

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: P332473-830

Luminaire Tested: **S123RDIW-S1165D460U830-4F0-1E-UDD-F1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332473-830
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: S123RDIW-S1165D460U830-4F0-1E-UDD-F1
Description: DEFINE 3 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 1165 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED
HOUSING
UPLIGHT 460 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 5635.0 lumens
Efficiency: N/A
Efficacy: 107.5 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.06 / 1.22
Luminous Opening: Rectangular (W 0.25' x L: 4' x H: 0')
CIE Type: Semi-Direct

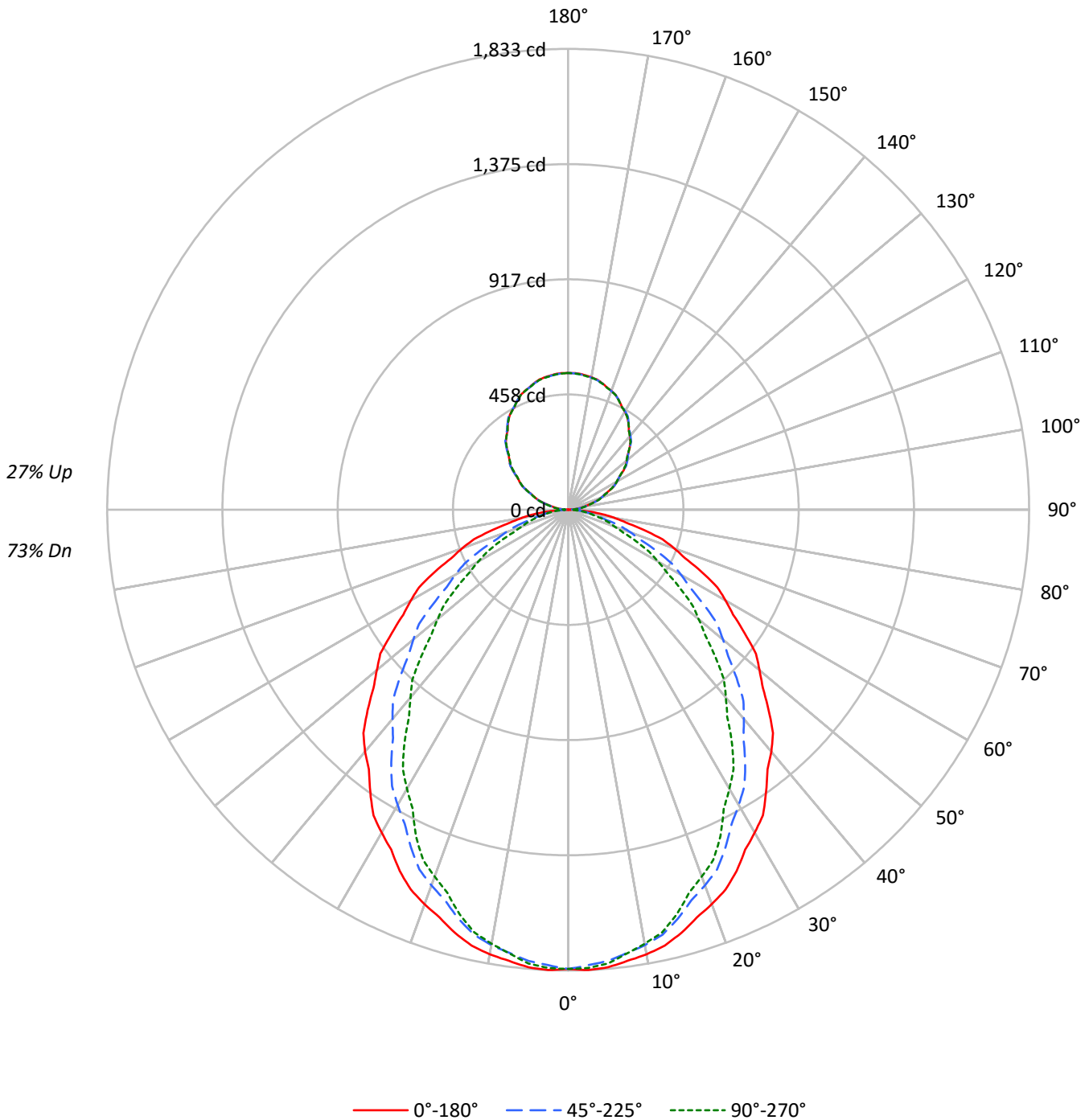
Input Watts (W): 52.4
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P332473-830

