

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: P332140-830

Luminaire Tested: **S123DIW-S560D1320U830-4F0-1E-UDD-D**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332140-830
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: S123DIW-S560D1320U830-4F0-1E-UDD-D
Description: DEFINE 3 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 560 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER
UPLIGHT 1320 LUMENS PER FOOT, NO LENS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 7206.5 lumens
Efficiency: N/A
Efficacy: 133.9 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-Indirect

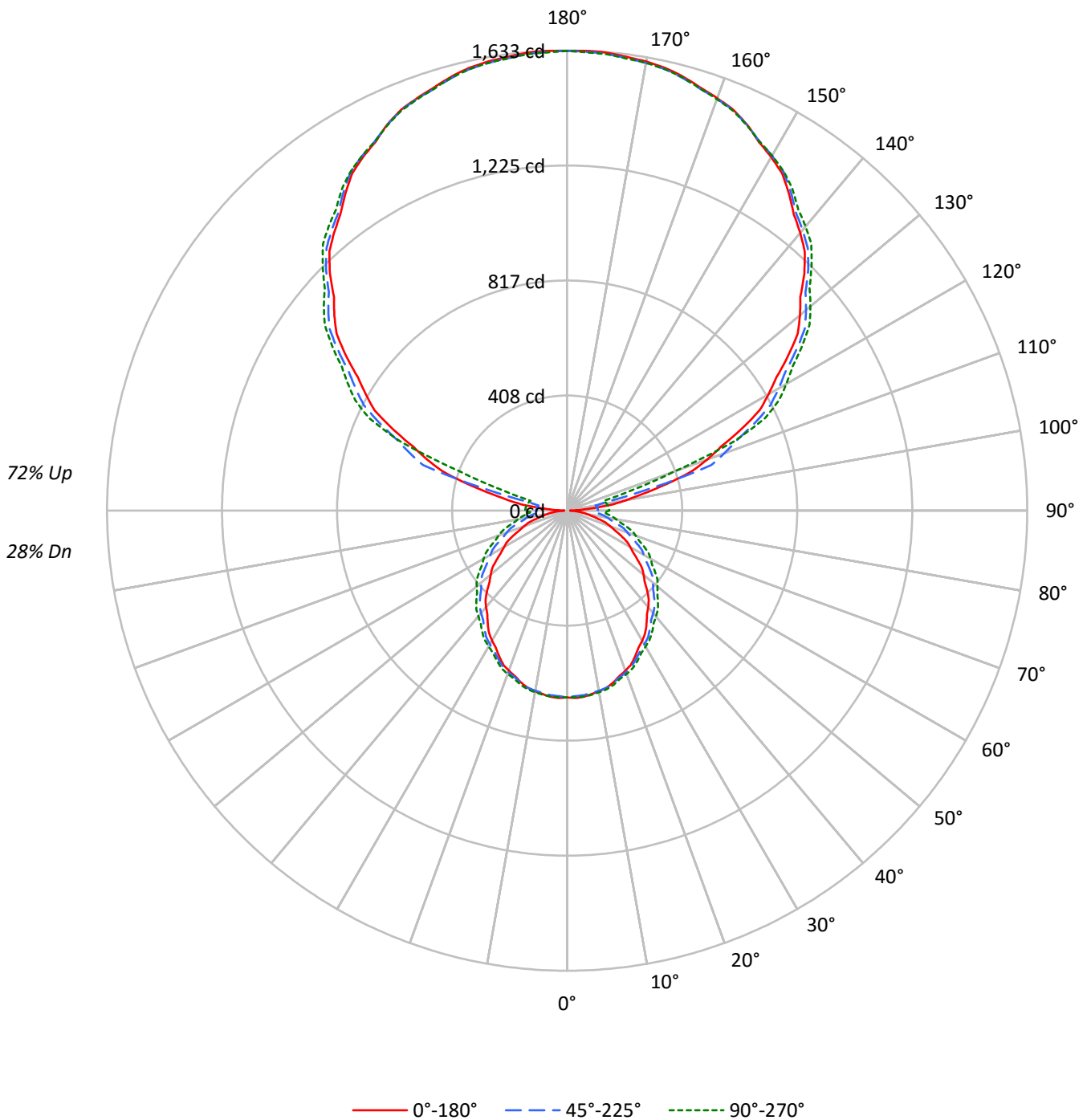
Input Watts (W): 53.8
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot





