

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: P331546-840

Luminaire Tested: **S122DIW-S675D1240U840-4F0-1E-UDD-D1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P331546-840
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-8,
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S122DIW-S675D1240U840-4F0-1E-UDD-D1
Description: DEFINE 2 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 675 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER
UPLIGHT 1240 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 7058.8 lumens
Efficiency: N/A
Efficacy: 115.0 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.32 / 1.42
Luminous Opening: Rectangular w/ Sides (W: 0.17' x L: 4' x H: 0.08')
CIE Type: Semi-Indirect

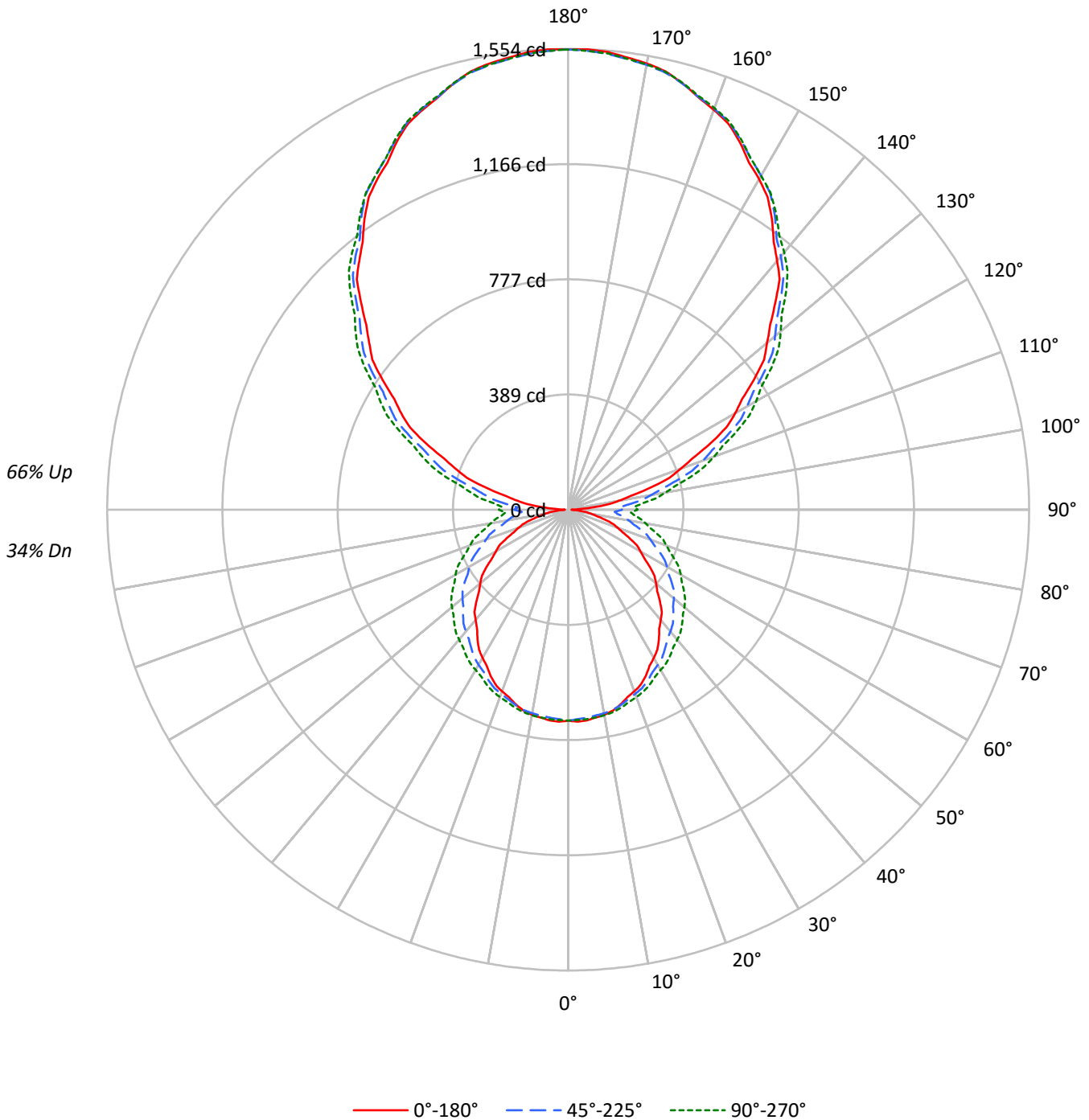
Input Watts (W): 61.4
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	50	30	10	0	
RCR																						
0	103	103	103	103	93	93	93	93	75	75	75	57	57	57	42	42	42	34				
1	93	89	84	81	84	80	76	73	64	61	59	49	47	46	35	34	33	27				
2	84	77	70	65	76	69	64	59	55	51	48	42	40	37	30	29	27	22				
3	77	67	59	54	69	61	54	49	48	44	40	37	34	31	27	24	23	18				
4	70	59	51	45	63	53	46	41	43	38	34	33	29	26	23	21	19	15				
5	64	52	44	38	57	47	40	35	38	33	29	29	25	22	21	18	16	13				
6	59	47	39	33	53	42	35	30	34	29	25	26	22	19	19	16	14	11				
7	54	42	34	28	49	38	31	26	31	25	22	24	20	17	17	15	13	10				
8	50	38	30	25	45	34	28	23	28	23	19	22	18	15	16	13	11	9				
9	47	35	27	22	42	31	25	20	25	20	17	20	16	13	15	12	10	8				
10	43	32	24	20	39	29	22	18	23	18	15	18	15	12	13	11	9	7				

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	11485	11485	11485
5°	11541	11055	11013
10°	11469	10729	10608
15°	11310	10384	10181
20°	11112	10013	9772
25°	10913	9655	9399
30°	10635	9288	9023
35°	10355	8933	8760
40°	10057	8630	8496
45°	9777	8361	8270
50°	9476	8116	8048
55°	9160	7855	7822
60°	8770	7583	7583
65°	8367	7262	7299
70°	7917	6920	6990
75°	7339	6581	6708
80°	6436	6238	6424
85°	5566	5939	6199



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	67.4	1.0
10°-20°	193.3	2.7
20°-30°	292.9	4.1
30°-40°	356.7	5.1
40°-50°	383.8	5.4
50°-60°	372.7	5.3
60°-70°	325.4	4.6
70°-80°	250.5	3.5
