

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: P332472-830

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

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332472-830
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: S123RDIW-S1165D460U830-4F0-1E-UDD-F
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, NO LENS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 5866.6 lumens
Efficiency: N/A
Efficacy: 112.0 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

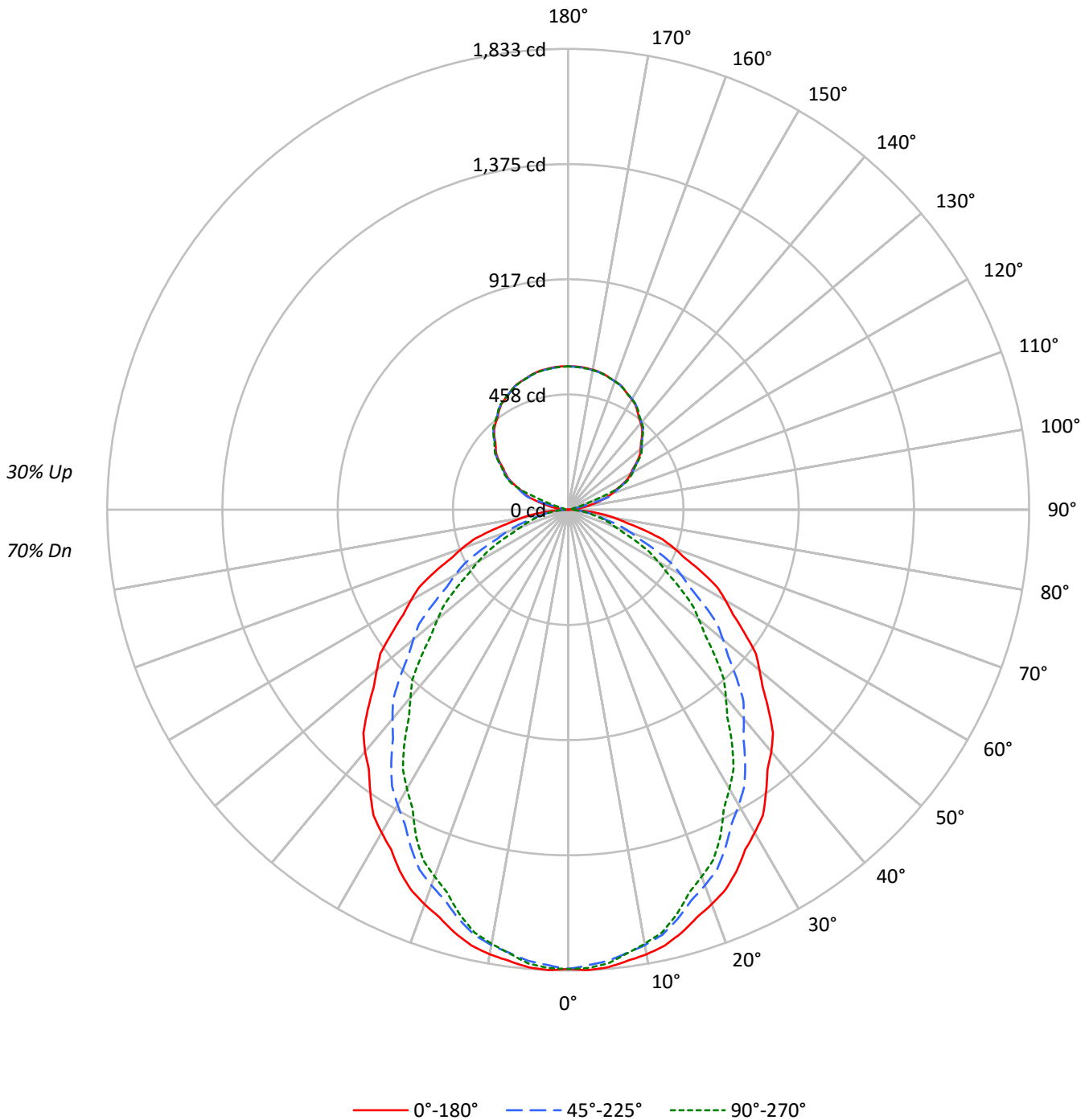
Input Watts (W): 52.4
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	112	112	112	112	106	106	106	106	95	95	95	84	84	84	75	75	75	70
1	103	99	95	91	97	93	90	87	84	81	79	75	73	71	67	65	64	60
2	94	87	80	75	89	82	77	72	74	70	66	66	63	60	59	57	55	51
3	86	77	69	63	81	73	66	61	66	60	56	59	55	52	53	50	47	44
4	79	68	60	54	75	65	58	52	59	53	48	53	48	45	48	44	41	38
5	73	61	53	47	69	58	51	45	53	47	42	48	43	39	43	39	36	33
6	67	55	47	41	64	53	45	40	48	42	37	43	38	34	39	35	32	29
7	62	50	42	36	59	48	40	35	44	37	33	40	35	31	36	32	29	26
8	58	46	38	32	55	44	36	31	40	34	29	36	31	28	33	29	26	24
9	54	42	34	29	51	40	33	28	37	31	27	34	29	25	31	26	23	21
10	51	39	31	26	48	37	30	26	34	28	24	31	26	23	29	24	21	19