CATALOG NUMBER: S123RDIW-S1165D460U830-4F0-1E-UDD-F1

Luminous Intensity Polar Plot





TEST NUMBER: P332473-830

CATALOG NUMBER: S123RDIW-S1165D460U830-4F0-1E-UDD-F1

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	107	107	107	107	96	96	96		86	86	86		77	77	77	73
1	103	99	95	92	98	94	91	88	85	83	80		77	75	73		69	68	66	63
2	95	87	81	76	90	83	78	73	75	71	67		68	65	62		62	59	57	53
3	87	77	70	64	82	74	67	62	67	62	57		61	56	53		55	52	49	46
4	80	69	61	55	75	66	58	53	60	54	49		54	50	46		49	46	42	40
5	73	62	53	47	69	59	51	46	54	48	43		49	44	40		45	41	37	35
6	68	55	47	41	64	53	46	40	49	42	38		45	39	35		41	36	33	31
7	63	50	42	37	60	48	41	36	44	38	34		41	35	32		37	33	30	27
8	59	46	38	33	56	44	37	32	41	34	30		37	32	28		34	30	27	25
9	55	42	35	29	52	41	33	29	38	31	27		35	29	26		32	27	24	22
10	51	39	32	27	49	37	31	26	35	29	25		32	27	23		30	25	22	20

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	19664	19664	19664
5°	19739	19466	19578
10°	19627	19223	19158
15°	19417	18773	18574
20°	19126	18211	17786
25°	18828	17579	17016
30°	18434	16850	15929
35°	18029	16119	14933
40°	17654	15260	13699
45°	17163	14411	12584
50°	16623	13447	11338
55°	16071	12344	10175
60°	15565	11164	8900
65°	14905	9885	7623
70°	14080	8299	6156
75°	12876	6529	5793
80°	11480	5783	5331
85°	9695	5125	4755



TEST NUMBER: P332473-830

CATALOG NUMBER: S123RDIW-S1165D460U830-4F0-1E-UDD-F1

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	171.5	3.0
10°-20°	477.3	8.5
20°-30°	687.3	12.2
30°-40°	774.2	13.7
40°-50°	740.6	13.1
50°-60°	606.5	10.8
60°-70°	409.2	7.3
70°-80°	205.9	3.7
80°-90°	56.1	1.0
90°-100°	35.4	0.6
100°-110°	106.0	1.9
110°-120°	180.3	3.2
120°-130°	237.2	4.2
130°-140°	266.6	4.7
140°-150°	262.1	4.7
150°-160°	220.6	3.9
160°-170°	146.9	2.6
170°-180°	51.4	0.9
0°-30°	1336.1	23.7
0°-40°	2110.3	37.4
0°-60°	3457.4	61.4
0°-90°	4128.5	73.3
90°-120°	321.8	5.7
90°-150°	1087.6	19.3
90°-180°	1507.0	26.7
0°-180°	5635.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1827	1827	1827	1827	1827	
5°	1827	1819	1802	1814	1812	173
15°	1742	1725	1685	1677	1667	491
25°	1585	1547	1480	1450	1433	729
35°	1372	1316	1227	1165	1136	858
45°	1128	1058	947	865	827	870
55°	856	781	658	575	542	768
65°	585	502	388	319	299	579
75°	310	238	157	143	139	330
85°	78	48	42	39	38	88
90°	0	5	10	12	13	5
95°	25	28	32	33	33	28
105°	96	97	101	101	102	103
115°	182	183	182	182	182	180
125°	266	267	266	264	263	237
135°	345	347	347	345	344	266
145°	418	419	420	420	418	261
155°	479	479	479	481	478	220
165°	522	520	520	522	520	147
175°	542	541	541	543	540	52
180°	544	544	544	544	544	