80°-90°	174.3	2.5
90°-100°	214.1	3.0
100°-110°	390.0	5.5
110°-120°	577.9	8.2
120°-130°	717.6	10.2
130°-140°	783.5	11.1
140°-150°	757.7	10.7
150°-160°	633.6	9.0
160°-170°	420.3	6.0
170°-180°	146.9	2.1
0°-30°	553.6	7.8
0°-40°	910.3	12.9
0°-60°	1666.8	23.6
0°-90°	2417.2	34.2
90°-120°	1182.0	16.7
90°-150°	3440.8	48.7
90°-180°	4642.0	65.8
0°-180°	7058.8	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	711	711	711	711	711	
5°	713	710	704	710	709	68
15°	680	682	682	691	691	192
25°	618	626	635	647	651	284
35°	533	551	570	592	600	333
45°	437	465	501	532	543	337
55°	335	373	426	462	476	299
65°	229	280	340	381	396	227
75°	127	185	250	293	308	134
85°	37	101	167	209	225	40
90°	12	88	182	219	234	10
95°	76	138	202	240	251	85
105°	287	322	377	414	427	303
115°	528	548	591	619	628	522
125°	764	777	805	828	837	683
135°	987	1001	1014	1034	1039	762
145°	1197	1206	1214	1221	1221	748
155°	1368	1372	1376	1382	1379	630
165°	1489	1488	1488	1496	1490	420
175°	1549	1545	1542	1551	1544	147
180°	1552	1552	1552	1552	1552	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	711.3	711.3	711.3	711.3	711.3	711.3	711.3	711.3	711.3	711.3	711.3
2.5°	715.5	714.9	714.4	713.8	713.3	712.4	711.0	709.7	708.5	707.2	708.1
5°	713.4	712.7	712.1	711.3	710.6	709.6	708.2	706.9	705.5	704.1	705.5
7.5°	707.0	706.5	706.1	705.6	705.2	704.4	703.4	702.3	701.3	700.2	701.9
10°	702.1	701.6	701.1	700.6	700.2	699.6	698.9	698.3	697.6	696.9	698.7
12.5°	693.8	693.9	694.0	694.1	694.2	694.0	693.5	693.0	692.5	692.0	693.8
15°	680.4	680.9	681.4	681.8	682.3	682.5	682.5	682.5	682.5	682.5	684.5
17.5°	663.1	664.1	665.0	666.0	666.9	667.8	668.5	669.2	669.9	670.8	672.9
20°	651.6	652.7	653.8	655.0	656.1	657.1	658.0	659.0	659.9	660.9	663.4
22.5°	639.1	640.5	641.9	643.2	644.5	645.8	647.1	648.3	649.6	651.0	653.5
25°	618.5	620.2	621.8	623.4	625.0	626.8	628.8	631.0	633.0	635.0	637.8
27.5°	593.8	596.4	599.1	601.7	604.3	606.8	609.3	611.7	614.1	616.5	620.0
30°	577.3	580.3	583.3	586.2	589.3	592.2	595.2	598.1	601.2	604.1	607.7
32.5°	559.2	562.5	565.8	569.2	572.6	576.0	579.6	583.0	586.5	590.1	594.3
35°	533.0	536.8	540.8	544.6	548.6	552.7	557.0	561.4	565.7	570.1	575.1