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



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	171.5	2.9
10°-20°	477.3	8.1
20°-30°	687.3	11.7
30°-40°	774.2	13.2
40°-50°	740.6	12.6
50°-60°	606.5	10.3
60°-70°	409.2	7.0
70°-80°	205.9	3.5
80°-90°	56.1	1.0
90°-100°	20.7	0.4
100°-110°	98.8	1.7
110°-120°	237.2	4.0
120°-130°	302.1	5.1
130°-140°	322.8	5.5
140°-150°	301.8	5.1
150°-160°	243.5	4.1
160°-170°	157.1	2.7
170°-180°	54.2	0.9
0°-30°	1336.1	22.8
0°-40°	2110.3	36.0
0°-60°	3457.4	58.9
0°-90°	4128.5	70.4
90°-120°	356.7	6.1
90°-150°	1283.4	21.9
90°-180°	1738.0	29.6
0°-180°	5866.6	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°	26	10	13	16	16	32
105°	126	128	93	22	19	134
115°	237	239	243	247	249	234
125°	334	337	339	340	340	298
135°	415	418	420	421	420	320
145°	479	482	483	484	484	300
155°	528	527	528	529	527	243
165°	557	556	555	558	556	157
175°	570	568	568	571	568	54
180°	570	570	570	570	570	



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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	20.4	17.7	16.5	16.7	17.0	17.2	17.4	17.2
90°	0.4	1.3	2.3	3.2	4.1	5.3	6.5	7.7	9.0	10.2	10.6
92.5°	7.9	7.6	7.4	7.1	6.8	7.2	8.1	9.0	9.9	10.8	11.4
95°	25.8	22.0	18.1	14.2	10.4	9.0	10.0	11.0	12.1	13.1	13.8
97.5°	51.9	50.1	48.4	46.8	45.0	40.7	33.9	27.1	20.5	13.7	14.4
100°	71.5	73.4	75.3	77.2	79.1	72.7	58.1	43.4	28.7	13.9	14.7
102.5°	93.9	95.3	96.6	98.0	99.3	92.0	76.0	59.9	43.9	27.9	25.5
105°	126.2	127.2	128.3	129.3	130.4	126.6	118.1	109.7	101.2	92.7	76.1
107.5°	160.2	161.1	161.9	162.7	163.5	164.7	166.0	167.3	168.6	169.9	157.8
110°	182.9	183.7	184.5	185.2	186.0	186.8	187.8	188.9	189.9	191.0	187.8



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	204.6	205.3	205.9	206.6	207.4	208.2	209.2	210.3	211.3	212.4	212.4
115°	236.7	237.2	237.8	238.4	238.9	239.7	240.5	241.4	242.2	243.1	244.0
117.5°	267.8	268.5	269.2	269.8	270.6	271.2	271.5	272.0	272.5	272.9	273.6
120°	287.1	287.9	288.8	289.6	290.5	291.1	291.3	291.6	291.9	292.2	292.9
122.5°	306.8	307.5	308.1	308.9	309.5	310.1	310.5	310.8	311.1	311.5	312.0
125°	333.7	334.4	335.2	335.9	336.7	337.2	337.6	338.0	338.4	338.7	338.9
127.5°	359.8	360.5	361.3	362.0	362.8	363.4	363.8	364.3	364.8	365.2	365.5
130°	376.1	376.8	377.6	378.3	379.1	379.7	380.0	380.4	380.8	381.1	381.4
132.5°	391.6	392.4	393.1	393.9	394.6	395.1	395.5	395.8	396.1	396.3	396.7
135°	415.4	415.9	416.5	417.1	417.6	418.1	418.5	418.9	419.2	419.6	419.9
137.5°	435.7	436.5	437.2	437.9	438.6	439.0	439.3	439.5	439.7	439.9	440.4
140°	449.3	449.9	450.4	451.0	451.6	451.9	452.2	452.5	452.8	453.1	453.5
142.5°	461.8	462.4	463.0	463.5	464.1	464.5	464.8	465.1	465.3	465.6	465.9
145°	479.4	480.0	480.7	481.4	482.0	482.4	482.6	482.8	483.0	483.1	483.3
147.5°	495.9	496.3	496.7	497.2	497.6	497.9	498.1	498.3	498.5	498.7	498.9
150°	506.1	506.3	506.6	506.9	507.2	507.4	507.6	507.7	507.9	508.1	508.3
152.5°	515.2	515.3	515.5	515.6	515.8	515.9	515.9	516.0	516.1	516.3	516.6
155°	528.0	527.8	527.6	527.5	527.4	527.3	527.4	527.4	527.5	527.6	528.1
157.5°	538.1	538.0	538.0	538.0	538.0	537.9	537.8	537.7	537.6	537.5	538.1
160°	544.1	544.0	543.9	543.8	543.8	543.7	543.6	543.5	543.4	543.3	543.8
162.5°	549.9	549.7	549.4	549.2	548.9	548.7	548.7	548.6	548.5	548.4	549.0
165°	556.9	556.6	556.3	556.0	555.7	555.5	555.4	555.3	555.3	555.2	555.9
167.5°	562.3	561.9	561.6	561.2	560.8	560.6	560.6	560.6	560.6	560.6	561.4
170°	565.3	565.0	564.6	564.2	563.8	563.6	563.6	563.6	563.6	563.6	564.4
172.5°	567.3	566.9	566.5	566.0	565.5	565.3	565.4	565.5	565.6	565.6	566.4
175°	570.0	569.5	569.0	568.5	568.1	567.9	568.0	568.1	568.2	568.3	568.9
177.5°	570.6	570.2	569.9	569.5	569.1	569.0	569.1	569.1	569.2	569.3	569.9
180°	570.0	570.0	570.0	570.0	570.0	570.0	570.0	570.0	570.0	570.0	570.0



