

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: P331539-840

Luminaire Tested: **S122DIW-S675D970U840-4F0-1E-UDD-D**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P331539-840
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-S675D970U840-4F0-1E-UDD-D
Description: DEFINE 2 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 675 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER
UPLIGHT 970 LUMENS PER FOOT, NO LENS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 6625.2 lumens
Efficiency: N/A
Efficacy: 126.0 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

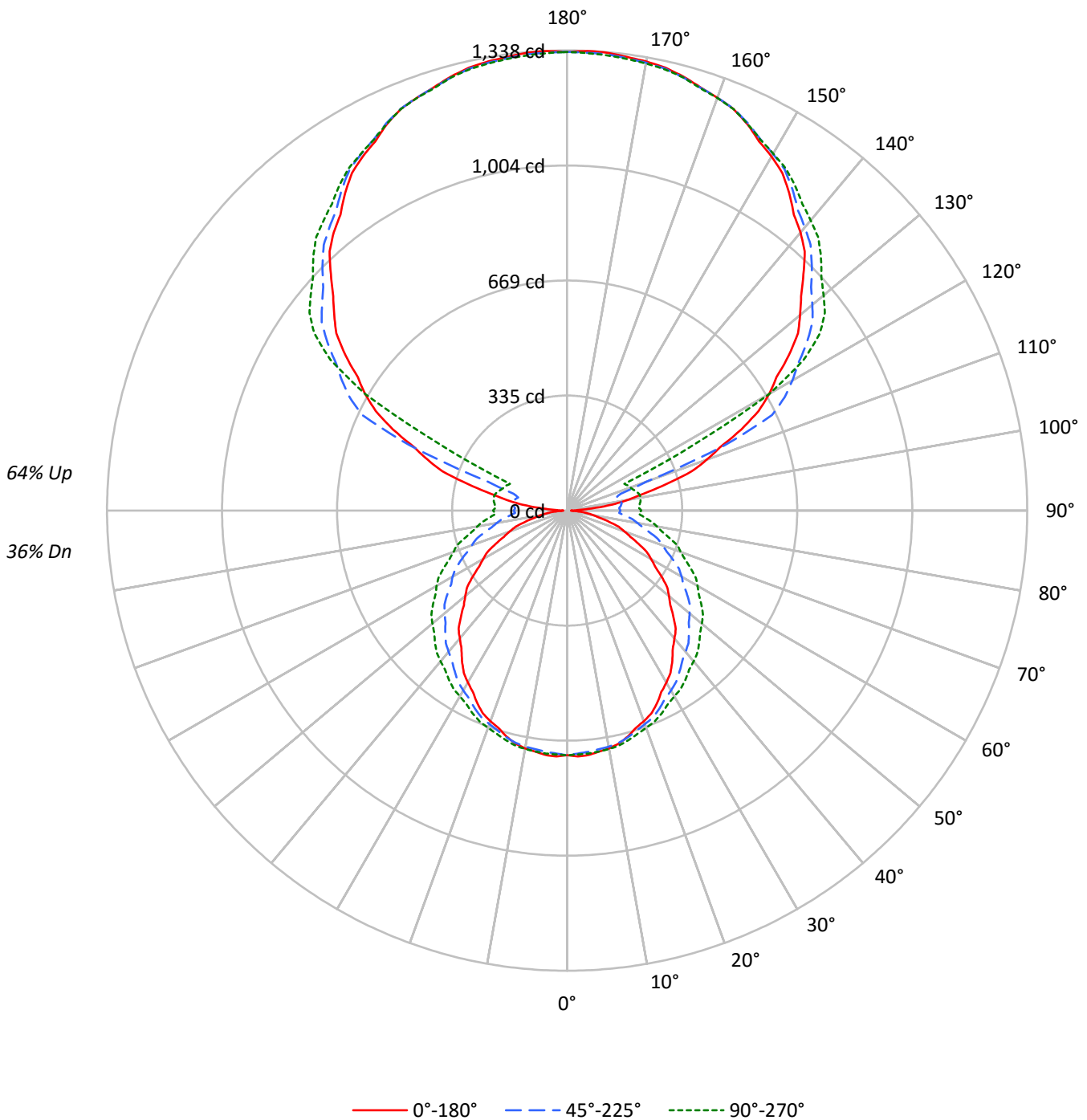
Input Watts (W): 52.6
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	104	104	104	104	94	94	94	94	76	76	76	59	59	59	44	44	44	36
1	94	89	85	81	84	80	77	74	65	62	60	50	48	47	37	36	35	28
2	85	77	71	65	76	70	64	59	56	52	49	43	41	38	32	30	28	23
3	77	67	60	54	69	61	54	49	49	44	40	38	35	32	28	26	24	19
4	70	59	51	45	63	54	47	41	43	38	34	34	30	27	25	22	20	16
5	64	53	44	38	58	48	40	35	39	33	29	30	26	23	22	19	17	14
6	59	47	39	33	53	43	35	30	35	29	25	27	23	20	20	17	15	12