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CATALOG NUMBER: S123DIW-S560D1320U830-4F0-1E-UDD-D

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	102	102	102	102	91	91	91	91	71	71	71	53	53	53	36	36	36	28
1	92	88	84	80	82	79	75	72	61	59	57	46	44	43	31	30	29	23
2	84	76	70	65	75	68	63	59	53	50	47	40	37	35	27	26	24	18
3	76	67	60	54	68	60	54	49	47	43	39	35	32	29	24	22	20	15
4	70	59	51	45	62	53	46	41	41	37	33	31	28	25	21	19	17	13
5	64	52	44	38	57	47	40	35	37	32	28	28	24	21	19	17	15	11
6	59	47	39	33	52	42	35	30	33	28	24	25	21	19	17	15	13	10
7	54	42	34	29	48	38	31	26	30	25	21	22	19	16	16	13	12	9
8	50	38	30	25	45	34	28	23	27	22	19	20	17	14	14	12	10	8
9	46	34	27	22	41	31	25	20	25	20	17	19	15	13	13	11	9	7
10	43	31	24	20	39	28	22	18	23	18	15	17	14	12	12	10	8	6

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	7134	7134	7134
5°	7156	6954	6959
10°	7093	6795	6761
15°	7001	6612	6544
20°	6871	6405	6306
25°	6709	6166	6056
30°	6544	5951	5803
35°	6359	5723	5601
40°	6181	5515	5382
45°	5986	5318	5210
50°	5793	5121	5019
55°	5578	4919	4848
60°	5369	4716	4670
65°	5156	4499	4462
70°	4837	4254	4245
75°	4430	3973	4029
80°	3958	3698	3779
85°	3521	3508	3633



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	62.8	0.9
10°-20°	179.1	2.5
20°-30°	267.9	3.7
30°-40°	319.9	4.4
40°-50°	334.7	4.6
50°-60°	314.1	4.4
60°-70°	262.3	3.6
70°-80°	187.7	2.6
80°-90°	116.5	1.6
90°-100°	129.5	1.8
100°-110°	334.3	4.6
110°-120°	713.4	9.9
120°-130°	884.3	12.3
130°-140°	932.6	12.9
140°-150°	865.7	12.0
150°-160°	696.8	9.7
160°-170°	449.7	6.2
170°-180°	155.0	2.2
0°-30°	509.8	7.1
0°-40°	829.7	11.5
0°-60°	1478.6	20.5
0°-90°	2045.1	28.4
90°-120°	1177.2	16.3
90°-150°	3859.9	53.6
90°-180°	5161.0	71.6
0°-180°	7206.5	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	663	663	663	663	663	
5°	664	662	658	663	663	63
15°	632	634	633	640	640	178
25°	570	577	580	589	589	263
35°	491	502	512	522	526	307
45°	401	419	437	450	456	310
55°	306	330	356	375	381	274
65°	212	240	272	292	300	209
75°	115	149	185	208	217	123
85°	35	72	110	133	142	37
90°	11	58	111	139	150	10
95°	82	64	109	139	147	98
105°	367	392	320	137	134	389
115°	681	698	734	762	774	672
125°	957	968	993	1010	1018	855
135°	1190	1197	1210	1225	1226	916
145°	1373	1380	1383	1391	1394	859
155°	1511	1509	1510	1515	1509	696
165°	1594	1590	1589	1598	1590	450
175°	1631	1626	1626	1634	1625	155
180°	1631	1631	1631	1631	1631	



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CATALOG NUMBER: S123DIW-S560D1320U830-4F0-1E-UDD-D

