

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: P331491

Luminaire Tested: **S122DIW-S290D1440U835-4F0-1E-UDD-D**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P331491
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-S290D1440U835-4F0-1E-UDD-D
Description: DEFINE 2 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 290 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER
UPLIGHT 1440 LUMENS PER FOOT, NO LENS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 6960.7 lumens
Efficiency: N/A
Efficacy: 130.4 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.31 / 1.42
Luminous Opening: Rectangular w/ Sides (W: 0.17' x L: 4' x H: 0.08')
CIE Type: Semi-Indirect

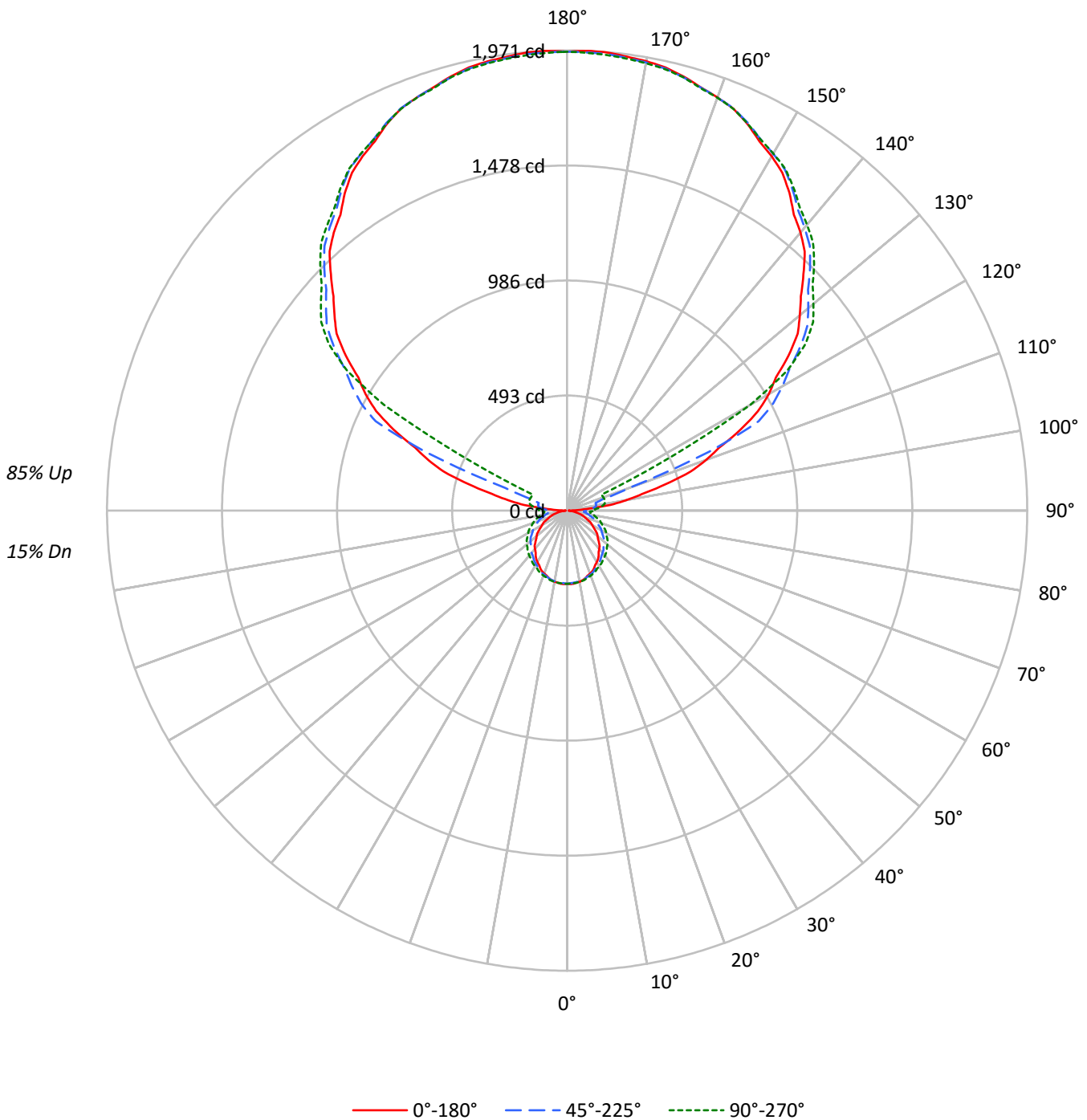
Input Watts (W): 53.4
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	99	99	99	99	87	87	87	87	64	64	64	43	43	43	24	24	24	15
1	90	85	81	78	78	75	72	69	55	53	51	37	36	35	21	20	19	12
2	81	74	68	63	71	65	60	56	48	45	42	32	30	29	18	17	16	10
3	74	65	58	52	64	57	51	46	42	38	35	28	26	24	16	14	13	8
4	67	57	50	44	59	50	44	39	37	33	30	25	22	20	14	13	11	7
5	62	51	43	37	54	45	38	33	33	29	25	22	20	17	12	11	10	6
6	57	45	37	32	49	40	33	28	30	25	22	20	17	15	11	10	8	5
7	52	40	33	28	45	36	29	25	27	22	19	18	15	13	10	9	7	4
8	48	36	29	24	42	32	26	22	24	20	16	16	14	11	9	8	7	4
9	45	33	26	21	39	29	23	19	22	18	15	15	12	10	8	7	6	3
10	42	30	23	19	36	27	21	17	20	16	13	14	11	9	8	6	5	3