37.5°	504.5	509.1	513.5	518.0	522.5	527.6	533.2	538.9	544.4	550.1	555.7
40°	485.5	490.6	495.6	500.7	505.7	511.3	517.6	523.7	529.9	536.0	542.0
42.5°	467.5	472.4	477.5	482.5	487.6	493.6	500.8	507.9	514.9	522.1	528.6
45°	437.1	443.3	449.5	455.7	461.8	469.0	477.0	485.0	493.0	501.0	508.2
47.5°	407.2	413.9	420.7	427.4	434.1	442.2	451.6	461.0	470.4	479.8	487.3
50°	386.6	393.7	400.8	407.9	415.0	423.7	434.0	444.3	454.6	464.9	472.7
52.5°	366.8	374.3	381.7	389.2	396.7	405.9	416.7	427.6	438.4	449.3	457.3
55°	335.1	343.3	351.5	359.8	368.0	378.1	390.0	401.9	413.8	425.8	434.0
57.5°	303.7	313.1	322.3	331.6	340.9	351.6	363.8	375.9	388.1	400.2	409.1
60°	281.4	291.2	301.1	311.0	320.8	332.3	345.4	358.4	371.4	384.6	393.2
62.5°	261.7	271.9	282.1	292.3	302.6	314.2	327.2	340.2	353.4	366.4	375.7
65°	228.8	240.0	251.4	262.6	273.8	286.1	299.6	313.2	326.7	340.2	349.6
67.5°	198.7	210.5	222.3	234.0	245.7	258.4	272.3	286.1	299.9	313.8	323.3
70°	177.3	189.2	201.2	213.1	225.0	238.0	252.3	266.4	280.6	294.9	304.7
72.5°	157.5	169.8	182.1	194.4	206.6	219.9	234.4	248.7	263.2	277.5	287.2
75°	126.8	139.7	152.5	165.3	178.1	191.9	206.5	221.2	235.8	250.5	260.3
77.5°	97.1	110.6	124.0	137.3	150.8	165.0	179.9	194.8	209.6	224.5	234.4
80°	77.4	91.3	105.2	119.3	133.2	147.6	162.6	177.4	192.3	207.2	216.8
82.5°	60.8	74.6	88.4	102.2	116.0	130.4	145.5	160.6	175.6	190.8	200.4
85°	37.2	51.3	65.5	79.7	93.9	108.4	123.0	137.6	152.4	167.0	176.6
87.5°	20.5	34.8	49.2	63.5	77.9	93.0	109.0	124.9	140.9	156.8	166.0
90°	11.6	28.4	45.1	62.0	78.8	97.7	118.8	139.8	160.9	181.9	190.5
92.5°	32.8	47.8	62.6	77.6	92.5	107.8	123.4	139.1	154.7	170.3	179.4
95°	76.3	90.0	103.7	117.3	131.1	145.0	159.4	173.7	188.0	202.4	211.1
97.5°	131.6	143.7	155.9	168.0	180.2	193.4	207.7	222.0	236.3	250.5	259.0
100°	173.5	184.3	195.1	205.9	216.7	228.9	242.7	256.4	270.1	283.8	292.3
102.5°	216.7	226.3	235.9	245.5	255.1	266.7	280.2	293.9	307.4	320.9	329.5
105°	286.7	294.2	301.7	309.2	316.8	326.8	339.2	351.7	364.3	376.8	385.4
107.5°	358.2	364.9	371.4	378.0	384.7	393.6	405.1	416.5	427.9	439.3	447.2
110°	403.5	409.8	416.2	422.5	428.8	437.6	448.8	460.0	471.3	482.5	489.8



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	453.8	459.4	464.9	470.6	476.2	484.2	494.6	505.0	515.5	525.9	532.6