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	662.8	662.8	662.8	662.8	662.8	662.8	662.8	662.8	662.8	662.8	662.8
2.5°	665.7	665.3	665.0	664.5	664.1	663.5	662.4	661.4	660.3	659.3	660.3
5°	663.5	663.2	662.9	662.6	662.2	661.6	660.6	659.7	658.7	657.7	659.0
7.5°	657.0	657.0	657.1	657.2	657.3	656.9	655.9	655.0	654.0	653.1	654.7
10°	651.3	651.6	651.9	652.2	652.5	652.3	651.5	650.7	649.9	649.1	650.7
12.5°	644.3	644.8	645.3	645.6	646.1	646.1	645.5	645.0	644.4	643.9	645.4
15°	631.8	632.3	632.7	633.2	633.7	633.9	633.7	633.5	633.4	633.2	634.8
17.5°	615.9	616.8	617.8	618.8	619.7	620.2	620.1	620.0	620.0	619.9	621.3
20°	604.4	605.3	606.2	607.2	608.1	608.8	609.2	609.4	609.7	610.1	611.5
22.5°	592.2	593.1	594.1	595.1	596.1	596.7	597.2	597.7	598.1	598.5	600.4
25°	570.4	572.0	573.6	575.2	576.8	577.9	578.3	578.8	579.3	579.8	581.8
27.5°	548.5	550.3	552.1	553.9	555.7	557.1	558.2	559.2	560.2	561.3	563.1
30°	532.8	534.9	537.0	539.1	541.2	542.9	544.1	545.4	546.7	548.0	550.0
32.5°	515.5	517.8	520.2	522.5	524.9	526.9	528.6	530.2	531.9	533.6	535.6
35°	491.0	493.5	496.1	498.7	501.2	503.6	505.7	507.7	509.8	511.9	514.3
37.5°	465.0	467.9	470.7	473.6	476.5	479.3	481.8	484.4	486.9	489.6	492.3
40°	447.6	450.5	453.5	456.3	459.2	462.2	465.4	468.6	471.8	475.0	477.8
42.5°	428.6	432.2	435.6	439.1	442.7	446.1	449.5	452.8	456.2	459.5	462.5
45°	401.4	405.3	409.2	413.0	416.8	420.8	424.8	428.8	432.8	436.8	439.9
47.5°	373.0	377.4	381.7	386.1	390.4	394.9	399.5	404.1	408.7	413.3	416.7
50°	354.5	359.0	363.4	368.0	372.5	377.2	382.2	387.2	392.1	397.1	400.8
52.5°	334.9	339.6	344.4	349.1	353.8	359.0	364.5	369.9	375.4	381.0	384.7
55°	306.1	311.4	316.7	322.0	327.3	332.8	338.7	344.4	350.2	355.9	360.2
57.5°	278.1	283.6	289.2	294.6	300.2	306.1	312.5	318.8	325.1	331.4	335.7
60°	258.4	264.3	270.0	275.8	281.5	287.8	294.4	301.0	307.5	314.1	318.6
62.5°	240.0	245.9	251.8	257.7	263.6	270.0	277.0	284.0	291.0	297.9	302.4
65°	211.5	217.8	224.0	230.4	236.6	243.3	250.3	257.3	264.4	271.5	276.3
67.5°	182.7	189.4	196.0	202.6	209.2	216.1	223.4	230.5	237.7	244.9	250.2
70°	162.5	169.4	176.3	183.1	190.0	197.4	205.0	212.7	220.5	228.2	233.3
72.5°	143.9	150.9	157.8	164.7	171.5	179.0	186.9	194.9	202.8	210.8	216.1
75°	114.8	122.3	129.9	137.4	145.0	152.8	160.8	168.8	176.8	184.8	190.1
77.5°	89.4	97.0	104.6	112.2	119.8	127.6	135.7	143.8	151.9	160.0	165.6
80°	71.4	79.4	87.2	95.1	102.9	111.0	119.3	127.7	136.1	144.4	149.9
82.5°	55.9	63.9	71.8	79.8	87.8	96.0	104.5	113.0	121.5	130.0	135.4
85°	35.3	43.4	51.5	59.5	67.5	75.7	84.3	92.7	101.2	109.7	115.2
87.5°	19.4	28.0	36.5	45.1	53.5	62.3	71.2	80.0	88.9	97.8	103.5
90°	10.6	21.1	31.7	42.2	52.8	63.9	75.6	87.3	99.0	110.7	117.3
92.5°	31.4	37.7	44.0	50.3	56.7	65.2	75.9	86.6	97.3	108.0	115.1
95°	81.9	77.1	72.3	67.5	62.8	65.8	76.5	87.4	98.2	109.1	115.9
97.5°	155.6	156.4	157.0	157.8	158.4	152.9	140.9	129.0	117.2	105.3	112.3
100°	211.3	221.9	232.3	242.9	253.4	241.4	206.7	172.1	137.4	102.8	109.6
102.5°	274.8	283.2	291.7	300.2	308.7	293.7	255.1	216.4	177.8	139.1	137.0
105°	366.9	373.7	380.6	387.4	394.2	388.9	371.6	354.2	336.9	319.5	276.4
107.5°	463.5	469.2	474.8	480.4	486.1	494.1	504.4	514.8	525.2	535.6	504.9
110°	527.9	532.9	538.0	543.0	548.1	555.3	564.7	574.0	583.4	592.8	588.1