7	55	42	34	29	49	38	31	26	31	26	22	24	20	18	18	15	13	10
8	50	38	30	25	45	35	28	23	28	23	19	22	18	15	17	14	12	9
9	47	35	27	22	42	32	25	20	26	21	17	20	17	14	15	13	11	8
10	44	32	24	20	39	29	23	18	24	19	15	19	15	12	14	11	10	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	2.9
20°-30°	292.9	4.4
30°-40°	356.7	5.4
40°-50°	383.8	5.8
50°-60°	372.7	5.6
60°-70°	325.4	4.9
70°-80°	250.5	3.8
80°-90°	171.4	2.6
90°-100°	160.3	2.4
100°-110°	247.7	3.7
110°-120°	491.9	7.4
120°-130°	751.0	11.3
130°-140°	778.6	11.8
140°-150°	713.8	10.8
150°-160°	572.1	8.6
160°-170°	368.6	5.6
170°-180°	126.9	1.9
0°-30°	553.6	8.4
0°-40°	910.3	13.7
0°-60°	1666.8	25.2
0°-90°	2414.3	36.4
90°-120°	900.0	13.6
90°-150°	3143.3	47.4
90°-180°	4211.0	63.6
0°-180°	6625.2	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°	11	82	155	200	216	10
95°	71	90	156	198	212	83
105°	298	342	148	192	209	319
115°	559	589	657	261	183	550
125°	787	801	850	884	897	701
135°	972	987	1006	1036	1044	751
145°	1126	1126	1142	1154	1155	704
155°	1240	1232	1243	1248	1241	571
165°	1307	1301	1304	1310	1304	369
175°	1336	1330	1332	1338	1329	127
180°	1334	1334	1334	1334	1334	