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	5062	5062	5062
5°	5086	4872	4853
10°	5054	4728	4675
15°	4983	4575	4487
20°	4896	4412	4306
25°	4810	4254	4140
30°	4687	4093	3976
35°	4563	3936	3860
40°	4433	3803	3743
45°	4308	3685	3644
50°	4176	3577	3546
55°	4035	3461	3447
60°	3865	3340	3342
65°	3686	3200	3215
70°	3487	3048	3081
75°	3236	2900	2956
80°	2836	2748	2829
85°	2454	2617	2731



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	29.7	0.4
10°-20°	85.2	1.2
20°-30°	129.1	1.9
30°-40°	157.2	2.3
40°-50°	169.1	2.4
50°-60°	164.2	2.4
60°-70°	143.4	2.1
70°-80°	110.4	1.6
80°-90°	78.9	1.1
90°-100°	116.6	1.7
100°-110°	277.7	4.0
110°-120°	667.3	9.6
120°-130°	1074.7	15.4
130°-140°	1134.0	16.3
140°-150°	1049.7	15.1
150°-160°	843.1	12.1
160°-170°	543.3	7.8
170°-180°	187.0	2.7
0°-30°	243.9	3.5
0°-40°	401.1	5.8
0°-60°	734.5	10.6
0°-90°	1067.2	15.3
90°-120°	1061.6	15.3
90°-150°	4320.0	62.1
90°-180°	5894.0	84.7
0°-180°	6960.7	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	314	314	314	314	314	
5°	314	313	310	313	312	30
15°	300	301	301	305	304	84
25°	273	276	280	285	287	125
35°	235	243	251	261	264	147
45°	193	205	221	234	239	149
55°	148	164	188	203	210	132
65°	101	123	150	168	174	100
75°	56	82	110	129	136	59
85°	16	45	74	92	99	18
90°	6	48	88	113	122	7
95°	96	74	108	131	136	116
105°	435	467	126	156	168	465
115°	820	850	905	290	162	807
125°	1157	1177	1217	1239	1248	1032
135°	1431	1454	1471	1494	1496	1105
145°	1660	1660	1682	1694	1690	1038
155°	1828	1816	1832	1839	1829	842
165°	1926	1918	1921	1930	1921	544
175°	1970	1961	1963	1971	1958	187
180°	1966	1966	1966	1966	1966	