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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	16.2	16.0	15.8	15.6
90°	10.9	11.3	11.7	12.0	12.2	12.3	12.5	12.7
92.5°	12.1	12.6	13.3	13.6	13.8	13.9	13.9	14.0
95°	14.4	15.1	15.7	16.1	16.1	16.1	16.1	16.1
97.5°	15.2	15.9	16.7	17.1	17.2	17.2	17.3	17.4
100°	15.5	16.2	17.0	17.4	17.5	17.6	17.7	17.8
102.5°	23.2	20.8	18.6	17.4	17.6	17.8	17.9	18.1
105°	59.4	42.8	26.1	17.9	18.1	18.3	18.5	18.7
107.5°	145.5	133.4	121.1	108.8	96.1	83.6	71.1	58.5
110°	184.7	181.6	178.5	170.3	156.8	143.4	129.9	116.5



TEST NUMBER: P332472-830

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

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	212.4	212.4	212.5	211.1	208.3	205.5	202.6	199.8
115°	245.0	245.9	246.9	247.5	247.9	248.3	248.6	249.0
117.5°	274.4	275.1	275.9	276.3	276.4	276.4	276.5	276.6
120°	293.7	294.5	295.2	295.6	295.6	295.6	295.6	295.6
122.5°	312.5	313.1	313.6	313.9	314.0	314.1	314.1	314.2
125°	339.1	339.3	339.5	339.7	339.9	340.1	340.3	340.4
127.5°	365.8	366.1	366.4	366.5	366.3	366.1	365.9	365.7
130°	381.8	382.2	382.6	382.7	382.5	382.3	382.1	381.9
132.5°	397.1	397.5	397.8	397.9	397.7	397.4	397.1	396.9
135°	420.2	420.5	420.8	420.8	420.5	420.2	419.9	419.6
137.5°	440.8	441.2	441.7	441.9	441.7	441.5	441.3	441.1
140°	453.8	454.2	454.6	454.7	454.5	454.3	454.1	453.9
142.5°	466.3	466.6	466.8	466.8	466.6	466.4	466.1	465.8
145°	483.5	483.7	483.9	484.0	484.0	484.0	484.0	484.0
147.5°	499.1	499.3	499.5	499.3	498.9	498.4	498.0	497.6
150°	508.5	508.7	508.9	508.9	508.6	508.3	508.0	507.7
152.5°	517.0	517.3	517.6	517.6	517.2	516.7	516.3	515.9
155°	528.6	529.0	529.5	529.4	528.9	528.3	527.7	527.3
157.5°	538.7	539.2	539.8	539.7	538.9	538.3	537.5	536.8
160°	544.4	545.0	545.5	545.5	544.9	544.2	543.6	542.9
162.5°	549.7	550.4	550.9	551.0	550.4	549.8	549.2	548.7
165°	556.7	557.4	558.2	558.2	557.5	556.9	556.3	555.6
167.5°	562.1	562.8	563.5	563.5	562.8	562.1	561.4	560.6
170°	565.1	565.9	566.7	566.7	565.9	565.1	564.4	563.6
172.5°	567.1	567.9	568.6	568.6	567.8	566.9	566.2	565.3
175°	569.6	570.2	570.9	570.9	570.1	569.4	568.6	567.9
177.5°	570.5	571.1	571.7	571.7	570.9	570.1	569.4	568.6
180°	570.0	570.0	570.0	570.0	570.0	570.0	570.0	570.0

(END OF REPORT)