

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: P331953-840

Luminaire Tested: **S123DIP-S560D1195U840-4F0-1E-UDD-F1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P331953-840
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-9,
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S123DIP-S560D1195U840-4F0-1E-UDD-F1
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 560 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
UPLIGHT 1195 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 6483.9 lumens
Efficiency: N/A
Efficacy: 131.3 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-Indirect

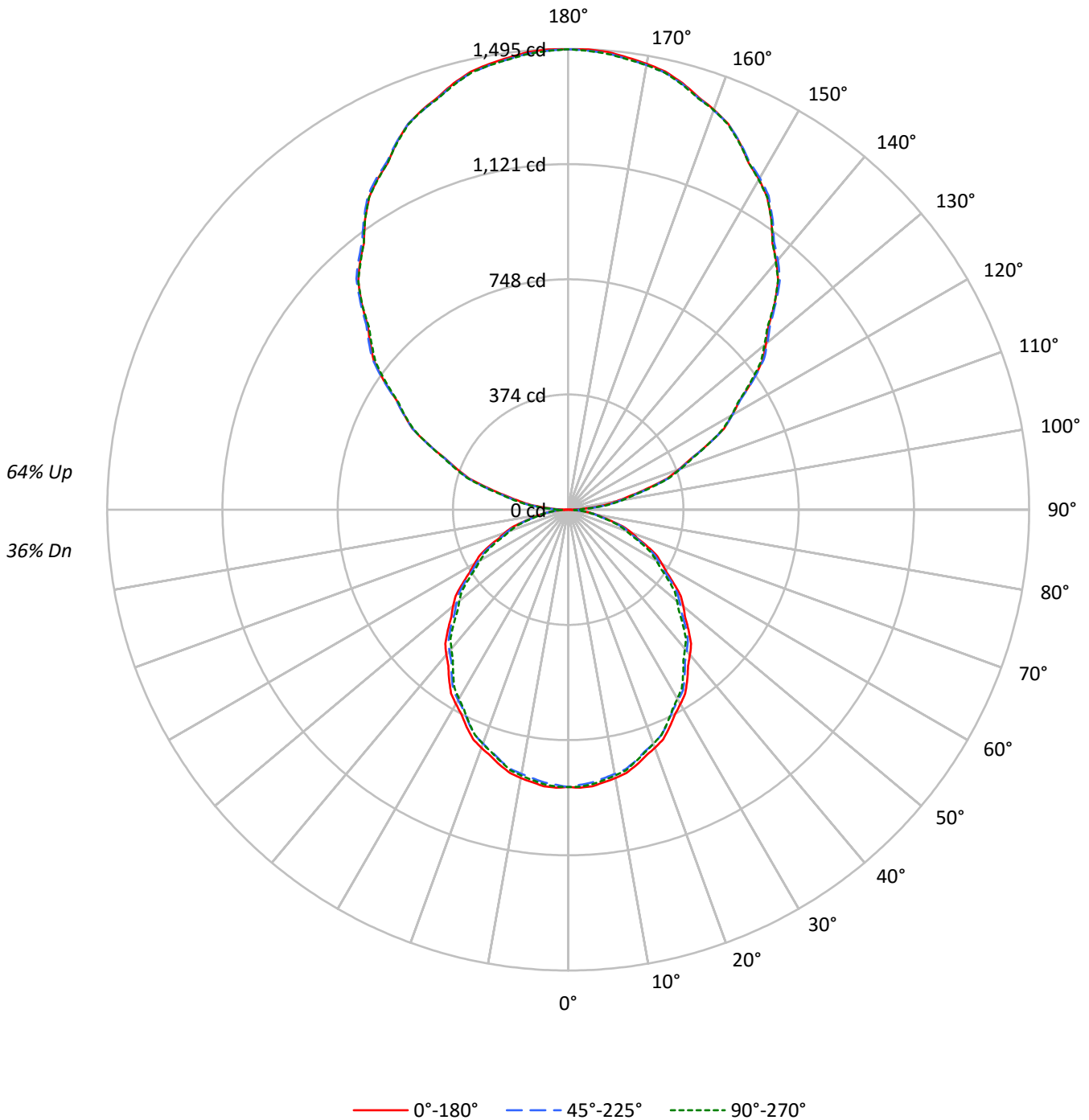
Input Watts (W): 49.4
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	104	104	104	104	94	94	94	94	76	76	76	59	59	59	43	43	43	36
1	95	90	87	83	86	82	79	76	66	64	62	52	50	49	38	37	37	30
2	86	79	73	68	78	72	66	62	58	54	51	45	43	41	34	32	31	25
3	79	69	62	56	71	63	57	52	51	47	43	40	37	34	30	28	26	21
4	72	61	53	48	65	56	49	44	45	40	36	36	32	29	27	24	22	18
5	66	54	46	41	59	50	43	37	40	35	31	32	28	25	24	21	20	16
6	61	49	41	35	55	44	37	32	36	31	27	29	25	22	22	19	17	14
7	56	44	36	31	50	40	33	28	33	28	24	26	22	20	20	17	15	12
8	52	40	32	27	47	36	30	25	30	25	21	24	20	17	18	16	14	11
9	48	36	29	24	44	33	27	22	27	22	19	22	18	16	17	14	12	10
10	45	33	26	21	41	30	24	20	25	20	17	20	17	14	16	13	11	9