TEST NUMBER: P332473-830

CATALOG NUMBER: S123RDIW-S1165D460U830-4F0-1E-UDD-F1

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1826.8	1826.8	1826.8	1826.8	1826.8	1826.8	1826.8	1826.8	1826.8	1826.8	1826.8
2.5°	1832.8	1831.6	1830.6	1829.6	1828.5	1826.4	1823.3	1820.0	1816.9	1813.7	1816.7
5°	1826.8	1825.1	1823.5	1821.8	1820.2	1817.4	1813.5	1809.5	1805.5	1801.6	1804.6
7.5°	1809.9	1808.2	1806.4	1804.6	1802.8	1799.3	1794.2	1789.0	1784.0	1778.8	1780.5
10°	1795.7	1793.4	1791.1	1788.8	1786.5	1782.3	1776.4	1770.5	1764.5	1758.7	1759.0
12.5°	1775.6	1773.0	1770.4	1767.8	1765.3	1760.4	1753.1	1745.9	1738.6	1731.4	1731.2
15°	1742.4	1738.7	1735.1	1731.5	1727.9	1721.5	1712.2	1703.0	1693.7	1684.6	1682.9
17.5°	1700.5	1696.4	1692.1	1687.9	1683.8	1675.7	1664.1	1652.3	1640.6	1628.9	1625.4
20°	1669.7	1664.5	1659.3	1654.0	1648.7	1639.8	1627.3	1614.8	1602.2	1589.8	1585.5
22.5°	1635.4	1629.3	1623.2	1617.2	1611.2	1601.5	1588.2	1574.9	1561.6	1548.2	1542.9
25°	1585.3	1577.1	1568.9	1560.6	1552.4	1540.7	1525.5	1510.4	1495.2	1480.1	1473.2
27.5°	1524.6	1515.5	1506.4	1497.3	1488.2	1475.3	1458.4	1441.5	1424.7	1407.8	1398.2
30°	1483.1	1473.2	1463.3	1453.4	1443.6	1429.4	1411.0	1392.5	1374.1	1355.7	1344.4
32.5°	1441.6	1430.4	1419.2	1408.0	1396.8	1381.5	1362.0	1342.5	1323.0	1303.5	1291.3
35°	1372.0	1360.1	1348.2	1336.4	1324.6	1308.4	1288.0	1267.6	1247.2	1226.7	1212.6
37.5°	1301.5	1288.3	1275.1	1261.9	1248.8	1231.2	1209.5	1187.7	1165.9	1144.1	1128.0
40°	1256.4	1241.9	1227.4	1213.0	1198.4	1179.5	1156.1	1132.7	1109.4	1086.0	1068.8
42.5°	1205.4	1190.9	1176.5	1162.0	1147.5	1128.1	1104.0	1079.8	1055.6	1031.5	1012.8
45°	1127.5	1112.7	1097.9	1083.1	1068.2	1048.1	1022.8	997.4	972.0	946.7	927.9
47.5°	1049.5	1033.3	1017.0	1000.8	984.5	963.7	938.3	912.9	887.6	862.3	841.9
50°	992.7	977.2	961.7	946.2	930.8	909.7	883.1	856.4	829.7	803.0	782.6
52.5°	941.7	924.9	908.1	891.4	874.5	852.9	826.5	800.1	773.7	747.3	726.1
55°	856.4	840.2	824.1	807.9	791.8	769.8	741.8	713.8	685.8	657.8	638.8
57.5°	777.5	760.0	742.3	724.8	707.2	684.4	656.3	628.1	600.0	571.9	553.8
60°	723.0	704.9	686.8	668.7	650.5	627.8	600.5	573.3	545.9	518.6	500.8
62.5°	668.5	650.4	632.3	614.2	596.1	573.3	546.0	518.7	491.3	464.0	447.3
65°	585.2	567.1	549.0	530.9	512.8	490.9	465.2	439.5	413.9	388.1	372.0
67.5°	502.0	483.6	465.3	447.0	428.8	407.3	382.7	358.0	333.4	308.8	296.7
70°	447.4	429.7	411.9	394.1	376.4	355.9	332.9	309.8	286.8	263.7	252.2
72.5°	392.9	375.4	357.9	340.4	322.8	303.6	282.7	261.7	240.8	219.9	210.5
75°	309.6	293.9	278.1	262.2	246.5	229.5	211.4	193.2	175.1	157.0	153.7
77.5°	233.8	219.5	205.2	191.0	176.6	163.6	152.0	140.3	128.7	117.1	115.3
80°	185.2	171.7	158.2	144.7	131.2	121.0	114.0	107.2	100.3	93.3	92.4
82.5°	138.9	127.3	115.6	104.0	92.4	84.9	81.7	78.4	75.2	72.0	71.0
85°	78.5	71.3	64.0	56.8	49.6	45.4	44.5	43.5	42.5	41.5	40.8
87.5°	28.6	25.8	23.1	20.5	17.7	16.5	16.7	17.0	17.2	17.4	17.2
90°	0.5	1.4	2.4	3.3	4.2	5.3	6.5	7.8	9.0	10.3	10.7
92.5°	10.4	11.0	11.6	12.3	12.9	13.6	14.3	15.0	15.7	16.4	16.7
95°	25.2	25.8	26.5	27.2	27.9	28.6	29.3	30.1	30.8	31.6	32.0
97.5°	44.8	45.2	45.7	46.3	46.8	47.2	47.8	48.4	48.9	49.5	49.9
100°	58.1	58.6	59.2	59.8	60.3	60.9	61.4	61.8	62.3	62.8	63.1
102.5°	73.4	73.8	74.2	74.5	74.8	75.3	76.0	76.5	77.2	77.9	78.1
105°	96.1	96.3	96.5	96.7	96.9	97.4	98.2	99.1	99.9	100.8	100.8
107.5°	122.4	122.5	122.6	122.7	122.9	123.1	123.5	123.8	124.1	124.5	124.8
110°	138.8	139.0	139.2	139.4	139.6	139.8	140.0	140.2	140.3	140.5	140.9