115°	527.9	532.2	536.4	540.7	544.9	552.0	561.7	571.4	581.2	590.9	597.4
117.5°	600.8	604.7	608.6	612.7	616.6	622.6	630.5	638.3	646.3	654.2	660.2
120°	649.9	653.2	656.4	659.6	663.0	667.9	674.8	681.7	688.5	695.3	701.8
122.5°	695.0	698.1	701.4	704.5	707.6	712.7	719.7	726.7	733.7	740.6	746.2
125°	764.2	766.8	769.4	772.0	774.7	779.2	785.7	792.0	798.5	805.0	810.3
127.5°	832.5	835.6	838.7	841.7	844.9	848.8	853.7	858.6	863.4	868.3	872.9
130°	875.5	879.0	882.5	886.2	889.7	893.5	897.8	902.0	906.3	910.5	915.4
132.5°	923.6	926.5	929.4	932.2	935.0	938.4	942.2	946.0	949.9	953.7	957.8
135°	987.0	990.3	993.4	996.6	999.9	1002.9	1005.7	1008.7	1011.5	1014.4	1018.9
137.5°	1054.9	1057.4	1060.1	1062.6	1065.2	1067.3	1069.0	1070.9	1072.6	1074.4	1078.3
140°	1095.7	1098.1	1100.4	1102.9	1105.3	1107.4	1109.3	1111.3	1113.2	1115.1	1118.7
142.5°	1137.6	1140.0	1142.4	1144.8	1147.2	1148.9	1150.0	1151.0	1152.2	1153.3	1156.4
145°	1196.8	1198.9	1200.9	1203.0	1205.0	1206.9	1208.6	1210.3	1212.1	1213.9	1215.5
147.5°	1250.5	1252.9	1255.4	1257.9	1260.3	1262.1	1263.2	1264.5	1265.6	1266.8	1267.6
150°	1287.2	1288.9	1290.7	1292.4	1294.1	1295.7	1296.8	1298.0	1299.1	1300.3	1301.1
152.5°	1319.7	1321.4	1323.1	1324.8	1326.7	1328.2	1329.6	1331.0	1332.4	1333.8	1334.9
155°	1368.4	1369.3	1370.1	1371.0	1371.9	1372.7	1373.6	1374.4	1375.3	1376.2	1377.7
157.5°	1410.0	1410.6	1411.2	1411.8	1412.3	1412.9	1413.4	1413.9	1414.4	1415.0	1416.9
160°	1435.1	1435.7	1436.3	1436.9	1437.4	1437.9	1438.1	1438.5	1438.8	1439.1	1440.8
162.5°	1458.1	1458.3	1458.4	1458.5	1458.6	1458.9	1459.2	1459.5	1459.8	1460.1	1462.0
165°	1488.8	1488.5	1488.2	1487.9	1487.6	1487.5	1487.5	1487.5	1487.5	1487.5	1489.6
167.5°	1514.5	1513.6	1512.8	1511.9	1511.0	1510.6	1510.5	1510.5	1510.4	1510.3	1512.4
170°	1528.1	1527.2	1526.4	1525.5	1524.6	1524.1	1523.8	1523.5	1523.2	1522.9	1524.9
172.5°	1537.5	1536.7	1535.8	1534.9	1534.1	1533.5	1533.2	1532.9	1532.6	1532.3	1534.4
175°	1549.0	1548.2	1547.3	1546.4	1545.6	1544.9	1544.3	1543.7	1543.1	1542.5	1544.6
177.5°	1553.8	1553.1	1552.4	1551.7	1551.0	1550.4	1549.9	1549.4	1549.0	1548.5	1549.9
180°	1551.7	1551.7	1551.7	1551.7	1551.7	1551.7	1551.7	1551.7	1551.7	1551.7	1551.7



