

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: P332377-830

Luminaire Tested: **S123RDIP-S1165D805U830-4F0-1E-UDD-F4**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P332377-830  
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: S123RDIP-S1165D805U830-4F0-1E-UDD-F4  
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 1165 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED  
HOUSING  
UPLIGHT 805 LUMENS PER FOOT, BATWING OPTIC  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 6868.5 lumens  
Efficiency: N/A  
Efficacy: 113.2 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

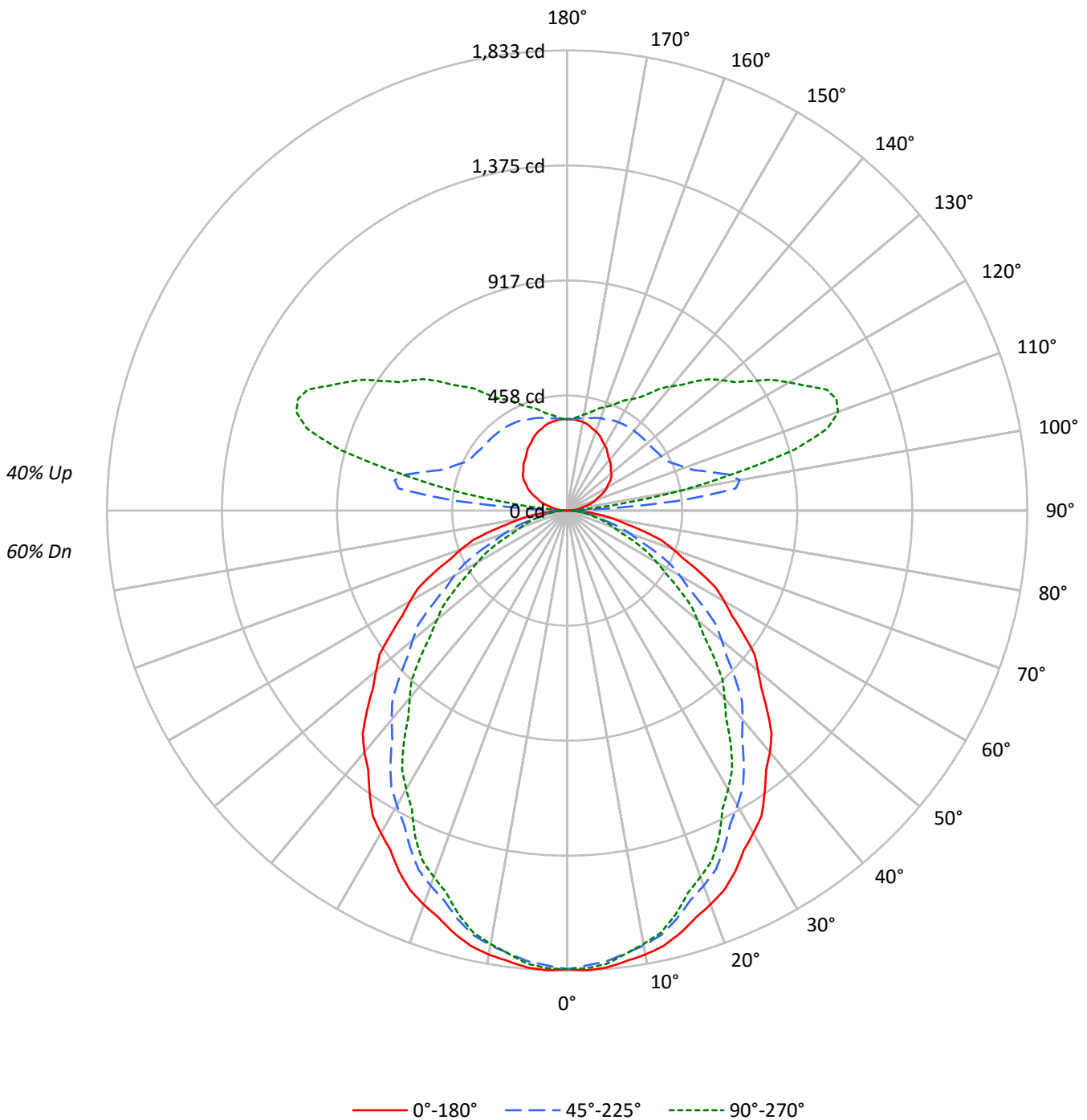
Input Watts (W): 60.7  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10
RCR																	
0	110	110	110	110	102	102	102	102	89	89	89	77	77	77	65	65	65
1	100	96	92	89	94	90	87	84	79	76	74	68	66	65	58	57	56
2	92	84	78	73	86	79	74	69	69	65	62	60	57	55	52	50	48
3	84	75	67	62	78	70	64	58	62	57	52	54	50	47	46	44	41
4	77	66	58	52	72	62	55	50	55	49	45	48	44	40	42	38	36
5	71	59	51	45	66	56	49	43	49	44	39	43	39	35	38	34	31
6	65	53	45	39	61	50	43	38	45	39	34	39	35	31	34	31	28
7	61	48	40	35	57	46	38	33	41	35	30	36	31	28	31	28	25
8	56	44	36	31	53	42	35	30	37	31	27	33	28	25	29	25	22
9	53	40	33	28	49	38	31	27	34	29	25	30	26	22	27	23	20
10	49	37	30	25	46	35	29	24	32	26	22	28	24	20	25	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	2.5
10°-20°	477.3	6.9
20°-30°	687.3	10.0
30°-40°	774.2	11.3
40°-50°	740.6	10.8
50°-60°	606.5	8.8
60°-70°	409.2	6.0
70°-80°	205.9	3.0
80°-90°	57.3	0.8
90°-100°	202.6	2.9
100°-110°	573.6	8.4
110°-120°	564.3	8.2
120°-130°	450.1	6.6
130°-140°	354.9	5.2
140°-150°	264.9	3.9
150°-160°	184.6	2.7
160°-170°	108.5	1.6
170°-180°	35.3	0.5
0°-30°	1336.1	19.5
0°-40°	2110.3	30.7
0°-60°	3457.4	50.3
0°-90°	4129.7	60.1
90°-120°	1340.5	19.5
90°-150°	2410.4	35.1
90°-180°	2739.0	39.9
0°-180°	6868.5	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°	2	9	18	21	21	6
95°	25	81	437	127	86	27
105°	86	126	592	1036	937	91
115°	151	188	453	994	1140	150
125°	210	248	423	766	899	186
135°	246	294	417	631	729	190
145°	281	322	412	518	570	176
155°	319	344	399	453	472	147
165°	349	358	382	405	412	98
175°	363	364	366	371	371	34
180°	364	364	364	364	364	