TEST NUMBER: P331491

CATALOG NUMBER: S122DIW-S290D1440U835-4F0-1E-UDD-D

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	313.5	313.5	313.5	313.5	313.5	313.5	313.5	313.5	313.5	313.5	313.5
2.5°	315.3	315.0	314.8	314.5	314.3	313.9	313.3	312.8	312.2	311.6	312.0
5°	314.4	314.1	313.8	313.5	313.1	312.7	312.1	311.5	310.9	310.3	310.9
7.5°	311.5	311.3	311.1	310.9	310.7	310.4	309.9	309.5	309.0	308.5	309.3
10°	309.4	309.2	309.0	308.8	308.6	308.3	308.0	307.7	307.4	307.1	307.9
12.5°	305.7	305.8	305.8	305.9	305.9	305.8	305.6	305.4	305.1	304.9	305.7
15°	299.8	300.0	300.2	300.4	300.6	300.7	300.7	300.7	300.7	300.7	301.6
17.5°	292.2	292.6	293.0	293.5	293.9	294.3	294.6	294.9	295.2	295.6	296.5
20°	287.1	287.6	288.1	288.6	289.1	289.6	290.0	290.4	290.8	291.2	292.3
22.5°	281.7	282.2	282.8	283.4	284.0	284.6	285.1	285.7	286.3	286.8	287.9
25°	272.6	273.3	274.0	274.7	275.4	276.2	277.1	278.0	278.9	279.8	281.0
27.5°	261.7	262.8	264.0	265.1	266.3	267.4	268.4	269.5	270.6	271.7	273.2
30°	254.4	255.7	257.0	258.3	259.6	261.0	262.3	263.6	264.9	266.2	267.8
32.5°	246.4	247.9	249.3	250.8	252.3	253.8	255.4	256.9	258.5	260.0	261.9
35°	234.9	236.6	238.3	240.0	241.7	243.5	245.5	247.4	249.3	251.2	253.4
37.5°	222.3	224.3	226.3	228.3	230.2	232.5	235.0	237.4	239.9	242.4	244.9
40°	214.0	216.2	218.4	220.6	222.8	225.3	228.0	230.8	233.5	236.2	238.8
42.5°	206.0	208.2	210.4	212.6	214.9	217.5	220.7	223.8	226.9	230.0	232.9
45°	192.6	195.3	198.1	200.8	203.5	206.6	210.2	213.7	217.2	220.8	223.9
47.5°	179.4	182.4	185.4	188.3	191.3	194.9	199.0	203.1	207.3	211.4	214.7
50°	170.4	173.5	176.6	179.7	182.9	186.7	191.3	195.8	200.3	204.9	208.3
52.5°	161.6	164.9	168.2	171.5	174.8	178.8	183.6	188.4	193.2	198.0	201.5
55°	147.6	151.3	154.9	158.5	162.2	166.6	171.9	177.1	182.4	187.6	191.3
57.5°	133.8	137.9	142.0	146.1	150.2	154.9	160.3	165.6	171.0	176.4	180.3
60°	124.0	128.4	132.7	137.0	141.4	146.4	152.2	157.9	163.7	169.4	173.3
62.5°	115.3	119.8	124.3	128.8	133.3	138.4	144.2	149.9	155.7	161.5	165.5
65°	100.8	105.8	110.7	115.7	120.6	126.1	132.0	138.0	144.0	149.9	154.1
67.5°	87.6	92.8	97.9	103.1	108.3	113.9	120.0	126.1	132.2	138.3	142.5
70°	78.1	83.4	88.6	93.9	99.1	104.9	111.1	117.4	123.7	129.9	134.3
72.5°	69.4	74.8	80.2	85.6	91.1	96.9	103.3	109.6	116.0	122.3	126.6
75°	55.9	61.5	67.2	72.8	78.5	84.5	91.0	97.5	103.9	110.4	114.7
77.5°	42.8	48.7	54.6	60.5	66.5	72.7	79.3	85.8	92.4	98.9	103.3
80°	34.1	40.2	46.4	52.5	58.7	65.1	71.6	78.2	84.7	91.3	95.5
82.5°	26.8	32.9	39.0	45.0	51.1	57.5	64.1	70.8	77.4	84.0	88.3
85°	16.4	22.6	28.9	35.1	41.4	47.7	54.2	60.7	67.1	73.6	77.8
87.5°	9.2	15.9	22.6	29.3	36.0	42.9	49.8	56.8	63.8	70.7	75.2
90°	6.0	15.3	24.6	34.0	43.3	52.5	61.4	70.4	79.4	88.4	94.0
92.5°	32.9	38.0	43.2	48.3	53.4	59.8	67.2	74.7	82.2	89.7	94.5
95°	96.1	90.4	84.7	79.0	73.3	74.6	82.9	91.2	99.4	107.7	113.1
97.5°	186.6	161.5	136.3	111.1	86.0	78.8	89.8	100.7	111.6	122.6	127.6
100°	254.9	215.4	175.8	136.2	96.7	82.4	93.4	104.4	115.5	126.5	132.8
102.5°	329.6	323.9	318.1	312.4	306.6	284.0	244.6	205.1	165.7	126.2	133.2
105°	434.6	447.0	459.5	471.9	484.3	450.0	368.9	287.9	206.9	125.8	132.8
107.5°	554.9	564.9	574.8	584.8	594.8	550.6	452.1	353.7	255.3	156.8	156.7
110°	631.9	640.5	649.2	657.8	666.5	627.6	541.2	454.8	368.4	282.1	253.7