TEST NUMBER: P332473-830

CATALOG NUMBER: S123RDIW-S1165D460U830-4F0-1E-UDD-F1

CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	155.9	156.0	156.2	156.3	156.4	156.5	156.5	156.6	156.6	156.6	157.0
115°	181.5	181.8	182.1	182.4	182.7	182.8	182.6	182.4	182.2	182.0	182.1
117.5°	207.4	207.5	207.7	207.9	208.1	208.0	207.8	207.5	207.4	207.1	207.1
120°	223.4	223.9	224.5	225.1	225.6	225.7	225.3	224.8	224.3	223.9	223.8
122.5°	240.2	240.5	241.0	241.4	241.8	241.9	241.7	241.4	241.2	240.9	240.6
125°	265.7	266.0	266.3	266.6	266.8	266.8	266.6	266.5	266.3	266.1	265.7
127.5°	289.3	289.8	290.5	291.1	291.7	291.9	291.7	291.4	291.2	291.1	290.5
130°	305.0	305.8	306.5	307.3	308.0	308.2	307.9	307.6	307.4	307.1	306.7
132.5°	320.7	321.4	322.3	323.0	323.8	324.0	323.8	323.6	323.4	323.2	322.7
135°	344.7	345.3	345.8	346.4	346.9	347.2	347.1	347.0	346.9	346.9	346.5
137.5°	366.9	367.4	367.9	368.3	368.8	369.2	369.4	369.7	369.9	370.1	369.8
140°	382.3	382.8	383.2	383.7	384.2	384.5	384.6	384.7	384.7	384.8	384.7
142.5°	396.3	396.8	397.3	397.8	398.2	398.5	398.7	398.9	399.1	399.2	399.1
145°	418.2	418.4	418.6	418.8	419.0	419.1	419.4	419.7	420.0	420.3	420.2
147.5°	437.3	437.6	438.0	438.3	438.7	438.9	439.2	439.5	439.8	440.1	440.1
150°	450.6	450.8	451.0	451.2	451.4	451.6	451.8	451.9	452.1	452.3	452.3
152.5°	461.6	461.8	462.1	462.3	462.6	462.8	462.9	463.1	463.2	463.3	463.4
155°	478.8	478.8	478.8	478.8	478.8	478.9	479.0	479.1	479.2	479.3	479.7
157.5°	493.5	493.4	493.3	493.1	493.0	493.0	493.1	493.2	493.2	493.3	493.7
160°	502.8	502.6	502.4	502.2	502.0	501.9	501.9	501.9	501.9	501.9	502.4
162.5°	511.0	510.7	510.4	510.1	509.9	509.8	509.8	509.9	510.0	510.1	510.6
165°	521.5	521.2	520.9	520.7	520.4	520.3	520.3	520.3	520.3	520.3	520.8
167.5°	530.0	529.6	529.2	528.9	528.5	528.3	528.4	528.5	528.6	528.6	529.2
170°	534.8	534.4	534.0	533.7	533.3	533.1	533.1	533.1	533.1	533.1	533.8
172.5°	538.6	538.2	537.8	537.4	537.0	536.8	536.8	536.8	536.8	536.8	537.4
175°	542.4	542.1	541.7	541.3	540.9	540.7	540.7	540.7	540.7	540.7	541.3
177.5°	544.1	543.8	543.5	543.2	542.9	542.7	542.7	542.7	542.7	542.7	543.2
180°	543.8	543.8	543.8	543.8	543.8	543.8	543.8	543.8	543.8	543.8	543.8