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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°	28.7	26.1	23.6	21.1	18.5	17.3	17.7	18.2	18.7	19.1	18.7
90°	1.5	2.9	4.4	6.6	8.1	9.6	11.8	14.0	16.2	18.4	17.7
92.5°	9.1	13.6	19.8	25.5	31.7	42.6	61.9	93.6	124.7	113.3	85.5
95°	25.1	27.2	35.3	47.9	67.0	95.8	158.4	268.2	389.1	437.0	354.5
97.5°	42.7	43.5	49.9	60.7	79.6	110.7	170.5	294.4	495.8	677.2	724.5
100°	54.6	55.2	60.4	70.8	88.4	117.2	168.7	277.8	471.6	697.9	843.0
102.5°	66.9	68.2	72.8	82.6	98.5	124.8	171.1	263.6	436.2	659.5	848.9
105°	85.5	87.7	92.1	100.9	115.0	137.8	177.6	253.4	392.8	592.5	804.0
107.5°	105.2	107.4	111.7	120.4	133.6	154.8	189.6	252.8	365.0	533.2	725.3
110°	119.4	121.6	125.3	133.4	145.9	166.5	199.7	255.7	354.5	499.6	675.7



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	132.3	134.6	138.3	146.4	158.9	178.9	209.7	261.6	348.6	477.2	632.7
115°	151.1	154.0	158.4	165.8	178.3	198.2	226.2	271.2	346.4	453.2	580.7
117.5°	169.8	173.1	176.8	183.6	197.7	216.0	243.7	283.9	347.7	439.0	549.3
120°	182.8	184.9	188.6	196.0	210.0	228.5	255.0	293.3	350.1	432.5	532.8
122.5°	194.0	196.1	199.8	207.8	221.2	240.8	266.7	302.1	354.1	428.5	519.2
125°	210.0	211.5	215.9	224.0	238.0	257.9	283.7	316.1	360.3	423.0	501.8
127.5°	222.3	224.4	229.9	238.2	253.6	273.5	298.4	327.6	367.4	420.4	486.5
130°	229.9	232.1	238.7	247.6	263.1	283.0	307.3	335.3	372.1	418.6	478.2
132.5°	235.8	238.7	245.8	256.5	271.9	291.2	314.9	342.3	375.7	417.9	470.6
135°	246.1	249.1	257.2	268.2	283.7	303.6	326.4	351.5	381.0	417.1	460.5
137.5°	255.8	258.9	266.9	278.7	294.0	312.5	334.4	358.3	384.6	415.5	451.9
140°	262.3	266.0	273.4	285.2	299.9	318.3	339.7	361.8	386.9	414.9	446.6
142.5°	269.4	272.5	280.5	291.1	305.9	323.0	343.8	365.3	388.6	413.7	441.9
145°	280.8	283.0	289.6	300.7	313.2	330.2	349.3	369.2	389.8	411.9	435.5
147.5°	292.3	293.6	300.1	309.6	321.7	336.2	353.7	371.6	389.8	409.2	429.3
150°	299.9	300.7	306.5	316.1	326.4	339.7	356.7	372.1	389.8	406.8	425.2
152.5°	307.6	307.7	313.6	322.1	331.1	343.8	358.4	373.3	388.0	403.8	420.5
155°	319.1	319.1	323.5	330.8	338.9	349.3	361.8	373.6	386.2	398.7	413.4
157.5°	328.2	328.8	332.3	338.8	345.7	353.7	363.7	374.4	383.6	394.1	405.5
160°	335.3	335.3	338.3	344.1	349.3	356.7	365.5	374.4	382.5	390.6	400.1
162.5°	340.6	340.6	343.0	347.7	352.2	358.4	366.1	373.7	380.1	387.0	394.8
165°	348.6	347.8	349.3	353.0	355.9	361.1	366.9	372.1	376.5	381.7	387.6
167.5°	354.6	353.7	354.5	357.2	359.3	362.6	366.8	371.0	373.1	376.5	380.7
170°	358.2	356.7	357.4	359.6	361.1	362.6	366.3	369.2	370.7	372.9	376.5
172.5°	360.5	359.6	359.8	361.4	362.2	363.2	366.3	368.6	368.9	369.9	372.4
175°	363.3	362.6	361.8	363.3	363.3	364.0	365.5	366.9	366.3	366.3	367.7
177.5°	364.6	364.0	363.4	364.0	364.0	364.0	364.6	365.8	364.6	364.0	364.6
180°	364.0	364.0	364.0	364.0	364.0	364.0	364.0	364.0	364.0	364.0	364.0