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	9684	9684	9684
5°	9729	9596	9662
10°	9664	9512	9571
15°	9551	9404	9423
20°	9419	9251	9260
25°	9242	9069	9049
30°	9047	8866	8797
35°	8843	8650	8539
40°	8630	8413	8283
45°	8397	8196	7995
50°	8162	7927	7708
55°	7854	7651	7418
60°	7543	7326	7093
65°	7272	6976	6757
70°	6864	6571	6279
75°	6276	6047	5793
80°	5659	5424	5368
85°	4965	4780	4594



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	84.7	1.3
10°-20°	239.3	3.7
20°-30°	353.5	5.5
30°-40°	412.9	6.4
40°-50°	415.1	6.4
50°-60°	364.6	5.6
60°-70°	271.7	4.2
70°-80°	154.8	2.4
80°-90°	48.9	0.8
90°-100°	97.3	1.5
100°-110°	291.2	4.5
110°-120°	495.4	7.6
120°-130°	651.6	10.0
130°-140°	732.3	11.3
140°-150°	719.9	11.1
150°-160°	606.0	9.3
160°-170°	403.4	6.2
170°-180°	141.3	2.2
0°-30°	677.5	10.4
0°-40°	1090.4	16.8
0°-60°	1870.2	28.8
0°-90°	2345.5	36.2
90°-120°	883.9	13.6
90°-150°	2987.7	46.1
90°-180°	4138.0	63.8
0°-180°	6483.9	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	900	900	900	900	900	
5°	900	896	888	895	894	85
15°	857	854	844	850	846	242
25°	778	773	764	764	762	358
35°	673	668	658	654	650	421
45°	552	548	538	529	525	426
55°	418	417	408	399	395	375
65°	286	281	274	268	265	282
75°	151	148	145	142	139	161
85°	40	39	39	37	37	44
90°	1	13	28	33	35	6
95°	69	78	87	91	92	78
105°	264	267	277	277	279	283
115°	499	502	500	501	500	493
125°	730	733	731	726	722	651
135°	947	953	953	948	946	729
145°	1149	1151	1155	1153	1149	717
155°	1315	1315	1316	1320	1313	605
165°	1433	1429	1429	1435	1428	404
175°	1490	1486	1485	1492	1484	141
180°	1494	1494	1494	1494	1494	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	899.7	899.7	899.7	899.7	899.7	899.7	899.7	899.7	899.7	899.7	899.7
2.5°	902.7	902.2	901.7	901.1	900.6	899.5	898.0	896.5	895.0	893.5	894.8
5°	900.4	899.6	898.7	897.9	897.0	895.6	893.7	891.8	890.0	888.1	889.8
7.5°	891.6	890.8	889.9	889.1	888.2	886.8	884.8	882.8	880.9	879.0	880.5
10°	884.2	883.3	882.5	881.6	880.8	879.2	877.0	874.7	872.5	870.3	871.8
12.5°	874.3	873.5	872.8	872.1	871.4	870.0	867.9	865.8	863.7	861.6	862.7
15°	857.1	856.5	855.8	855.1	854.3	852.9	850.7	848.5	846.2	843.9	845.4
17.5°	837.2	836.3	835.4	834.5	833.5	832.0	829.8	827.6	825.4	823.0	824.0
20°	822.3	821.3	820.2	819.2	818.2	816.6	814.4	812.1	809.8	807.6	808.3
22.5°	805.6	804.6	803.5	802.5	801.4	799.8	797.6	795.4	793.1	790.9	791.4
25°	778.2	777.2	776.2	775.2	774.1	772.4	770.2	768.0	765.8	763.6	763.7