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	589.9	594.3	598.6	602.9	607.2	613.9	623.0	632.2	641.3	650.4	654.6
115°	681.1	684.7	688.2	691.7	695.2	701.2	709.4	717.6	725.8	734.0	740.5
117.5°	769.9	773.1	776.3	779.5	782.6	787.6	794.2	800.9	807.6	814.2	820.2
120°	824.6	827.8	831.0	834.2	837.4	842.2	848.3	854.3	860.4	866.6	872.4
122.5°	880.8	883.3	885.6	888.1	890.4	894.7	900.8	906.8	912.9	919.0	924.0
125°	957.2	959.3	961.5	963.7	965.8	969.8	975.4	981.2	986.9	992.7	996.6
127.5°	1031.8	1033.9	1035.9	1037.8	1039.8	1043.4	1048.5	1053.7	1058.9	1063.9	1068.0
130°	1078.4	1080.3	1082.3	1084.4	1086.4	1089.5	1093.8	1098.1	1102.3	1106.6	1110.8
132.5°	1122.4	1124.5	1126.6	1128.8	1130.9	1133.7	1137.1	1140.5	1144.0	1147.4	1151.4
135°	1190.3	1191.8	1193.3	1194.8	1196.2	1198.3	1201.2	1204.0	1206.8	1209.7	1213.4
137.5°	1248.4	1250.3	1252.3	1254.1	1256.0	1257.8	1259.4	1261.0	1262.5	1264.1	1268.0
140°	1286.6	1288.2	1289.9	1291.5	1293.1	1294.5	1295.8	1297.1	1298.4	1299.7	1303.2
142.5°	1322.5	1324.0	1325.4	1326.9	1328.4	1329.6	1330.5	1331.4	1332.3	1333.2	1336.2
145°	1372.6	1374.4	1376.1	1377.8	1379.5	1380.6	1381.2	1381.8	1382.3	1382.8	1384.7
147.5°	1419.2	1420.4	1421.6	1422.9	1424.2	1425.0	1425.6	1426.1	1426.6	1427.2	1428.1
150°	1448.3	1449.1	1449.9	1450.7	1451.5	1452.2	1452.7	1453.2	1453.8	1454.3	1454.9
152.5°	1474.4	1474.8	1475.2	1475.6	1475.9	1476.3	1476.7	1477.0	1477.2	1477.6	1478.6
155°	1511.3	1510.8	1510.2	1509.7	1509.1	1509.0	1509.3	1509.6	1509.9	1510.0	1511.5
157.5°	1539.9	1539.8	1539.8	1539.7	1539.6	1539.5	1539.3	1539.0	1538.7	1538.4	1540.0
160°	1557.4	1557.1	1556.8	1556.5	1556.2	1556.0	1555.8	1555.5	1555.2	1554.9	1556.5
162.5°	1573.9	1573.1	1572.4	1571.7	1571.0	1570.6	1570.3	1570.0	1569.7	1569.4	1571.3
165°	1593.7	1592.9	1592.0	1591.3	1590.4	1590.0	1589.7	1589.4	1589.1	1588.8	1591.0
167.5°	1609.2	1608.2	1607.0	1606.0	1604.9	1604.4	1604.4	1604.4	1604.4	1604.4	1606.6
170°	1618.0	1616.8	1615.8	1614.8	1613.6	1613.1	1613.1	1613.1	1613.1	1613.1	1615.2
172.5°	1623.8	1622.5	1621.2	1619.9	1618.6	1618.1	1618.3	1618.5	1618.7	1618.9	1621.1
175°	1631.3	1629.9	1628.6	1627.2	1625.9	1625.3	1625.6	1625.9	1626.2	1626.5	1628.3
177.5°	1633.2	1632.1	1631.1	1630.0	1628.9	1628.5	1628.7	1628.9	1629.1	1629.4	1631.1
180°	1631.3	1631.3	1631.3	1631.3	1631.3	1631.3	1631.3	1631.3	1631.3	1631.3	1631.3