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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°	20.4	34.5	48.7	62.8	77.0	91.5	106.4	121.5	136.4	151.5	161.1
90°	11.3	27.0	42.6	58.2	73.8	89.9	106.2	122.6	139.0	155.4	165.6
92.5°	29.0	41.1	53.3	65.4	77.6	91.2	106.1	121.1	136.0	151.1	160.6
95°	71.0	74.6	78.4	82.0	85.7	95.2	110.5	125.7	141.0	156.2	165.9
97.5°	131.7	121.3	111.0	100.6	90.2	93.4	110.1	126.7	143.4	160.1	169.4
100°	178.0	157.1	136.2	115.3	94.4	92.2	108.7	125.1	141.6	158.1	168.2
102.5°	228.1	229.6	231.2	232.7	234.2	226.0	207.9	190.0	171.9	153.9	164.4
105°	298.5	311.5	324.7	337.7	350.8	334.1	287.4	240.8	194.2	147.5	157.9
107.5°	379.9	390.4	400.9	411.4	421.9	397.8	339.0	280.2	221.4	162.6	167.9
110°	431.6	440.7	449.8	458.9	468.0	447.1	396.4	345.6	294.9	244.1	230.0



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	481.0	488.9	496.7	504.5	512.4	513.9	509.3	504.7	500.1	495.4	424.5
115°	559.0	565.1	571.3	577.4	583.6	594.5	610.3	625.9	641.6	657.2	564.8
117.5°	627.6	633.4	639.0	644.8	650.6	659.9	673.2	686.4	699.6	712.9	695.6
120°	678.5	682.7	686.8	690.9	695.1	703.7	716.7	729.7	742.8	755.8	764.8
122.5°	721.8	725.6	729.3	733.1	736.8	745.1	757.9	770.7	783.6	796.4	804.2
125°	786.6	789.3	792.1	795.0	797.7	804.9	816.3	827.6	839.0	850.4	858.1
127.5°	846.2	849.1	851.9	854.7	857.7	863.5	872.5	881.5	890.4	899.4	907.3
130°	884.0	887.3	890.4	893.6	896.9	902.0	909.2	916.4	923.5	930.7	938.6
132.5°	922.6	925.3	928.0	930.7	933.4	937.8	943.8	949.9	955.9	962.0	969.4
135°	971.8	975.2	978.7	982.1	985.5	989.4	993.5	997.7	1002.0	1006.2	1013.2
137.5°	1022.5	1024.9	1027.2	1029.6	1032.0	1034.7	1037.9	1041.2	1044.3	1047.5	1053.8
140°	1055.7	1057.2	1058.7	1060.2	1061.7	1063.8	1066.6	1069.4	1072.3	1075.1	1080.7
142.5°	1083.5	1084.8	1086.1	1087.4	1088.7	1090.9	1093.6	1096.4	1099.2	1102.0	1106.7
145°	1126.1	1125.9	1125.7	1125.5	1125.3	1127.0	1130.6	1134.3	1137.9	1141.6	1144.4
147.5°	1164.2	1163.3	1162.5	1161.6	1160.8	1162.3	1165.9	1169.4	1173.1	1176.7	1178.0
150°	1188.8	1187.3	1185.8	1184.4	1182.9	1183.8	1187.2	1190.6	1194.1	1197.5	1198.8
152.5°	1209.7	1208.0	1206.3	1204.7	1203.0	1203.8	1207.0	1210.3	1213.6	1216.8	1218.1
155°	1240.0	1238.0	1236.1	1234.2	1232.2	1232.5	1235.2	1237.7	1240.3	1242.8	1244.2
157.5°	1263.7	1262.1	1260.4	1258.8	1257.2	1257.3	1259.1	1260.9	1262.6	1264.5	1266.0
160°	1277.6	1276.4	1275.1	1273.7	1272.4	1272.4	1273.7	1275.1	1276.4	1277.6	1278.9
162.5°	1290.0	1288.7	1287.4	1286.1	1284.9	1284.8	1285.9	1287.0	1288.1	1289.2	1290.6
165°	1306.6	1305.3	1303.9	1302.7	1301.4	1301.1	1301.7	1302.3	1303.0	1303.6	1305.1
167.5°	1318.9	1317.6	1316.4	1315.0	1313.7	1313.4	1314.0	1314.6	1315.2	1315.9	1317.3
170°	1325.9	1324.5	1323.3	1322.0	1320.7	1320.3	1320.7	1321.1	1321.6	1322.0	1323.5
172.5°	1330.5	1329.2	1327.9	1326.7	1325.3	1324.9	1325.3	1325.8	1326.2	1326.7	1328.2
175°	1336.5	1334.9	1333.4	1332.0	1330.5	1329.9	1330.4	1330.8	1331.2	1331.6	1333.1
177.5°	1337.5	1336.3	1335.0	1333.8	1332.6	1332.1	1332.3	1332.4	1332.6	1332.8	1334.0
180°	1333.5	1333.5	1333.5	1333.5	1333.5	1333.5	1333.5	1333.5	1333.5	1333.5	1333.5