27.5°	749.0	748.0	747.0	746.0	745.0	743.3	740.8	738.5	736.1	733.7	733.8
30°	727.9	727.1	726.2	725.4	724.5	722.9	720.4	718.0	715.7	713.3	713.3
32.5°	706.9	705.8	704.6	703.5	702.4	700.8	699.0	697.1	695.3	693.5	692.5
35°	673.0	672.0	671.0	669.9	668.9	667.2	665.0	662.8	660.6	658.3	657.3
37.5°	638.3	637.0	635.7	634.4	633.1	631.4	629.0	626.8	624.5	622.3	621.1
40°	614.2	613.2	612.2	611.2	610.1	608.3	605.9	603.6	601.2	598.7	597.3
42.5°	590.1	589.0	587.7	586.5	585.4	583.6	581.2	578.9	576.4	574.0	572.6
45°	551.6	550.9	550.2	549.5	548.8	547.3	545.1	542.9	540.7	538.4	536.3
47.5°	513.3	512.3	511.4	510.4	509.4	507.8	505.7	503.6	501.5	499.4	497.4
50°	487.4	486.5	485.6	484.7	483.9	482.4	480.1	477.9	475.6	473.4	471.5
52.5°	460.1	459.5	459.0	458.4	457.8	456.3	453.9	451.6	449.2	446.9	445.2
55°	418.5	418.3	418.2	418.0	417.8	416.6	414.3	412.1	409.9	407.7	405.8
57.5°	378.9	378.3	377.7	377.2	376.6	375.4	373.5	371.8	370.0	368.2	366.6
60°	350.4	350.2	350.1	349.9	349.7	348.6	346.6	344.5	342.4	340.3	338.8
62.5°	325.1	324.6	324.2	323.8	323.3	322.0	319.9	317.9	315.8	313.8	312.3
65°	285.5	284.6	283.8	282.9	282.1	280.7	279.0	277.3	275.6	273.9	272.5
67.5°	243.5	242.8	242.0	241.3	240.4	239.4	238.1	236.8	235.5	234.3	233.1
70°	218.1	217.1	216.1	215.1	214.0	213.0	212.0	211.0	209.8	208.8	207.6
72.5°	191.6	190.8	190.1	189.2	188.5	187.5	186.4	185.2	184.0	182.9	181.8
75°	150.9	150.2	149.5	148.8	148.1	147.5	146.9	146.4	145.9	145.4	144.6
77.5°	114.8	114.4	114.0	113.7	113.3	112.8	112.2	111.6	110.9	110.3	109.8
80°	91.3	90.8	90.3	89.8	89.2	88.8	88.5	88.1	87.8	87.5	87.3
82.5°	68.4	68.3	68.2	68.1	68.0	67.9	67.9	67.8	67.7	67.7	67.3
85°	40.2	39.9	39.6	39.2	38.9	38.7	38.7	38.7	38.7	38.7	38.4
87.5°	16.4	16.5	16.6	16.7	16.8	17.1	17.7	18.2	18.7	19.3	19.3
90°	1.2	3.7	6.4	9.0	11.6	14.6	18.0	21.4	24.7	28.2	29.2
92.5°	28.4	30.2	31.9	33.7	35.4	37.4	39.3	41.2	43.1	45.0	45.8
95°	69.3	71.1	72.9	74.7	76.5	78.5	80.6	82.6	84.7	86.8	87.9
97.5°	123.0	124.3	125.7	127.0	128.4	129.9	131.4	132.9	134.3	135.8	137.0
100°	159.6	161.2	162.7	164.3	165.8	167.2	168.5	169.9	171.2	172.5	173.3
102.5°	201.8	202.8	203.7	204.6	205.6	206.9	208.6	210.4	212.1	213.8	214.6
105°	264.0	264.5	265.1	265.6	266.1	267.5	269.8	272.3	274.6	276.9	276.9
107.5°	336.3	336.6	336.9	337.2	337.5	338.2	339.1	340.0	340.9	341.9	342.7
110°	381.3	381.8	382.3	382.9	383.4	384.0	384.5	385.0	385.5	386.1	387.1



