13084	12757
35°	13980	12583	12311
40°	13592	12128	11834
45°	13161	11692	11453
50°	12735	11259	11034
55°	12267	10818	10657
60°	11808	10368	10270
65°	11339	9889	9809
70°	10633	9352	9336
75°	9740	8736	8855
80°	8709	8132	8306
85°	7760	7716	7988



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	138.1	1.5
10°-20°	393.8	4.3
20°-30°	589.0	6.4
30°-40°	703.4	7.6
40°-50°	735.9	7.9
50°-60°	690.6	7.5
60°-70°	576.8	6.2
70°-80°	412.7	4.5
80°-90°	250.6	2.7
90°-100°	477.0	5.1
100°-110°	1026.8	11.1
110°-120°	974.3	10.5
120°-130°	760.0	8.2
130°-140°	584.5	6.3
140°-150°	425.9	4.6
150°-160°	294.0	3.2
160°-170°	172.7	1.9
170°-180°	56.2	0.6
0°-30°	1120.9	12.1
0°-40°	1824.3	19.7
0°-60°	3250.8	35.1
0°-90°	4490.9	48.5
90°-120°	2478.1	26.8
90°-150°	4248.5	45.9
90°-180°	4771.0	51.5
0°-180°	9262.2	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1457	1457	1457	1457	1457	
5°	1459	1455	1446	1458	1457	138
15°	1389	1393	1392	1407	1406	391
25°	1254	1269	1275	1294	1295	578
35°	1079	1105	1126	1148	1156	675
45°	883	921	960	990	1003	680
55°	673	726	783	824	838	602
65°	465	528	597	643	660	459
75°	252	327	406	457	478	270
85°	78	157	241	293	311	82
90°	23	113	209	264	283	17
95°	57	210	853	408	358	57
105°	149	254	1062	1812	1670	158
115°	248	329	806	1703	1950	246
125°	339	402	724	1303	1527	301
135°	395	470	683	1051	1216	305
145°	449	512	656	837	926	281
155°	508	548	635	722	752	234
165°	555	571	608	645	656	156
175°	578	579	583	591	590	55
180°	580	580	580	580	580	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1457.2	1457.2	1457.2	1457.2	1457.2	1457.2	1457.2	1457.2	1457.2	1457.2	1457.2
2.5°	1463.6	1462.8	1461.9	1461.1	1460.2	1458.6	1456.4	1454.1	1451.9	1449.7	1451.9
5°	1458.9	1458.1	1457.4	1456.7	1456.0	1454.6	1452.5	1450.4	1448.2	1446.1	1449.0
7.5°	1444.5	1444.7	1444.8	1445.0	1445.1	1444.2	1442.1	1440.1	1438.0	1435.9	1439.5
10°	1431.9	1432.6	1433.3	1434.0	1434.7	1434.1	1432.4	1430.6	1428.9	1427.0	1430.6
12.5°	1416.6	1417.5	1418.6	1419.6	1420.6	1420.5	1419.3	1418.1	1416.8	1415.6	1418.9
15°	1389.0	1390.1	1391.1	1392.2	1393.2	1393.6	1393.2	1392.9	1392.5	1392.2	1395.7
17.5°	1354.0	1356.1	1358.3	1360.4	1362.5	1363.5	1363.4	1363.2	1363.1	1362.9	1366.1
20°	1328.7	1330.8	1332.9	1335.0	1337.2	1338.6	1339.3	1340.0	1340.7	1341.4	1344.5
22.5°	1302.0	1304.1	1306.3	1308.4	1310.5	1312.0	1313.0	1314.0	1314.9	1316.0	1320.0
25°	1254.1	1257.6	1261.1	1264.7	1268.2	1270.4	1271.5	1272.5	1273.6	1274.7	1279.3
27.5°	1205.8	1209.8	1213.9	1217.9	1221.8	1225.1	1227.3	1229.5	1231.8	1234.1	1238.0
30°	1171.5	1176.1	1180.6	1185.3	1189.8	1193.6	1196.4	1199.2	1202.0	1204.9	1209.1
32.5°	1133.4	1138.5	1143.7	1148.8	1154.0	1158.4	1162.1	1165.8	1169.4	1173.1	1177.6
35°	1079.4	1085.1	1090.8	1096.4	1102.1	1107.1	1111.8	1116.3	1120.8	1125.5	1130.7
37.5°	1022.3	1028.6	1035.0	1041.4	1047.7	1053.7	1059.3	1065.0	1070.7	1076.3	1082.3
40°	984.2	990.6	996.9	1003.2	1009.6	1016.3	1023.4	1030.4	1037.4	1044.5	1050.6
42.5°	942.3	950.1	957.9	965.5	973.3	980.9	988.3	995.5	1002.9	1010.3	1016.8
45°	882.6	891.1	899.5	908.0	916.5	925.1	933.9	942.7	951.6	960.4	967.0
47.5°	820.0	829.6	839.2	848.9	858.5	868.3	878.4	888.5	898.6	908.7	916.1
50°	779.4	789.3	799.2	809.0	818.9	829.3	840.3	851.2	862.1	873.0	881.2
52.5°	736.3	746.7	757.1	767.6	778.0	789.3	801.3	813.3	825.5	837.5	846.0
55°	673.1	684.7	696.3	708.0	719.6	731.7	744.5	757.2	769.9	782.6	792.1
57.5°	611.5	623.6	635.7	647.8	660.0	673.1	686.9	700.8	714.7	728.6	738.2
60°	568.3	581.0	593.7	606.4	619.0	632.7	647.1	661.6	676.1	690.5	700.4
62.5°	527.7	540.7	553.6	566.6	579.6	593.7	609.0	624.3	639.6	655.0	664.8
65°	465.1	478.9	492.6	506.3	520.2	534.8	550.3	565.8	581.4	596.8	607.4
67.5°	401.6	416.3	430.8	445.5	460.0	475.2	491.0	506.9	522.6	538.5	550.0
70°	357.2	372.3	387.5	402.6	417.9	433.9	450.8	467.8	484.7	501.6	512.9
72.5°	316.5	331.7	346.9	362.0	377.2	393.5	411.0	428.5	446.1	463.5	475.1
75°	252.4	269.0	285.6	302.2	318.7	335.8	353.5	371.1	388.7	406.4	418.0
77.5°	196.5	213.3	229.9	246.7	263.4	280.6	298.4	316.2	334.0	351.7	364.1
80°	157.1	174.4	191.8	209.0	226.3	244.1	262.5	280.8	299.1	317.5	329.5
82.5°	122.9	140.5	158.0	175.6	193.1	211.3	229.8	248.5	267.1	285.7	297.7
85°	77.8	95.4	113.1	130.7	148.3	166.5	185.2	203.9	222.6	241.3	253.3
87.5°	42.7	60.7	78.8	97.0	115.1	133.3	152.0	170.7	189.5	208.1	219.8
90°	23.0	42.6	62.2	83.0	102.7	122.7	144.2	165.7	187.2	208.7	219.5
92.5°	33.9	56.6	82.0	106.7	132.2	166.2	214.7	282.8	350.0	349.7	317.0
95°	57.4	74.6	101.3	135.0	179.3	240.5	357.6	549.7	759.4	852.9	732.5
97.5°	83.6	97.1	119.7	149.5	192.0	255.9	367.7	581.3	918.6	1224.0	1309.8
100°	101.1	113.6	133.1	160.8	200.3	259.7	358.1	548.0	872.8	1249.2	1490.6
102.5°	119.6	131.8	149.3	174.9	210.5	265.5	355.1	518.4	809.1	1180.6	1492.1
105°	148.8	160.8	176.3	198.8	229.6	277.8	356.3	492.3	729.2	1062.4	1409.0
107.5°	178.3	189.0	203.1	224.1	252.2	296.8	366.8	481.6	674.8	956.9	1272.1
110°	199.7	209.4	221.7	241.0	267.2	310.3	377.2	480.5	651.9	897.1	1186.7