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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°	170.6	180.2	189.8	196.0	199.0	202.1	205.1	208.1
90°	175.8	186.1	196.3	203.0	206.2	209.3	212.6	215.7
92.5°	170.2	179.7	189.1	195.5	198.4	201.5	204.5	207.5
95°	175.7	185.5	195.3	201.5	204.0	206.5	209.0	211.6
97.5°	178.7	188.0	197.4	203.6	206.5	209.4	212.5	215.4
100°	178.4	188.6	198.8	205.4	208.3	211.4	214.3	217.2
102.5°	174.9	185.4	195.9	202.8	205.9	209.0	212.2	215.3
105°	168.2	178.6	189.0	195.9	199.2	202.7	206.0	209.4
107.5°	173.2	178.5	183.8	188.1	191.5	194.9	198.2	201.7
110°	215.9	201.8	187.6	182.3	185.7	189.0	192.5	195.8



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CATALOG NUMBER: S122DIW-S675D970U840-4F0-1E-UDD-D

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	353.7	282.8	211.9	178.0	181.2	184.4	187.6	190.9
115°	472.4	380.0	287.6	234.9	222.0	209.0	196.2	183.3
117.5°	678.4	661.2	643.9	611.1	562.7	514.3	465.9	417.5
120°	773.8	782.7	791.7	782.9	756.6	730.1	703.7	677.3
122.5°	811.9	819.7	827.5	829.6	826.2	822.7	819.2	815.8
125°	865.9	873.5	881.2	886.4	889.1	891.8	894.5	897.2
127.5°	915.1	923.0	930.9	935.8	938.0	940.2	942.3	944.4
130°	946.4	954.3	962.1	966.8	968.5	970.1	971.7	973.3
132.5°	976.7	984.0	991.4	995.8	997.4	999.1	1000.7	1002.3
135°	1020.2	1027.0	1034.0	1038.2	1039.7	1041.1	1042.4	1043.8
137.5°	1060.2	1066.4	1072.8	1076.3	1077.2	1078.0	1078.8	1079.6
140°	1086.3	1091.9	1097.5	1100.4	1100.8	1101.1	1101.4	1101.7
142.5°	1111.4	1116.1	1120.7	1123.2	1123.3	1123.4	1123.6	1123.7
145°	1147.3	1150.1	1153.1	1154.5	1154.6	1154.7	1154.8	1154.8
147.5°	1179.2	1180.5	1181.8	1182.3	1181.9	1181.6	1181.2	1180.9
150°	1200.1	1201.3	1202.6	1202.7	1201.7	1200.6	1199.5	1198.5
152.5°	1219.4	1220.6	1221.9	1221.9	1220.5	1219.1	1217.7	1216.3
155°	1245.5	1246.7	1248.0	1247.8	1246.1	1244.4	1242.6	1240.9
157.5°	1267.4	1268.9	1270.3	1270.2	1268.5	1266.9	1265.2	1263.5
160°	1280.2	1281.4	1282.7	1282.6	1281.1	1279.6	1278.2	1276.7
162.5°	1292.1	1293.5	1295.1	1294.8	1292.9	1291.1	1289.3	1287.5
165°	1306.7	1308.2	1309.7	1309.7	1308.2	1306.7	1305.1	1303.6
167.5°	1318.8	1320.3	1321.8	1321.6	1319.7	1317.8	1315.9	1313.9
170°	1325.0	1326.5	1328.0	1327.8	1325.9	1323.9	1322.0	1320.1
172.5°	1329.6	1331.1	1332.6	1332.4	1330.5	1328.6	1326.7	1324.7
175°	1334.6	1336.2	1337.7	1337.4	1335.1	1333.0	1330.9	1328.8
177.5°	1335.2	1336.4	1337.6	1337.5	1335.8	1334.3	1332.8	1331.3
180°	1333.5	1333.5	1333.5	1333.5	1333.5	1333.5	1333.5	1333.5

(END OF REPORT)