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	428.3	428.6	428.9	429.2	429.5	429.7	429.8	429.9	430.0	430.1	431.4
115°	498.7	499.5	500.2	501.0	501.8	501.9	501.4	500.9	500.4	499.9	500.1
117.5°	569.6	570.1	570.6	571.1	571.6	571.6	570.9	570.2	569.6	568.9	568.8
120°	613.7	615.2	616.8	618.3	620.0	620.1	618.7	617.4	616.1	614.8	614.6
122.5°	659.6	660.8	662.0	663.1	664.3	664.5	663.8	663.1	662.5	661.8	661.1
125°	729.8	730.6	731.3	732.2	733.0	733.1	732.6	732.1	731.5	731.0	729.9
127.5°	794.6	796.3	797.9	799.6	801.2	801.8	801.2	800.6	800.1	799.5	798.1
130°	837.8	839.8	841.9	844.0	846.1	846.8	846.0	845.2	844.4	843.6	842.6
132.5°	880.9	883.0	885.1	887.2	889.3	890.1	889.5	888.9	888.3	887.8	886.5
135°	946.8	948.5	950.0	951.6	953.1	953.8	953.5	953.3	953.0	952.7	951.7
137.5°	1007.9	1009.2	1010.5	1011.8	1013.1	1014.1	1014.8	1015.4	1016.1	1016.8	1015.7
140°	1050.2	1051.5	1052.8	1054.1	1055.3	1056.1	1056.4	1056.6	1056.9	1057.2	1056.9
142.5°	1088.6	1089.9	1091.3	1092.6	1093.9	1094.7	1095.2	1095.7	1096.1	1096.6	1096.3
145°	1148.7	1149.2	1149.7	1150.2	1150.7	1151.4	1152.3	1153.0	1153.8	1154.6	1154.3
147.5°	1201.2	1202.2	1203.2	1204.1	1205.1	1205.9	1206.6	1207.3	1208.0	1208.8	1208.8
150°	1237.9	1238.4	1238.9	1239.4	1240.0	1240.5	1241.0	1241.5	1242.0	1242.5	1242.5
152.5°	1267.9	1268.7	1269.4	1270.1	1270.8	1271.3	1271.6	1272.0	1272.3	1272.6	1273.0
155°	1315.3	1315.3	1315.3	1315.3	1315.3	1315.5	1315.8	1316.0	1316.3	1316.5	1317.6
157.5°	1355.6	1355.3	1355.0	1354.7	1354.4	1354.3	1354.6	1354.8	1355.0	1355.2	1356.3
160°	1381.0	1380.5	1380.0	1379.5	1379.0	1378.7	1378.7	1378.7	1378.7	1378.7	1380.0
162.5°	1403.5	1402.8	1402.1	1401.4	1400.7	1400.4	1400.6	1400.8	1401.0	1401.2	1402.5
165°	1432.7	1431.9	1431.1	1430.3	1429.6	1429.2	1429.2	1429.2	1429.2	1429.2	1430.7
167.5°	1455.9	1454.8	1453.8	1452.8	1451.7	1451.3	1451.5	1451.7	1451.9	1452.1	1453.7
170°	1469.1	1467.9	1466.9	1465.9	1464.8	1464.3	1464.3	1464.3	1464.3	1464.3	1466.1
172.5°	1479.4	1478.3	1477.2	1476.2	1475.2	1474.7	1474.7	1474.7	1474.7	1474.7	1476.3
175°	1490.2	1489.1	1488.0	1487.0	1486.0	1485.4	1485.4	1485.4	1485.4	1485.4	1487.0
177.5°	1494.6	1493.8	1493.0	1492.1	1491.3	1490.9	1490.9	1490.9	1490.9	1490.9	1492.1
180°	1493.7	1493.7	1493.7	1493.7	1493.7	1493.7	1493.7	1493.7	1493.7	1493.7	1493.7