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	704.7	712.3	719.8	727.4	735.0	729.8	712.0	694.1	676.3	658.4	546.3
115°	819.6	826.1	832.6	839.1	845.5	855.0	867.4	879.9	892.3	904.8	761.5
117.5°	921.8	928.6	935.3	942.0	948.8	956.9	966.6	976.2	985.9	995.5	963.1
120°	996.9	1002.1	1007.2	1012.4	1017.5	1024.9	1034.7	1044.4	1054.1	1063.9	1070.5
122.5°	1060.6	1065.8	1071.0	1076.1	1081.3	1088.8	1098.8	1108.8	1118.8	1128.8	1133.8
125°	1157.2	1161.3	1165.4	1169.5	1173.6	1180.3	1189.5	1198.8	1208.0	1217.2	1222.2
127.5°	1245.1	1249.5	1254.0	1258.4	1262.9	1268.7	1275.7	1282.8	1289.9	1297.0	1302.8
130°	1300.8	1305.8	1310.7	1315.7	1320.7	1325.9	1331.5	1337.1	1342.7	1348.3	1354.2
132.5°	1357.7	1361.9	1366.1	1370.3	1374.5	1379.2	1384.3	1389.4	1394.5	1399.6	1404.9
135°	1431.2	1436.3	1441.3	1446.4	1451.5	1455.9	1459.8	1463.6	1467.5	1471.3	1476.6
137.5°	1506.0	1509.6	1513.1	1516.6	1520.1	1523.7	1527.4	1531.0	1534.7	1538.4	1543.3
140°	1555.0	1557.4	1559.8	1562.2	1564.7	1567.7	1571.4	1575.1	1578.8	1582.4	1586.9
142.5°	1595.9	1598.1	1600.3	1602.4	1604.6	1607.7	1611.7	1615.8	1619.8	1623.8	1627.7
145°	1659.8	1659.4	1659.1	1658.8	1658.5	1661.0	1666.4	1671.8	1677.1	1682.5	1685.3
147.5°	1715.8	1714.6	1713.4	1712.2	1711.0	1713.0	1718.3	1723.7	1729.0	1734.3	1736.0
150°	1752.2	1750.0	1747.8	1745.6	1743.3	1744.8	1749.8	1754.9	1759.9	1765.0	1766.9
152.5°	1782.9	1780.5	1778.0	1775.5	1773.1	1774.2	1779.0	1783.8	1788.6	1793.4	1795.3
155°	1827.6	1824.7	1821.9	1819.0	1816.2	1816.7	1820.5	1824.3	1828.1	1831.8	1833.7
157.5°	1862.6	1860.2	1857.8	1855.4	1853.0	1853.1	1855.7	1858.4	1861.0	1863.7	1865.9
160°	1883.0	1881.1	1879.3	1877.4	1875.5	1875.5	1877.4	1879.3	1881.1	1883.0	1884.9
162.5°	1901.2	1899.4	1897.5	1895.6	1893.7	1893.5	1895.2	1896.8	1898.5	1900.1	1902.3
165°	1925.7	1923.8	1921.9	1920.0	1918.1	1917.7	1918.6	1919.5	1920.5	1921.4	1923.7
167.5°	1943.9	1942.0	1940.1	1938.2	1936.3	1935.8	1936.7	1937.6	1938.5	1939.4	1941.6
170°	1954.2	1952.3	1950.4	1948.5	1946.6	1945.9	1946.6	1947.2	1947.8	1948.5	1950.7
172.5°	1961.0	1959.1	1957.2	1955.3	1953.4	1952.8	1953.4	1954.0	1954.7	1955.3	1957.5
175°	1969.8	1967.6	1965.4	1963.2	1961.0	1960.2	1960.8	1961.4	1962.1	1962.7	1964.9
177.5°	1971.2	1969.5	1967.7	1965.9	1964.1	1963.4	1963.6	1963.9	1964.1	1964.4	1966.2
180°	1965.5	1965.5	1965.5	1965.5	1965.5	1965.5	1965.5	1965.5	1965.5	1965.5	1965.5



