

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: P331523-840

Luminaire Tested: **S122DIW-S485D1440U840-4F0-1E-UDD-F**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P331523-840
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-2,
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S122DIW-S485D1440U840-4F0-1E-UDD-F
Description: DEFINE 2 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 485 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
UPLIGHT 1440 LUMENS PER FOOT, NO LENS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 7817.3 lumens
Efficiency: N/A
Efficacy: 129.0 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.3
Luminous Opening: Rectangular (W 0.17' x L: 4' x H: 0')
CIE Type: Semi-Indirect

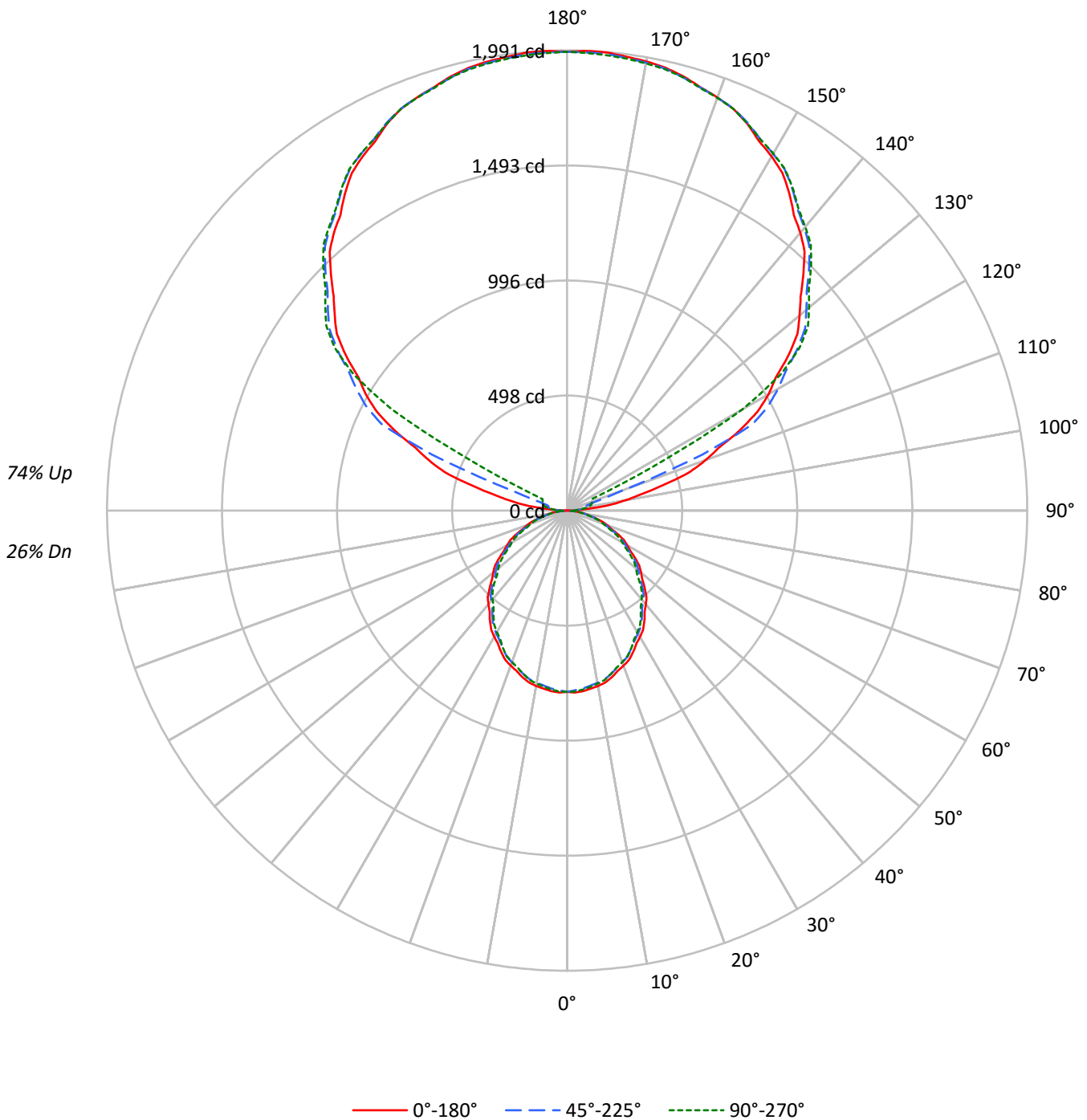
Input Watts (W): 60.6
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot





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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	101	101	101	101	90	90	90	90	70	70	70	51	51	51	34	34	34	26
1	92	88	84	81	82	79	76	73	61	59	57	45	43	42	30	29	28	22
2	84	77	71	66	75	69	64	60	53	50	47	39	37	35	26	25	24	18
3	77	68	61	55	68	60	54	50	47	43	40	35	32	30	23	22	20	15
4	70	60	52	46	62	53	47	42	42	37	34	31	28	25	21	19	17	13
5	64	53	45	39	57	48	41	36	37	32	29	28	24	22	19	17	15	11
6	59	47	40	34	52	43	36	31	33	29	25	25	22	19	17	15	13	10
7	54	43	35	30	48	38	32	27	30	25	22	23	19	17	15	13	12	9
8	50	38	31	26	45	35	28	24	27	23	19	21	17	15	14	12	11	8
9	47	35	28	23	42	32	25	21	25	20	17	19	16	13	13	11	9	7
10	44	32	25	20	39	29	23	19	23	18	15	17	14	12	12	10	9	7

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	12665	12665	12665
5°	12713	12530	12603
10°	12637	12403	12463
15°	12481	12242	12227
20°	12259	12000	11986
25°	12039	11703	11703
30°	11757	11432	11332
35°	11491	11105	10941
40°	11160	10779	10570
45°	10832	10453	10195
50°	10477	10115	9756
55°	10106	9723	9362
60°	9691	9255	8913
65°	9249	8787	8382
70°	8686	8224	7832
75°	7904	7573	7392
80°	7011	6797	6453
85°	5724	5446	4891