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	220.3	229.0	240.0	258.2	283.4	324.7	387.3	483.4	635.4	853.8	1110.2
115°	248.4	257.4	268.6	284.7	308.8	348.9	406.3	490.5	622.9	805.7	1017.1
117.5°	277.9	286.0	294.5	307.8	332.8	369.3	425.4	501.1	614.7	772.0	956.0
120°	297.3	302.7	310.2	323.8	347.8	383.8	437.7	510.4	612.4	755.4	923.1
122.5°	315.2	319.6	326.4	340.0	362.2	399.5	451.8	519.3	613.1	742.5	894.8
125°	339.1	341.5	348.5	361.4	383.7	420.5	471.8	533.7	614.3	724.3	857.3
127.5°	358.6	361.8	370.1	382.9	407.2	442.9	491.1	546.0	617.8	710.5	822.8
130°	370.8	374.0	384.3	397.9	422.2	457.3	503.0	554.7	620.4	701.4	803.1
132.5°	378.9	383.3	394.8	411.6	436.2	469.7	513.1	562.4	621.1	694.1	784.3
135°	395.1	399.4	411.9	429.2	453.5	487.0	527.1	571.0	621.8	683.2	758.7
137.5°	410.2	414.9	427.3	445.8	469.9	500.2	537.3	577.5	621.5	673.0	736.5
140°	419.3	425.2	436.9	455.7	479.1	509.0	544.1	580.4	621.3	666.9	722.7
142.5°	430.5	435.2	447.6	464.2	487.4	514.8	548.1	582.6	619.9	659.9	709.5
145°	448.6	451.8	462.0	479.3	498.9	525.6	556.1	587.8	620.7	655.9	696.2
147.5°	465.3	467.5	477.8	493.0	512.3	535.2	563.2	591.6	620.7	651.5	684.4
150°	477.6	478.7	488.1	503.3	519.8	540.9	567.8	592.5	620.7	647.6	677.0
152.5°	489.8	490.0	499.4	512.7	527.3	547.4	570.7	594.4	617.8	643.0	669.5
155°	508.1	508.1	515.1	526.8	539.7	556.1	576.1	594.9	614.8	634.8	658.2
157.5°	522.6	523.5	529.2	539.5	550.5	563.2	579.2	596.0	610.9	627.5	645.5
160°	533.8	533.8	538.6	548.0	556.1	567.8	582.0	596.0	608.9	621.9	637.1
162.5°	542.3	542.3	546.0	553.6	560.9	570.7	582.9	595.1	605.2	616.2	628.6
165°	555.0	553.8	556.1	562.0	566.7	574.9	584.3	592.5	599.6	607.7	617.1
167.5°	564.6	563.2	564.3	568.9	572.1	577.2	584.1	590.7	593.9	599.4	606.1
170°	570.3	567.8	569.1	572.6	574.9	577.2	583.1	587.8	590.2	593.7	599.6
172.5°	574.0	572.6	572.8	575.4	576.8	578.2	583.1	586.9	587.3	589.0	593.0
175°	578.5	577.2	576.1	578.5	578.5	579.7	582.0	584.3	583.1	583.1	585.5
177.5°	580.6	579.7	578.7	579.7	579.7	579.7	580.6	582.4	580.6	579.7	580.6
180°	579.7	579.7	579.7	579.7	579.7	579.7	579.7	579.7	579.7	579.7	579.7