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	662.8	662.8	662.8	662.8	662.8	662.8	662.8	662.8
2.5°	661.4	662.4	663.5	663.9	663.7	663.6	663.5	663.4
5°	660.3	661.6	662.9	663.5	663.3	663.1	663.0	662.8
7.5°	656.3	657.9	659.6	660.3	660.1	659.9	659.7	659.5
10°	652.3	653.9	655.5	656.1	655.8	655.5	655.2	654.9
12.5°	646.9	648.3	649.8	650.4	650.1	649.7	649.4	649.1
15°	636.4	638.0	639.6	640.4	640.2	640.0	639.9	639.7
17.5°	622.8	624.2	625.7	626.3	626.0	625.8	625.7	625.4
20°	613.0	614.4	615.9	616.7	616.8	617.0	617.2	617.3
22.5°	602.2	604.1	605.9	606.7	606.6	606.5	606.4	606.3
25°	583.9	586.1	588.1	589.2	589.2	589.2	589.2	589.2
27.5°	564.9	566.7	568.4	569.5	569.6	569.7	569.9	570.0
30°	551.9	553.7	555.7	556.7	556.7	556.7	556.7	556.7
32.5°	537.6	539.7	541.8	543.0	543.4	543.8	544.1	544.5
35°	516.7	519.2	521.5	523.0	523.7	524.3	525.0	525.7
37.5°	494.9	497.7	500.4	502.1	502.6	503.0	503.6	504.1
40°	480.5	483.2	486.0	487.7	488.3	489.0	489.6	490.2
42.5°	465.4	468.4	471.5	473.3	474.3	475.1	476.1	476.9
45°	442.9	445.9	449.0	451.2	452.4	453.7	455.1	456.3
47.5°	420.2	423.6	427.0	429.2	430.2	431.2	432.3	433.2
50°	404.4	408.2	411.9	414.2	415.4	416.5	417.6	418.8
52.5°	388.6	392.4	396.2	398.8	400.2	401.5	402.9	404.4
55°	364.6	368.9	373.2	376.1	377.4	378.6	379.9	381.3
57.5°	340.2	344.5	348.8	351.8	353.3	354.8	356.3	357.8
60°	323.1	327.5	332.1	335.2	337.0	338.7	340.4	342.2
62.5°	306.9	311.4	315.8	319.0	320.6	322.2	323.9	325.5
65°	281.1	285.9	290.8	294.0	295.6	297.2	298.8	300.4
67.5°	255.4	260.7	266.0	269.3	270.6	271.9	273.3	274.7
70°	238.5	243.6	248.7	252.0	253.6	255.2	256.8	258.4
72.5°	221.3	226.6	231.9	235.4	237.0	238.6	240.2	241.8
75°	195.4	200.8	206.0	209.6	211.5	213.5	215.4	217.4
77.5°	171.2	176.7	182.3	185.9	187.4	188.8	190.3	191.8
80°	155.3	160.8	166.3	169.8	171.4	173.0	174.6	176.2
82.5°	140.9	146.3	151.7	155.3	156.9	158.5	160.1	161.7
85°	120.6	126.1	131.6	135.1	136.7	138.3	139.9	141.5
87.5°	109.1	114.8	120.5	124.1	125.9	127.6	129.3	131.0
90°	123.8	130.3	136.8	141.1	143.3	145.4	147.6	149.7
92.5°	122.1	129.1	136.2	140.6	142.4	144.2	146.0	147.8
95°	122.8	129.6	136.5	140.7	142.3	143.9	145.5	147.1
97.5°	119.1	126.1	133.1	137.4	139.3	141.2	143.1	145.0
100°	116.4	123.2	130.1	134.4	136.3	138.1	140.0	141.9
102.5°	134.8	132.6	130.4	130.4	132.5	134.6	136.7	138.8
105°	233.2	190.0	146.8	126.3	128.3	130.3	132.2	134.2
107.5°	474.3	443.6	412.9	380.3	345.8	311.3	276.8	242.3
110°	583.3	578.6	573.9	553.0	515.8	478.5	441.3	404.1