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	73.8	0.9
10°-20°	207.5	2.7
20°-30°	305.0	3.9
30°-40°	354.3	4.5
40°-50°	354.0	4.5
50°-60°	308.7	3.9
60°-70°	228.2	2.9
70°-80°	129.3	1.7
80°-90°	39.6	0.5
90°-100°	66.2	0.8
100°-110°	242.8	3.1
110°-120°	649.0	8.3
120°-130°	1071.4	13.7
130°-140°	1139.4	14.6
140°-150°	1059.0	13.5
150°-160°	851.5	10.9
160°-170°	548.7	7.0
170°-180°	188.9	2.4
0°-30°	586.3	7.5
0°-40°	940.7	12.0
0°-60°	1603.3	20.5
0°-90°	2000.4	25.6
90°-120°	958.1	12.3
90°-150°	4227.9	54.1
90°-180°	5817.0	74.4
0°-180°	7817.3	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	784	784	784	784	784	
5°	784	781	773	779	778	74
15°	747	742	732	735	732	210
25°	676	669	657	658	657	311
35°	583	575	563	559	555	364
45°	474	469	458	450	446	366
55°	359	354	345	337	333	321
65°	242	237	230	223	219	239
75°	127	125	121	117	118	135
85°	31	30	29	27	26	35
90°	1	17	29	36	39	6
95°	93	49	56	63	62	114
105°	437	456	88	103	109	467
115°	826	851	886	252	118	813
125°	1168	1187	1214	1223	1228	1041
135°	1445	1467	1481	1494	1492	1116
145°	1676	1676	1699	1708	1702	1048
155°	1846	1834	1850	1857	1847	850
165°	1945	1937	1940	1949	1940	549
175°	1989	1980	1982	1991	1978	189
180°	1985	1985	1985	1985	1985	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	784.4	784.4	784.4	784.4	784.4	784.4	784.4	784.4	784.4	784.4	784.4
2.5°	788.0	787.3	786.7	786.0	785.3	784.3	782.7	781.3	779.8	778.3	779.7
5°	784.4	783.7	783.0	782.3	781.7	780.4	778.6	776.8	774.9	773.1	774.4
7.5°	777.4	776.4	775.4	774.3	773.3	771.8	769.9	768.1	766.2	764.3	765.7
10°	770.8	769.6	768.4	767.3	766.1	764.5	762.4	760.5	758.5	756.5	757.8
12.5°	761.7	760.7	759.6	758.6	757.6	756.1	754.1	752.0	750.0	748.0	748.9
15°	746.7	745.7	744.7	743.7	742.7	741.0	738.8	736.7	734.5	732.4	733.0
17.5°	727.3	726.4	725.4	724.4	723.4	721.8	719.5	717.3	715.1	712.9	713.7
20°	713.5	712.5	711.4	710.4	709.4	707.8	705.4	703.1	700.7	698.4	698.9
22.5°	699.6	698.2	696.8	695.4	694.0	692.2	689.9	687.7	685.5	683.3	683.4
25°	675.8	674.4	673.1	671.8	670.4	668.3	665.5	662.6	659.7	656.9	657.2
27.5°	648.6	647.4	646.2	645.0	643.8	642.1	639.9	637.5	635.3	633.1	632.6
30°	630.6	629.1	627.8	626.5	625.1	623.2	620.7	618.2	615.7	613.2	612.7
32.5°	611.2	610.2	609.0	607.9	606.9	605.0	602.4	599.8	597.1	594.5	593.6
35°	583.0	581.3	579.7	577.9	576.3	574.1	571.5	568.8	566.0	563.4	562.4
37.5°	551.2	549.7	548.3	546.7	545.2	543.2	540.5	537.9	535.1	532.5	531.2
40°	529.5	528.1	526.7	525.4	524.1	522.1	519.4	516.7	514.0	511.4	509.9
42.5°	508.4	507.0	505.6	504.3	503.0	501.0	498.3	495.6	492.9	490.2	488.6
45°	474.4	473.2	472.0	470.9	469.7	467.9	465.3	462.8	460.3	457.8	456.0
47.5°	440.6	439.5	438.4	437.3	436.2	434.3	431.7	429.1	426.5	423.8	421.9
50°	417.1	416.3	415.4	414.5	413.7	412.1	409.8	407.5	405.1	402.7	400.4
52.5°	394.2	393.0	391.9	390.8	389.7	388.1	385.9	383.6	381.4	379.2	377.3
55°	359.0	358.0	357.0	356.0	355.0	353.5	351.4	349.4	347.4	345.4	343.5
57.5°	323.7	322.9	322.0	321.3	320.5	319.0	316.8	314.6	312.4	310.1	308.1
60°	300.1	299.5	298.8	298.1	297.5	296.0	293.7	291.2	288.9	286.6	284.8
62.5°	277.2	276.2	275.1	274.0	273.0	271.6	269.7	267.9	266.1	264.3	262.6
65°	242.1	241.1	240.0	239.0	238.1	236.7	235.1	233.4	231.7	230.0	228.5
67.5°	206.3	205.5	204.7	203.9	203.1	202.0	200.5	198.9	197.4	195.9	194.8
70°	184.0	183.4	182.7	182.0	181.4	180.3	178.7	177.2	175.7	174.2	173.1
72.5°	161.1	160.5	159.8	159.1	158.4	157.6	156.6	155.6	154.7	153.7	152.5
75°	126.7	126.3	126.0	125.7	125.3	124.8	123.9	123.1	122.3	121.4	120.4
77.5°	95.9	95.3	94.8	94.2	93.6	93.2	92.9	92.5	92.2	91.9	91.4
80°	75.4	75.2	75.1	74.9	74.7	74.5	74.1	73.8	73.5	73.1	72.6
82.5°	56.1	56.0	56.0	56.0	55.9	55.8	55.6	55.4	55.2	55.0	54.4
85°	30.9	30.8	30.6	30.4	30.3	30.1	29.9	29.8	29.6	29.4	28.9
87.5°	11.1	11.6	12.0	12.4	12.9	13.2	13.4	13.7	13.9	14.2	14.1
90°	1.4	4.9	8.5	12.0	15.5	18.5	21.1	23.6	26.2	28.7	30.3
92.5°	29.0	28.7	28.4	28.1	27.8	28.2	29.5	30.8	32.0	33.3	34.1
95°	93.3	82.8	72.3	61.8	51.2	47.1	49.3	51.5	53.8	56.0	57.6
97.5°	185.3	155.6	125.9	96.2	66.6	54.3	59.5	64.6	69.8	74.9	76.2
100°	254.2	210.5	166.7	123.0	79.3	60.2	65.5	71.0	76.4	81.9	84.4
102.5°	330.0	320.8	311.5	302.3	293.1	265.7	220.4	174.9	129.6	84.1	87.5
105°	436.7	446.2	455.8	465.3	474.9	436.2	349.0	261.9	174.7	87.7	91.1
107.5°	558.2	565.8	573.6	581.3	589.1	540.7	436.2	331.6	227.1	122.7	119.1
110°	636.3	643.0	649.6	656.4	663.1	620.3	528.1	435.9	343.6	251.4	219.4