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	711.3	711.3	711.3	711.3	711.3	711.3	711.3	711.3
2.5°	709.0	709.9	710.8	711.1	710.7	710.4	710.0	709.7
5°	706.9	708.2	709.6	710.2	709.9	709.7	709.5	709.2
7.5°	703.5	705.2	706.8	707.5	707.3	707.0	706.8	706.6
10°	700.5	702.4	704.3	705.0	704.8	704.6	704.4	704.1
12.5°	695.6	697.4	699.3	700.0	699.8	699.6	699.4	699.1
15°	686.6	688.6	690.7	691.7	691.5	691.2	690.9	690.7
17.5°	675.0	677.2	679.3	680.4	680.4	680.4	680.4	680.4
20°	665.9	668.4	670.9	672.2	672.2	672.2	672.2	672.2
22.5°	656.0	658.5	661.0	662.5	662.8	663.2	663.6	663.9
25°	640.6	643.3	646.0	647.7	648.4	649.1	649.8	650.6
27.5°	623.5	626.9	630.5	632.4	632.9	633.4	633.9	634.4
30°	611.5	615.1	618.7	621.0	621.7	622.4	623.0	623.7
32.5°	598.5	602.8	606.9	609.7	611.0	612.2	613.4	614.6
35°	580.2	585.2	590.3	593.6	595.2	596.8	598.3	600.0
37.5°	561.3	566.8	572.5	576.1	577.8	579.5	581.2	582.9
40°	548.0	553.9	559.9	563.9	565.9	568.0	570.1	572.2
42.5°	535.0	541.6	548.1	552.4	554.4	556.5	558.6	560.6
45°	515.2	522.3	529.5	534.1	536.4	538.8	541.0	543.3
47.5°	494.6	502.1	509.5	514.4	516.9	519.5	522.0	524.5
50°	480.5	488.3	496.1	501.3	503.8	506.3	508.8	511.3
52.5°	465.2	473.2	481.2	486.6	489.2	491.9	494.6	497.4
55°	442.2	450.5	458.8	464.3	467.4	470.3	473.3	476.3
57.5°	418.0	426.9	435.8	441.7	444.7	447.8	450.8	453.8
60°	401.9	410.6	419.4	425.4	428.5	431.7	434.9	438.2
62.5°	384.9	394.2	403.4	409.6	412.5	415.6	418.6	421.6
65°	359.0	368.4	377.8	384.0	387.0	389.9	392.9	395.9
67.5°	332.8	342.2	351.7	358.1	361.1	364.3	367.4	370.5
70°	314.6	324.4	334.3	340.5	343.3	346.1	348.8	351.5
72.5°	296.9	306.5	316.2	322.7	326.0	329.3	332.5	335.9
75°	270.2	280.0	289.9	296.3	299.3	302.3	305.3	308.2
77.5°	244.2	254.0	263.8	270.2	273.5	276.7	279.8	283.1
80°	226.4	236.1	245.7	252.2	255.3	258.5	261.8	265.0
82.5°	210.0	219.5	229.2	235.5	238.5	241.6	244.6	247.6
85°	186.2	195.9	205.5	211.9	215.1	218.3	221.6	224.7
87.5°	175.2	184.5	193.7	199.9	202.8	205.8	208.8	211.8
90°	199.0	207.6	216.2	222.1	225.1	228.1	231.2	234.2
92.5°	188.5	197.6	206.7	212.7	215.4	218.2	221.1	223.9
95°	219.7	228.4	237.2	242.6	244.8	246.9	249.1	251.3