TEST NUMBER: P332473-830

CATALOG NUMBER: S123RDIW-S1165D460U830-4F0-1E-UDD-F1

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1826.8	1826.8	1826.8	1826.8	1826.8	1826.8	1826.8	1826.8
2.5°	1819.6	1822.5	1825.3	1826.6	1826.0	1825.5	1825.0	1824.4
5°	1807.5	1810.5	1813.5	1814.6	1813.9	1813.3	1812.6	1811.9
7.5°	1782.1	1783.8	1785.4	1785.6	1784.5	1783.4	1782.3	1781.1
10°	1759.3	1759.6	1760.0	1759.3	1757.7	1756.1	1754.4	1752.8
12.5°	1731.0	1730.8	1730.6	1729.6	1727.7	1725.7	1723.8	1721.9
15°	1681.3	1679.6	1678.0	1676.0	1673.7	1671.4	1669.1	1666.8
17.5°	1621.9	1618.3	1614.9	1611.5	1608.0	1604.6	1601.2	1597.7
20°	1581.2	1576.9	1572.6	1568.5	1564.5	1560.6	1556.7	1552.7
22.5°	1537.6	1532.3	1526.9	1522.4	1518.7	1515.0	1511.4	1507.7
25°	1466.3	1459.3	1452.5	1447.2	1443.6	1439.9	1436.3	1432.7
27.5°	1388.6	1378.9	1369.3	1361.8	1356.2	1350.8	1345.2	1339.6
30°	1333.2	1322.1	1310.9	1302.7	1297.4	1292.1	1286.9	1281.6
32.5°	1279.0	1266.8	1254.5	1245.7	1240.1	1234.5	1229.1	1223.5
35°	1198.4	1184.3	1170.2	1160.1	1154.1	1148.2	1142.3	1136.4
37.5°	1111.9	1095.9	1079.8	1068.1	1060.8	1053.5	1046.2	1038.9
40°	1051.8	1034.6	1017.6	1005.2	997.6	990.0	982.5	974.9
42.5°	994.1	975.3	956.7	944.0	937.2	930.4	923.6	916.8
45°	909.2	890.4	871.7	858.4	850.5	842.5	834.6	826.7
47.5°	821.4	801.1	780.6	766.9	759.9	752.8	745.7	738.8
50°	762.2	741.8	721.3	707.4	699.8	692.2	684.7	677.1
52.5°	704.9	683.7	662.5	648.5	641.7	635.0	628.2	621.4
55°	619.6	600.5	581.5	568.6	562.0	555.4	548.8	542.2
57.5°	535.8	517.7	499.7	487.9	482.3	476.7	471.1	465.5
60°	483.0	465.2	447.4	435.7	430.2	424.5	419.0	413.4
62.5°	430.6	413.9	397.1	385.9	379.9	374.1	368.3	362.4
65°	355.9	339.8	323.7	313.8	310.2	306.5	302.9	299.3
67.5°	284.6	272.6	260.5	252.6	248.7	244.8	240.9	237.0
70°	240.6	229.1	217.6	210.1	206.4	202.8	199.2	195.6
72.5°	201.0	191.6	182.2	176.7	175.2	173.7	172.2	170.7
75°	150.4	147.1	143.8	141.9	141.3	140.6	140.0	139.3
77.5°	113.5	111.7	109.9	108.7	108.0	107.4	106.7	106.0
80°	91.3	90.4	89.4	88.6	87.9	87.3	86.6	86.0
82.5°	70.0	69.1	68.1	67.5	67.4	67.2	67.1	67.0
85°	40.2	39.5	38.8	38.5	38.5	38.5	38.5	38.5
87.5°	17.1	16.9	16.7	16.5	16.3	16.0	15.8	15.6
90°	11.0	11.4	11.8	12.1	12.3	12.4	12.6	12.8
92.5°	17.0	17.3	17.6	17.7	17.6	17.4	17.3	17.2
95°	32.3	32.7	33.1	33.3	33.3	33.3	33.3	33.3
97.5°	50.3	50.8	51.2	51.4	51.4	51.4	51.3	51.3
100°	63.3	63.6	63.9	64.2	64.4	64.6	64.8	64.9
102.5°	78.4	78.7	79.0	79.1	79.1	79.0	79.0	78.9
105°	100.8	100.8	100.8	100.9	101.1	101.3	101.5	101.7
107.5°	125.1	125.4	125.6	125.7	125.6	125.5	125.5	125.4
110°	141.3	141.7	142.0	142.1	141.9	141.8	141.6	141.4