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	709.8	715.7	721.6	727.6	733.6	725.1	702.4	679.5	656.7	634.0	517.6
115°	825.9	831.3	836.7	842.1	847.6	854.2	862.2	870.2	878.2	886.2	738.4
117.5°	929.6	935.6	941.7	947.8	953.8	959.6	965.0	970.6	976.0	981.6	945.8
120°	1005.4	1010.2	1014.9	1019.8	1024.5	1029.8	1035.5	1041.3	1047.0	1052.8	1056.6
122.5°	1069.8	1074.8	1079.8	1084.9	1089.9	1095.6	1101.8	1108.0	1114.3	1120.5	1122.9
125°	1167.7	1171.8	1176.0	1180.1	1184.3	1189.4	1195.5	1201.5	1207.6	1213.7	1215.9
127.5°	1256.5	1261.0	1265.7	1270.2	1274.9	1279.4	1283.9	1288.5	1293.0	1297.6	1300.8
130°	1312.7	1317.9	1322.9	1328.1	1333.2	1337.5	1341.0	1344.5	1348.0	1351.5	1355.0
132.5°	1370.2	1374.5	1378.9	1383.2	1387.6	1391.5	1395.0	1398.5	1402.0	1405.5	1408.6
135°	1444.9	1450.0	1455.1	1460.2	1465.3	1469.3	1472.2	1475.0	1477.9	1480.8	1484.0
137.5°	1520.5	1524.0	1527.6	1531.2	1534.7	1538.1	1541.4	1544.7	1547.9	1551.2	1554.3
140°	1569.8	1572.4	1575.0	1577.5	1580.0	1583.1	1586.6	1590.1	1593.7	1597.1	1600.0
142.5°	1611.2	1613.5	1615.8	1618.1	1620.4	1623.6	1627.6	1631.6	1635.6	1639.6	1642.2
145°	1676.2	1675.8	1675.5	1675.2	1674.9	1677.4	1682.8	1688.3	1693.6	1699.1	1701.3
147.5°	1732.7	1731.5	1730.3	1729.1	1727.9	1729.9	1735.3	1740.7	1746.1	1751.4	1753.0
150°	1769.5	1767.3	1765.0	1762.8	1760.5	1762.0	1767.1	1772.2	1777.3	1782.4	1784.3
152.5°	1800.5	1798.1	1795.5	1793.0	1790.6	1791.7	1796.5	1801.4	1806.2	1811.1	1813.0
155°	1845.6	1842.7	1839.9	1836.9	1834.1	1834.6	1838.5	1842.3	1846.1	1849.9	1851.8
157.5°	1881.0	1878.6	1876.1	1873.7	1871.3	1871.4	1874.0	1876.7	1879.4	1882.1	1884.3
160°	1901.6	1899.7	1897.8	1895.9	1894.0	1894.0	1895.9	1897.8	1899.7	1901.6	1903.5
162.5°	1920.0	1918.1	1916.2	1914.3	1912.4	1912.2	1913.9	1915.5	1917.2	1918.8	1921.1
165°	1944.7	1942.8	1940.9	1938.9	1937.0	1936.6	1937.5	1938.4	1939.4	1940.4	1942.7
167.5°	1963.1	1961.2	1959.2	1957.3	1955.4	1954.9	1955.8	1956.7	1957.6	1958.5	1960.8
170°	1973.5	1971.6	1969.6	1967.7	1965.8	1965.1	1965.8	1966.4	1967.0	1967.7	1969.9
172.5°	1980.3	1978.4	1976.5	1974.6	1972.7	1972.1	1972.7	1973.3	1974.0	1974.6	1976.8
175°	1989.2	1987.0	1984.8	1982.6	1980.3	1979.5	1980.1	1980.7	1981.5	1982.1	1984.3
177.5°	1990.6	1988.9	1987.1	1985.3	1983.5	1982.8	1983.0	1983.3	1983.5	1983.8	1985.6
180°	1984.9	1984.9	1984.9	1984.9	1984.9	1984.9	1984.9	1984.9	1984.9	1984.9	1984.9