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	313.5	313.5	313.5	313.5	313.5	313.5	313.5	313.5
2.5°	312.4	312.8	313.2	313.4	313.2	313.0	312.9	312.7
5°	311.5	312.1	312.7	312.9	312.8	312.7	312.6	312.5
7.5°	310.0	310.7	311.5	311.8	311.7	311.6	311.5	311.4
10°	308.7	309.5	310.3	310.7	310.6	310.5	310.4	310.3
12.5°	306.5	307.3	308.1	308.5	308.4	308.3	308.2	308.1
15°	302.5	303.5	304.4	304.8	304.7	304.6	304.5	304.4
17.5°	297.5	298.4	299.3	299.8	299.8	299.8	299.8	299.8
20°	293.4	294.5	295.6	296.2	296.2	296.2	296.2	296.2
22.5°	289.1	290.2	291.3	291.9	292.1	292.2	292.4	292.6
25°	282.3	283.5	284.7	285.4	285.7	286.0	286.3	286.6
27.5°	274.7	276.3	277.8	278.7	278.9	279.1	279.3	279.6
30°	269.4	271.1	272.7	273.6	273.9	274.2	274.5	274.8
32.5°	263.7	265.6	267.5	268.7	269.2	269.8	270.3	270.8
35°	255.7	257.9	260.1	261.6	262.3	263.0	263.7	264.4
37.5°	247.3	249.8	252.3	253.9	254.6	255.4	256.1	256.8
40°	241.5	244.1	246.7	248.5	249.4	250.3	251.2	252.1
42.5°	235.8	238.6	241.5	243.4	244.3	245.2	246.1	247.0
45°	227.0	230.2	233.3	235.4	236.4	237.4	238.4	239.4
47.5°	218.0	221.2	224.5	226.7	227.8	228.9	230.0	231.1
50°	211.7	215.2	218.6	220.9	222.0	223.1	224.2	225.3
52.5°	205.0	208.5	212.0	214.4	215.6	216.8	218.0	219.1
55°	194.9	198.5	202.2	204.6	205.9	207.3	208.6	209.9
57.5°	184.2	188.1	192.0	194.6	196.0	197.3	198.6	200.0
60°	177.1	181.0	184.8	187.4	188.8	190.2	191.7	193.1
62.5°	169.6	173.7	177.8	180.5	181.8	183.1	184.5	185.8
65°	158.2	162.3	166.5	169.2	170.5	171.8	173.1	174.4
67.5°	146.6	150.8	155.0	157.8	159.1	160.5	161.9	163.3
70°	138.6	142.9	147.3	150.1	151.3	152.5	153.7	154.9
72.5°	130.8	135.1	139.3	142.2	143.6	145.1	146.6	148.0
75°	119.1	123.4	127.8	130.6	131.9	133.2	134.5	135.8
77.5°	107.6	111.9	116.2	119.1	120.5	121.9	123.3	124.7
80°	99.8	104.0	108.3	111.1	112.5	113.9	115.3	116.7
82.5°	92.5	96.8	101.0	103.8	105.1	106.5	107.8	109.1
85°	82.1	86.3	90.6	93.4	94.8	96.2	97.6	99.0
87.5°	79.6	84.0	88.5	91.4	92.8	94.2	95.7	97.1
90°	99.6	105.3	110.9	114.6	116.5	118.3	120.1	122.0
92.5°	99.2	104.0	108.8	112.0	113.6	115.2	116.8	118.4
95°	118.5	124.0	129.4	132.5	133.4	134.3	135.2	136.1
97.5°	132.6	137.6	142.6	145.9	147.4	149.0	150.6	152.1
100°	139.0	145.3	151.5	155.6	157.3	159.0	160.8	162.5
102.5°	140.1	147.1	154.0	158.5	160.5	162.5	164.4	166.4
105°	139.8	146.9	153.9	158.6	160.9	163.3	165.7	168.1
107.5°	156.5	156.4	156.2	157.3	159.7	162.1	164.4	166.8
110°	225.3	196.9	168.6	155.6	157.9	160.3	162.7	165.1