TEST NUMBER: P332140-830

CATALOG NUMBER: S123DIW-S560D1320U830-4F0-1E-UDD-D

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	658.8	663.0	667.2	666.0	659.2	652.5	645.8	639.0
115°	747.0	753.6	760.1	764.6	766.9	769.3	771.7	774.0
117.5°	826.1	832.1	838.1	841.8	843.3	844.7	846.2	847.6
120°	878.3	884.1	889.9	893.4	894.6	895.7	896.8	898.0
122.5°	929.1	934.2	939.2	942.4	943.8	945.1	946.4	947.8
125°	1000.5	1004.4	1008.3	1011.1	1012.8	1014.4	1016.1	1017.8
127.5°	1072.0	1076.1	1080.2	1082.4	1083.0	1083.5	1084.0	1084.6
130°	1114.9	1119.0	1123.1	1125.4	1125.9	1126.2	1126.7	1127.1
132.5°	1155.4	1159.3	1163.4	1165.5	1165.8	1166.2	1166.6	1166.9
135°	1217.1	1220.8	1224.5	1226.3	1226.3	1226.3	1226.3	1226.3
137.5°	1271.9	1275.6	1279.5	1281.5	1281.8	1282.0	1282.3	1282.6
140°	1306.6	1310.1	1313.6	1315.5	1315.8	1316.0	1316.3	1316.5
142.5°	1339.3	1342.3	1345.3	1346.8	1346.9	1346.9	1347.0	1347.0
145°	1386.5	1388.3	1390.2	1391.4	1392.0	1392.6	1393.3	1393.9
147.5°	1429.1	1429.9	1430.9	1431.0	1430.3	1429.6	1429.0	1428.3
150°	1455.4	1455.9	1456.5	1456.5	1456.0	1455.6	1455.1	1454.5
152.5°	1479.5	1480.5	1481.5	1481.4	1480.2	1479.0	1477.8	1476.7
155°	1512.8	1514.1	1515.5	1515.3	1513.7	1512.1	1510.5	1508.9
157.5°	1541.7	1543.3	1544.9	1544.6	1542.6	1540.5	1538.3	1536.3
160°	1558.1	1559.8	1561.4	1561.2	1559.3	1557.5	1555.6	1553.7
162.5°	1573.1	1575.0	1576.8	1576.9	1575.2	1573.6	1571.9	1570.2
165°	1593.2	1595.3	1597.5	1597.6	1595.7	1593.8	1592.0	1590.1
167.5°	1608.7	1610.8	1613.0	1613.0	1610.8	1608.7	1606.6	1604.4
170°	1617.4	1619.6	1621.7	1621.7	1619.6	1617.4	1615.2	1613.1
172.5°	1623.2	1625.4	1627.6	1627.4	1625.0	1622.7	1620.3	1618.0
175°	1630.2	1632.1	1634.0	1633.8	1631.7	1629.6	1627.4	1625.2
177.5°	1632.8	1634.6	1636.3	1636.1	1633.9	1631.7	1629.6	1627.4
180°	1631.3	1631.3	1631.3	1631.3	1631.3	1631.3	1631.3	1631.3

(END OF REPORT)