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	784.4	784.4	784.4	784.4	784.4	784.4	784.4	784.4
2.5°	781.0	782.3	783.7	784.3	784.0	783.7	783.5	783.2
5°	775.8	777.1	778.4	778.9	778.6	778.2	777.9	777.6
7.5°	767.0	768.3	769.7	770.1	769.8	769.4	769.0	768.7
10°	759.1	760.5	761.8	762.2	761.7	761.2	760.7	760.2
12.5°	749.9	750.8	751.7	752.0	751.6	751.3	750.9	750.5
15°	733.7	734.4	735.0	734.9	734.1	733.3	732.5	731.5
17.5°	714.4	715.2	716.0	715.9	715.1	714.4	713.6	712.8
20°	699.4	699.9	700.4	700.3	699.6	698.9	698.3	697.6
22.5°	683.5	683.6	683.7	683.6	683.2	682.8	682.4	682.0
25°	657.6	657.9	658.2	658.2	657.9	657.6	657.2	656.9
27.5°	632.1	631.6	631.1	630.5	629.7	628.8	628.0	627.2
30°	612.2	611.7	611.2	610.6	609.9	609.3	608.5	607.8
32.5°	592.7	591.8	590.9	590.1	589.4	588.8	588.0	587.3
35°	561.4	560.4	559.4	558.5	557.6	556.7	555.9	555.1
37.5°	530.0	528.8	527.6	526.4	525.6	524.8	524.0	523.3
40°	508.4	506.9	505.3	504.2	503.5	502.9	502.2	501.5
42.5°	487.0	485.3	483.6	482.4	481.4	480.5	479.6	478.6
45°	454.1	452.3	450.4	449.2	448.5	447.9	447.2	446.5
47.5°	420.0	418.0	416.1	414.7	413.6	412.7	411.7	410.7
50°	398.1	395.7	393.3	391.7	390.9	390.1	389.2	388.4
52.5°	375.4	373.3	371.4	369.9	368.8	367.7	366.6	365.5
55°	341.4	339.4	337.4	336.0	335.1	334.3	333.5	332.6
57.5°	306.2	304.2	302.3	300.9	300.2	299.6	299.0	298.3
60°	282.9	281.0	279.2	278.0	277.5	277.0	276.5	276.0
62.5°	260.8	259.1	257.4	256.3	255.6	255.0	254.4	253.7
65°	227.0	225.5	224.0	222.8	222.0	221.2	220.4	219.4
67.5°	193.6	192.4	191.3	190.4	189.7	188.9	188.3	187.6
70°	171.9	170.7	169.6	168.6	167.9	167.2	166.6	165.9
72.5°	151.4	150.2	149.1	148.1	147.6	147.0	146.5	146.0
75°	119.4	118.5	117.4	117.0	117.4	117.8	118.1	118.5
77.5°	90.9	90.4	89.9	89.4	88.9	88.5	88.0	87.5
80°	72.1	71.6	71.2	70.7	70.4	70.1	69.7	69.4
82.5°	53.8	53.1	52.5	52.1	52.1	52.0	51.9	51.9
85°	28.4	27.9	27.4	27.1	26.9	26.8	26.6	26.4
87.5°	14.0	13.9	13.8	13.8	13.8	13.8	13.8	13.8
90°	31.9	33.5	35.1	36.3	36.9	37.5	38.2	38.8
92.5°	34.9	35.9	36.7	37.3	37.7	38.0	38.4	38.8
95°	59.2	60.8	62.4	63.0	62.7	62.4	62.1	61.8
97.5°	77.6	78.8	80.1	80.9	81.3	81.7	82.1	82.4
100°	86.9	89.6	92.1	93.7	94.3	94.9	95.6	96.2
102.5°	90.8	94.1	97.5	99.6	100.5	101.3	102.2	103.1
105°	94.6	98.2	101.7	104.0	105.3	106.6	107.9	109.2
107.5°	115.5	111.9	108.4	107.2	108.5	109.8	111.1	112.3
110°	187.5	155.6	123.7	108.4	109.7	110.9	112.2	113.5