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1457.2	1457.2	1457.2	1457.2	1457.2	1457.2	1457.2	1457.2
2.5°	1454.1	1456.4	1458.6	1459.7	1459.4	1459.1	1458.8	1458.5
5°	1451.8	1454.6	1457.4	1458.6	1458.3	1457.9	1457.6	1457.2
7.5°	1443.0	1446.5	1450.1	1451.7	1451.2	1450.8	1450.4	1450.0
10°	1434.1	1437.6	1441.2	1442.6	1441.9	1441.2	1440.5	1439.8
12.5°	1422.2	1425.4	1428.7	1429.9	1429.2	1428.5	1427.7	1427.0
15°	1399.2	1402.7	1406.2	1407.9	1407.5	1407.1	1406.8	1406.4
17.5°	1369.3	1372.5	1375.6	1377.0	1376.5	1376.0	1375.5	1375.0
20°	1347.7	1350.9	1354.0	1355.8	1356.1	1356.6	1356.9	1357.3
22.5°	1324.0	1328.1	1332.0	1333.9	1333.7	1333.5	1333.3	1333.1
25°	1283.8	1288.5	1293.0	1295.4	1295.4	1295.4	1295.4	1295.4
27.5°	1241.9	1245.9	1249.8	1251.9	1252.2	1252.5	1252.8	1253.1
30°	1213.4	1217.6	1221.7	1223.9	1223.9	1223.9	1223.9	1223.9
32.5°	1182.1	1186.7	1191.1	1193.9	1194.7	1195.6	1196.4	1197.2
35°	1136.1	1141.3	1146.6	1150.0	1151.4	1152.9	1154.3	1155.6
37.5°	1088.2	1094.3	1100.2	1103.8	1105.0	1106.1	1107.2	1108.3
40°	1056.5	1062.5	1068.5	1072.2	1073.6	1075.0	1076.4	1077.8
42.5°	1023.4	1030.0	1036.5	1040.8	1042.7	1044.7	1046.6	1048.6
45°	973.8	980.5	987.2	992.0	994.8	997.6	1000.5	1003.2
47.5°	923.7	931.3	938.9	943.7	945.8	948.1	950.3	952.4
50°	889.3	897.5	905.5	910.8	913.3	915.7	918.3	920.7
52.5°	854.3	862.7	871.1	876.9	879.9	882.9	886.0	889.0
55°	801.6	811.1	820.7	826.9	829.7	832.5	835.4	838.2
57.5°	747.8	757.4	767.0	773.5	776.8	780.1	783.5	786.7
60°	710.2	720.1	730.0	736.9	740.8	744.7	748.5	752.5
62.5°	674.7	684.6	694.5	701.3	704.8	708.4	712.1	715.6
65°	618.0	628.6	639.2	646.2	649.7	653.3	656.8	660.4
67.5°	561.6	573.2	584.7	592.0	595.0	597.9	600.9	603.9
70°	524.2	535.5	546.7	554.2	557.7	561.3	564.7	568.3
72.5°	486.7	498.3	509.8	517.4	520.9	524.4	528.0	531.5
75°	429.7	441.3	452.9	460.9	465.1	469.4	473.6	477.8
77.5°	376.3	388.6	400.9	408.6	411.9	415.2	418.4	421.6
80°	341.4	353.5	365.5	373.2	376.8	380.3	383.8	387.3
82.5°	309.7	321.7	333.7	341.4	345.0	348.5	352.0	355.6
85°	265.3	277.3	289.2	297.0	300.5	304.1	307.6	311.1
87.5°	232.1	244.3	256.5	264.8	268.1	271.9	275.6	278.9
90°	232.7	245.9	259.0	269.1	271.5	276.2	280.9	283.3
92.5°	291.4	282.8	285.3	286.7	287.8	287.5	292.0	293.1
95°	601.4	476.3	425.0	390.0	371.2	364.2	359.5	358.3
97.5°	1219.7	1020.7	879.8	746.5	663.4	614.1	586.0	579.5
100°	1541.9	1457.1	1330.0	1170.3	1055.3	973.2	931.0	935.6
102.5°	1643.6	1650.4	1580.3	1481.5	1392.8	1328.5	1293.8	1270.3
105°	1664.2	1791.3	1823.5	1799.5	1748.7	1707.3	1672.9	1670.2
107.5°	1559.7	1759.7	1871.9	1920.0	1924.0	1912.1	1902.6	1894.8
110°	1464.5	1689.6	1846.6	1934.7	1970.4	1982.7	1983.1	1983.6