TEST NUMBER: P332473-830

CATALOG NUMBER: S123RDIW-S1165D460U830-4F0-1E-UDD-F1

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	157.5	158.0	158.4	158.6	158.5	158.5	158.5	158.4
115°	182.2	182.3	182.4	182.4	182.3	182.2	182.1	182.0
117.5°	207.1	207.0	207.0	206.9	206.6	206.3	206.0	205.8
120°	223.7	223.6	223.5	223.3	223.1	222.9	222.7	222.5
122.5°	240.4	240.2	239.9	239.7	239.4	239.1	238.8	238.6
125°	265.3	264.9	264.6	264.2	263.8	263.4	263.1	262.7
127.5°	290.0	289.5	288.9	288.4	288.0	287.6	287.1	286.7
130°	306.3	305.9	305.6	305.1	304.4	303.8	303.1	302.4
132.5°	322.3	321.8	321.3	320.8	320.4	319.8	319.3	318.8
135°	346.1	345.7	345.3	345.1	344.9	344.7	344.5	344.3
137.5°	369.4	369.0	368.5	368.2	367.8	367.5	367.1	366.7
140°	384.7	384.6	384.5	384.1	383.4	382.8	382.1	381.4
142.5°	399.0	398.9	398.8	398.5	398.0	397.5	397.0	396.4
145°	420.1	420.0	419.9	419.7	419.3	419.0	418.6	418.2
147.5°	440.1	440.1	440.1	439.8	439.2	438.6	438.0	437.4
150°	452.3	452.3	452.3	452.0	451.5	450.9	450.3	449.8
152.5°	463.5	463.7	463.9	463.7	463.3	462.7	462.2	461.8
155°	480.0	480.4	480.8	480.6	479.9	479.3	478.6	478.0
157.5°	494.2	494.6	494.9	494.8	494.4	493.8	493.2	492.8
160°	502.8	503.3	503.8	503.8	503.4	503.0	502.7	502.3
162.5°	511.0	511.5	512.0	511.9	511.3	510.7	510.1	509.4
165°	521.4	522.0	522.5	522.5	521.8	521.1	520.5	519.8
167.5°	529.8	530.4	530.9	530.9	530.4	529.8	529.2	528.6
170°	534.4	535.1	535.7	535.7	535.1	534.4	533.8	533.1
172.5°	538.0	538.6	539.1	539.1	538.5	537.8	537.2	536.5
175°	541.9	542.4	543.0	543.0	542.3	541.7	541.0	540.4
177.5°	543.7	544.1	544.5	544.5	543.9	543.5	542.9	542.3
180°	543.8	543.8	543.8	543.8	543.8	543.8	543.8	543.8

(END OF REPORT)