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CATALOG NUMBER: S122DIW-S485D1440U840-4F0-1E-UDD-F

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	401.1	284.7	168.2	110.5	111.6	112.6	113.6	114.6
115°	590.7	442.8	295.1	209.6	186.7	163.7	140.8	117.8
117.5°	910.1	874.3	838.6	782.9	707.4	631.9	556.3	480.9
120°	1060.5	1064.3	1068.1	1048.4	1005.4	962.3	919.2	876.2
122.5°	1125.2	1127.5	1129.7	1126.7	1118.3	1110.0	1101.7	1093.3
125°	1218.1	1220.3	1222.5	1224.2	1225.2	1226.1	1227.1	1228.0
127.5°	1304.0	1307.3	1310.5	1312.3	1312.4	1312.6	1312.8	1313.0
130°	1358.6	1362.1	1365.5	1367.2	1366.9	1366.5	1366.2	1365.8
132.5°	1411.5	1414.5	1417.5	1418.9	1418.6	1418.3	1418.0	1417.5
135°	1487.1	1490.4	1493.6	1494.8	1494.2	1493.6	1492.9	1492.3
137.5°	1557.4	1560.5	1563.7	1564.7	1563.6	1562.6	1561.5	1560.3
140°	1602.9	1605.8	1608.6	1609.2	1607.7	1606.1	1604.5	1602.9
142.5°	1644.9	1647.5	1650.1	1650.6	1649.0	1647.4	1645.9	1644.3
145°	1703.5	1705.8	1708.1	1708.4	1706.8	1705.2	1703.5	1702.0
147.5°	1754.7	1756.4	1758.1	1758.2	1756.9	1755.5	1754.1	1752.8
150°	1786.2	1788.2	1790.1	1790.2	1788.7	1787.1	1785.4	1783.8
152.5°	1814.9	1816.8	1818.8	1818.7	1816.5	1814.5	1812.4	1810.3
155°	1853.7	1855.6	1857.5	1857.2	1854.7	1852.2	1849.6	1847.0
157.5°	1886.4	1888.5	1890.8	1890.6	1888.1	1885.6	1883.1	1880.7
160°	1905.4	1907.3	1909.3	1909.1	1906.9	1904.6	1902.4	1900.2
162.5°	1923.2	1925.4	1927.5	1927.2	1924.5	1921.8	1919.0	1916.3
165°	1944.9	1947.1	1949.3	1949.3	1947.1	1944.9	1942.7	1940.4
167.5°	1963.0	1965.2	1967.4	1967.1	1964.3	1961.4	1958.5	1955.6
170°	1972.2	1974.4	1976.6	1976.3	1973.5	1970.5	1967.7	1964.8
172.5°	1979.0	1981.3	1983.5	1983.2	1980.3	1977.4	1974.6	1971.7
175°	1986.5	1988.7	1990.9	1990.5	1987.3	1984.1	1981.0	1977.7
177.5°	1987.3	1989.1	1990.9	1990.6	1988.3	1986.1	1983.8	1981.5
180°	1984.9	1984.9	1984.9	1984.9	1984.9	1984.9	1984.9	1984.9

(END OF REPORT)