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CATALOG NUMBER: S122DIW-S290D1440U835-4F0-1E-UDD-D

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	434.3	322.2	210.1	155.2	157.3	159.4	161.5	163.6
115°	618.2	474.9	331.6	249.1	227.4	205.8	184.2	162.5
117.5°	930.7	898.3	865.9	812.8	739.0	665.3	591.5	517.8
120°	1077.1	1083.7	1090.3	1072.9	1031.3	989.7	948.2	906.6
122.5°	1138.8	1143.9	1148.9	1147.7	1140.4	1133.1	1125.7	1118.4
125°	1227.1	1232.1	1237.0	1240.4	1242.2	1244.1	1246.0	1247.8
127.5°	1308.5	1314.2	1319.9	1323.3	1324.4	1325.5	1326.6	1327.6
130°	1360.1	1366.0	1371.9	1375.1	1375.6	1376.1	1376.6	1377.1
132.5°	1410.2	1415.6	1420.9	1423.8	1424.3	1424.8	1425.2	1425.7
135°	1481.9	1487.2	1492.4	1495.2	1495.4	1495.5	1495.7	1495.9
137.5°	1548.3	1553.2	1558.2	1560.5	1560.1	1559.7	1559.3	1558.9
140°	1591.4	1595.8	1600.3	1602.0	1601.0	1600.1	1599.1	1598.1
142.5°	1631.6	1635.5	1639.3	1640.8	1639.7	1638.6	1637.6	1636.5
145°	1688.1	1691.0	1693.8	1694.7	1693.6	1692.5	1691.4	1690.3
147.5°	1737.7	1739.5	1741.2	1741.5	1740.4	1739.3	1738.2	1737.2
150°	1768.8	1770.7	1772.6	1772.7	1771.2	1769.6	1768.0	1766.4
152.5°	1797.2	1799.1	1801.0	1800.9	1798.8	1796.8	1794.7	1792.6
155°	1835.6	1837.5	1839.4	1839.1	1836.6	1834.1	1831.5	1829.0
157.5°	1868.0	1870.1	1872.3	1872.1	1869.7	1867.2	1864.7	1862.3
160°	1886.8	1888.7	1890.6	1890.5	1888.3	1886.0	1883.8	1881.6
162.5°	1904.4	1906.6	1908.7	1908.4	1905.7	1903.0	1900.3	1897.6
165°	1925.9	1928.1	1930.3	1930.3	1928.1	1925.9	1923.7	1921.4
167.5°	1943.8	1946.0	1948.2	1947.9	1945.1	1942.2	1939.4	1936.5
170°	1952.9	1955.1	1957.3	1957.0	1954.2	1951.3	1948.5	1945.6
172.5°	1959.7	1961.9	1964.1	1963.8	1961.0	1958.1	1955.3	1952.4
175°	1967.1	1969.3	1971.5	1971.1	1967.9	1964.7	1961.6	1958.4
177.5°	1967.9	1969.7	1971.5	1971.2	1968.9	1966.7	1964.4	1962.1
180°	1965.5	1965.5	1965.5	1965.5	1965.5	1965.5	1965.5	1965.5

(END OF REPORT)