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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°	18.6	18.5	18.4	18.4	17.9	17.8	17.7	17.3
90°	18.4	19.1	19.9	21.4	20.6	21.4	22.1	21.4
92.5°	62.0	49.2	43.5	39.7	38.4	36.1	36.9	35.5
95°	265.3	179.8	140.7	114.2	100.2	93.6	88.4	85.5
97.5°	661.3	529.7	434.6	346.5	292.1	258.9	239.0	232.7
100°	868.8	809.1	722.9	618.2	543.8	490.0	461.3	462.0
102.5°	937.7	935.9	885.6	819.3	761.4	718.8	694.7	677.8
105°	958.0	1031.6	1045.7	1026.5	992.6	964.6	941.0	937.4
107.5°	899.9	1019.5	1084.1	1110.3	1111.0	1101.5	1093.5	1086.8
110°	844.5	980.1	1072.9	1124.5	1145.1	1151.0	1149.5	1148.1





TEST NUMBER: P332377-830

CATALOG NUMBER: S123RDIP-S1165D805U830-4F0-1E-UDD-F4

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	789.7	928.2	1032.3	1098.5	1136.3	1154.6	1160.2	1160.5
115°	717.0	845.2	953.6	1033.9	1089.1	1121.5	1136.3	1140.0
117.5°	664.4	775.1	872.3	953.9	1011.4	1048.6	1069.8	1074.9
120°	636.7	736.1	824.6	899.0	957.2	998.5	1016.2	1020.6
122.5°	614.9	704.9	786.8	856.0	907.7	944.8	964.3	969.9
125°	585.8	666.2	736.9	795.9	843.0	875.4	893.8	899.0
127.5°	560.5	632.1	696.0	749.6	791.5	819.3	835.9	840.7
130°	544.6	610.9	670.6	720.7	759.8	786.3	801.7	807.7
132.5°	529.8	590.9	646.4	694.2	730.8	757.4	771.1	775.2
135°	509.9	562.2	610.1	652.1	688.2	710.4	723.6	728.8
137.5°	491.8	534.7	576.0	612.4	642.7	665.2	676.4	679.8
140°	481.2	518.8	554.1	585.8	613.9	634.4	646.3	645.5
142.5°	471.2	503.4	534.1	561.7	585.5	603.8	614.4	613.7
145°	459.1	483.4	507.0	528.4	546.8	562.2	568.2	569.6
147.5°	449.2	468.5	487.6	502.8	516.7	527.2	532.8	533.4
150°	442.1	459.1	474.6	488.5	499.6	507.7	512.2	512.2
152.5°	435.6	450.3	463.9	475.6	484.3	491.8	494.5	494.5
155°	425.9	437.7	448.7	457.6	464.2	470.1	471.6	472.3
157.5°	415.6	425.5	434.0	440.9	446.7	451.1	452.3	452.1
160°	409.7	417.8	425.2	430.4	435.5	439.9	439.9	439.2
162.5°	402.7	409.5	416.3	420.9	424.3	428.1	428.1	427.4
165°	393.5	397.9	403.1	406.8	409.7	412.6	411.9	411.9
167.5°	385.5	388.9	391.9	394.5	395.9	397.9	397.2	397.2
170°	380.2	382.5	385.4	386.9	387.6	389.1	388.3	388.3
172.5°	375.5	377.1	379.5	380.4	380.5	382.0	380.7	380.1
175°	369.2	369.9	371.4	371.4	371.4	372.1	371.4	370.7
177.5°	365.2	365.8	366.4	366.4	365.8	366.4	365.2	365.2
180°	364.0	364.0	364.0	364.0	364.0	364.0	364.0	364.0

(END OF REPORT)