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	899.7	899.7	899.7	899.7	899.7	899.7	899.7	899.7
2.5°	896.3	897.6	899.0	899.6	899.5	899.3	899.2	899.1
5°	891.5	893.2	894.9	895.6	895.2	894.9	894.6	894.2
7.5°	882.0	883.5	885.1	885.8	885.6	885.3	885.1	884.9
10°	873.3	874.9	876.5	877.1	876.8	876.4	876.1	875.7
12.5°	863.8	865.1	866.2	866.6	866.4	866.2	866.0	865.8
15°	846.8	848.1	849.5	849.6	848.6	847.6	846.6	845.6
17.5°	825.1	826.0	827.0	827.2	826.9	826.5	826.1	825.7
20°	809.0	809.7	810.3	810.4	809.9	809.4	808.9	808.4
22.5°	792.0	792.5	793.1	793.0	792.4	791.7	791.1	790.4
25°	763.9	764.1	764.2	764.1	763.6	763.1	762.4	761.9
27.5°	734.0	734.1	734.2	734.0	733.3	732.7	732.0	731.3
30°	713.3	713.3	713.3	712.7	711.4	710.2	709.0	707.8
32.5°	691.6	690.5	689.5	688.7	688.1	687.5	686.8	686.2
35°	656.2	655.2	654.2	653.3	652.4	651.6	650.7	649.8
37.5°	619.8	618.5	617.3	616.4	615.9	615.3	614.8	614.2
40°	596.0	594.6	593.3	592.2	591.5	590.9	590.2	589.5
42.5°	571.3	569.9	568.5	567.4	566.7	566.1	565.4	564.7
45°	534.3	532.2	530.2	528.7	527.9	526.9	526.1	525.2
47.5°	495.3	493.3	491.3	489.9	489.2	488.4	487.7	486.9
50°	469.7	467.8	465.9	464.4	463.3	462.3	461.3	460.3
52.5°	443.6	442.0	440.4	439.0	438.0	437.0	436.0	434.9
55°	403.8	402.0	400.1	398.7	397.9	397.0	396.2	395.3
57.5°	364.9	363.1	361.5	360.1	359.1	358.2	357.2	356.2
60°	337.3	335.8	334.2	333.0	332.1	331.2	330.4	329.5
62.5°	310.6	309.1	307.6	306.5	305.9	305.4	304.8	304.2
65°	271.0	269.7	268.3	267.4	266.9	266.4	265.9	265.3
67.5°	231.9	230.7	229.4	228.4	227.7	227.0	226.3	225.6
70°	206.4	205.3	204.1	203.0	202.2	201.3	200.5	199.5
72.5°	180.8	179.7	178.6	177.8	177.4	176.9	176.5	176.0
75°	143.7	142.9	142.0	141.3	140.8	140.3	139.8	139.3
77.5°	109.2	108.6	108.0	107.7	107.7	107.7	107.7	107.7
80°	87.1	86.8	86.7	86.6	86.6	86.6	86.6	86.6
82.5°	67.0	66.7	66.3	66.1	66.0	65.8	65.7	65.6
85°	38.0	37.7	37.3	37.2	37.2	37.2	37.2	37.2
87.5°	19.4	19.5	19.5	19.6	19.7	19.8	19.9	20.0
90°	30.3	31.3	32.3	33.1	33.6	34.1	34.6	35.2
92.5°	46.8	47.6	48.4	48.7	48.4	48.1	47.7	47.4
95°	88.9	90.0	91.0	91.5	91.5	91.5	91.5	91.5
97.5°	138.3	139.5	140.7	141.2	141.1	141.0	140.9	140.8
100°	174.0	174.8	175.6	176.2	176.8	177.3	177.8	178.3
102.5°	215.3	216.1	216.9	217.2	217.1	217.0	216.9	216.8
105°	276.9	276.9	276.9	277.2	277.7	278.2	278.7	279.2
107.5°	343.6	344.5	345.3	345.5	345.2	344.9	344.6	344.3
110°	388.1	389.2	390.2	390.4	389.9	389.4	388.9	388.4