97.5°	267.5	276.0	284.5	290.0	292.7	295.4	298.0	300.6
100°	300.7	309.2	317.7	323.1	325.3	327.5	329.7	331.9
102.5°	338.0	346.6	355.1	360.4	362.6	364.9	367.2	369.4
105°	393.9	402.5	411.1	416.7	419.2	421.7	424.2	426.8
107.5°	455.1	463.0	471.0	475.5	476.8	477.9	479.1	480.3
110°	497.2	504.5	511.8	516.3	518.0	519.6	521.3	522.9



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CATALOG NUMBER: S122DIW-S675D1240U840-4F0-1E-UDD-D1

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	539.3	545.8	552.5	556.7	558.7	560.5	562.4	564.2
115°	604.0	610.6	617.2	621.3	623.0	624.6	626.2	627.9
117.5°	666.3	672.5	678.5	682.3	683.8	685.2	686.7	688.1
120°	708.1	714.6	720.9	725.0	726.7	728.3	729.9	731.5
122.5°	751.7	757.3	762.8	766.3	767.8	769.3	770.8	772.3
125°	815.7	820.9	826.3	829.8	831.5	833.3	835.1	836.9
127.5°	877.6	882.2	886.9	889.7	890.8	891.8	892.9	894.0
130°	920.3	925.2	930.2	932.9	933.6	934.2	934.9	935.6
132.5°	961.8	965.8	969.9	972.3	973.2	974.1	975.0	975.9
135°	1023.4	1027.9	1032.5	1035.2	1036.1	1037.1	1038.0	1039.1
137.5°	1082.4	1086.3	1090.4	1092.5	1092.9	1093.3	1093.7	1094.1
140°	1122.4	1126.1	1129.7	1131.7	1131.9	1132.1	1132.4	1132.6
142.5°	1159.5	1162.8	1165.9	1167.5	1167.5	1167.5	1167.6	1167.6
145°	1217.2	1218.8	1220.5	1221.3	1221.3	1221.3	1221.2	1221.2
147.5°	1268.4	1269.2	1270.0	1270.2	1269.6	1269.1	1268.5	1268.0
150°	1302.0	1302.9	1303.7	1303.7	1302.9	1302.0	1301.1	1300.3
152.5°	1336.1	1337.1	1338.2	1338.2	1337.1	1336.1	1334.9	1333.8
155°	1379.2	1380.6	1382.0	1382.3	1381.5	1380.6	1379.7	1378.9
157.5°	1419.0	1420.9	1422.9	1423.2	1421.8	1420.4	1419.0	1417.5
160°	1442.6	1444.3	1446.0	1446.3	1445.2	1444.0	1442.9	1441.7
162.5°	1464.0	1465.9	1467.9	1468.2	1466.8	1465.4	1464.0	1462.7
165°	1491.6	1493.6	1495.7	1495.9	1494.5	1493.1	1491.6	1490.2
167.5°	1514.4	1516.4	1518.4	1518.7	1517.2	1515.7	1514.2	1512.7
170°	1526.9	1528.9	1531.1	1531.2	1529.4	1527.7	1525.9	1524.2
172.5°	1536.4	1538.4	1540.4	1540.5	1538.8	1537.1	1535.4	1533.6
175°	1546.6	1548.6	1550.6	1550.8	1549.0	1547.3	1545.6	1543.8
177.5°	1551.4	1552.8	1554.1	1554.1	1552.8	1551.4	1549.9	1548.5
180°	1551.7	1551.7	1551.7	1551.7	1551.7	1551.7	1551.7	1551.7

(END OF REPORT)