TEST NUMBER: P332086-840

CATALOG NUMBER: S123DIP-S1165D1195U840-4F0-1E-UDD-D4

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	1369.1	1598.5	1773.1	1884.7	1947.8	1980.0	1992.1	1995.7
115°	1242.7	1455.3	1636.3	1769.8	1860.6	1915.1	1941.4	1950.0
117.5°	1147.7	1332.3	1495.6	1630.9	1725.5	1787.3	1823.8	1834.6
120°	1096.6	1263.1	1412.1	1535.9	1631.0	1699.2	1729.8	1739.3
122.5°	1055.0	1206.2	1344.5	1459.8	1544.6	1606.2	1639.6	1651.0
125°	998.4	1133.7	1253.7	1352.5	1430.1	1484.2	1516.0	1526.7
127.5°	947.7	1068.7	1177.3	1267.4	1336.7	1383.2	1412.1	1422.0
130°	915.4	1027.7	1129.4	1213.7	1278.0	1322.3	1349.1	1360.6
132.5°	885.0	988.6	1083.5	1164.0	1224.8	1269.4	1293.6	1302.6
135°	843.6	933.3	1015.9	1086.9	1146.1	1183.1	1206.0	1216.0
137.5°	805.7	879.5	950.8	1012.4	1062.5	1099.9	1119.5	1126.7
140°	783.2	848.2	909.9	963.8	1010.2	1044.8	1065.3	1065.9
142.5°	760.9	817.1	870.6	917.8	957.5	988.4	1007.0	1007.6
145°	736.6	778.2	818.5	854.6	885.4	911.5	922.3	926.0
147.5°	716.9	748.5	779.6	804.9	828.4	846.4	856.6	858.8
150°	704.0	730.9	755.6	778.3	796.6	810.2	817.9	818.6
152.5°	693.7	716.9	738.7	757.3	771.3	783.5	787.8	787.9
155°	678.1	696.9	714.6	728.6	739.2	748.6	750.9	752.0
157.5°	661.8	677.5	691.1	702.1	711.2	718.3	720.1	719.9
160°	652.4	665.3	677.0	685.2	693.5	700.4	700.4	699.3
162.5°	641.1	652.2	662.9	670.1	675.6	681.7	681.7	680.5
165°	626.5	633.6	641.8	647.6	652.4	657.0	655.9	655.9
167.5°	613.9	619.2	624.0	628.2	630.3	633.6	632.4	632.4
170°	605.4	608.9	613.6	616.0	617.1	619.6	618.3	618.3
172.5°	597.9	600.5	604.3	605.6	605.9	608.2	606.1	605.2
175°	587.8	589.0	591.4	591.4	591.4	592.5	591.4	590.2
177.5°	581.5	582.4	583.4	583.4	582.4	583.4	581.5	581.5
180°	579.7	579.7	579.7	579.7	579.7	579.7	579.7	579.7

(END OF REPORT)