TEST NUMBER: P331953-840

CATALOG NUMBER: S123DIP-S560D1195U840-4F0-1E-UDD-F1

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	432.6	433.9	435.2	435.8	435.7	435.6	435.5	435.4
115°	500.4	500.6	500.9	500.9	500.6	500.4	500.1	499.9
117.5°	568.8	568.7	568.7	568.3	567.5	566.7	566.0	565.3
120°	614.3	614.1	613.8	613.4	612.9	612.4	611.9	611.3
122.5°	660.5	659.7	659.0	658.3	657.6	656.9	656.1	655.4
125°	728.9	727.9	726.8	725.8	724.8	723.7	722.7	721.6
127.5°	796.6	795.2	793.7	792.3	791.1	789.9	788.7	787.6
130°	841.5	840.5	839.5	838.0	836.2	834.4	832.5	830.7
132.5°	885.2	884.0	882.7	881.4	880.0	878.6	877.2	875.8
135°	950.7	949.6	948.6	947.8	947.3	946.7	946.2	945.7
137.5°	1014.6	1013.5	1012.4	1011.4	1010.4	1009.5	1008.5	1007.4
140°	1056.6	1056.4	1056.1	1055.1	1053.3	1051.5	1049.7	1047.8
142.5°	1096.1	1095.8	1095.6	1094.7	1093.3	1091.9	1090.6	1089.1
145°	1154.1	1153.8	1153.6	1152.9	1151.9	1150.7	1149.7	1148.7
147.5°	1208.8	1208.8	1208.8	1208.0	1206.4	1204.9	1203.3	1201.7
150°	1242.5	1242.5	1242.5	1241.8	1240.2	1238.7	1237.1	1235.6
152.5°	1273.4	1273.8	1274.2	1273.8	1272.4	1271.1	1269.7	1268.4
155°	1318.6	1319.6	1320.7	1320.3	1318.5	1316.7	1314.8	1312.9
157.5°	1357.4	1358.5	1359.6	1359.4	1358.0	1356.5	1355.0	1353.5
160°	1381.3	1382.6	1383.9	1384.0	1383.0	1381.9	1380.9	1379.9
162.5°	1403.8	1405.1	1406.4	1406.2	1404.5	1402.9	1401.2	1399.6
165°	1432.3	1433.8	1435.4	1435.2	1433.4	1431.6	1429.8	1427.9
167.5°	1455.3	1456.9	1458.5	1458.5	1456.9	1455.3	1453.7	1452.1
170°	1467.9	1469.9	1471.7	1471.7	1469.9	1467.9	1466.1	1464.3
172.5°	1477.9	1479.6	1481.2	1481.1	1479.1	1477.3	1475.5	1473.7
175°	1488.5	1490.2	1491.7	1491.6	1489.8	1487.9	1486.1	1484.3
177.5°	1493.4	1494.6	1495.8	1495.7	1494.3	1492.8	1491.4	1490.0
180°	1493.7	1493.7	1493.7	1493.7	1493.7	1493.7	1493.7	1493.7

(END OF REPORT)