

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: P332104-830

Luminaire Tested: **S123DIW-S340D1030U830-4F0-1E-UDD-D**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332104-830
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-5,
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S123DIW-S340D1030U830-4F0-1E-UDD-D
Description: DEFINE 3 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 340 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER
UPLIGHT 1030 LUMENS PER FOOT, NO LENS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 5244.3 lumens
Efficiency: N/A
Efficacy: 138.0 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.26 / 1.37
Luminous Opening: Rectangular w/ Sides (W: 0.25' x L: 4' x H: 0.08')
CIE Type: Semi-Indirect

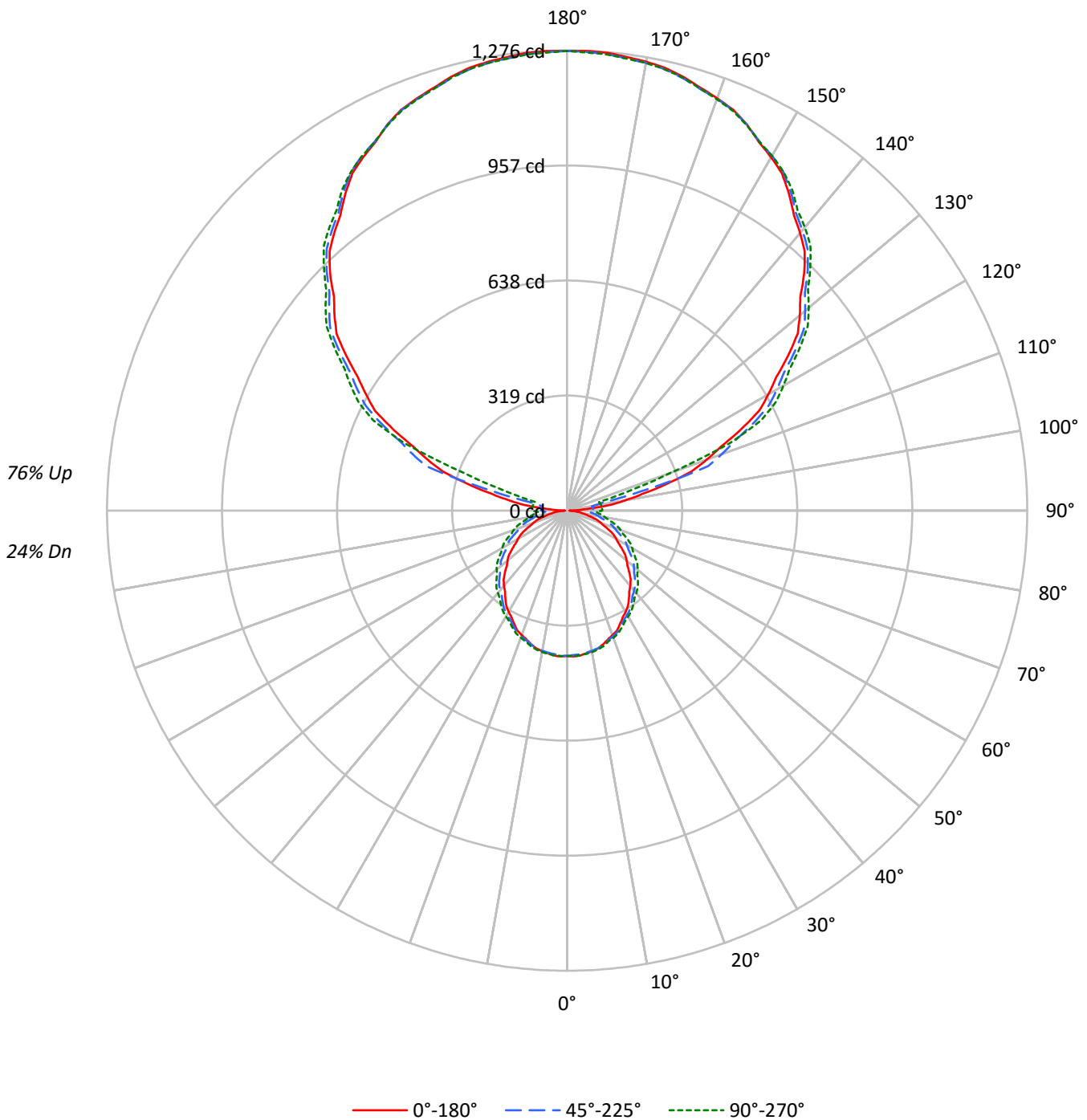
Input Watts (W): 38
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	101	101	101	101	90	90	90	90	69	69	69	50	50	50	32	32	32	24
1	91	87	83	80	81	77	74	71	59	57	55	43	41	40	27	27	26	19
2	83	76	70	64	73	67	62	58	52	48	45	37	35	33	24	23	21	15
3	75	66	59	53	67	59	53	48	45	41	38	33	30	28	21	19	18	13
4	69	58	51	45	61	52	45	40	40	35	32	29	26	23	19	17	15	11
5	63	52	44	38	56	46	39	34	36	31	27	26	23	20	17	15	13	9
6	58	46	38	33	51	41	35	30	32	27	23	23	20	17	15	13	12	8
7	53	42	34	28	47	37	30	26	29	24	20	21	18	15	14	12	10	7
8	49	37	30	25	44	34	27	23	26	21	18	19	16	13	13	11	9	6
9	46	34	27	22	41	31	24	20	24	19	16	17	14	12	12	10	8	6
10	43	31	24	19	38	28	22	18	22	17	14	16	13	11	11	9	7	5

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	4339	4339	4339
5°	4353	4230	4232
10°	4315	4133	4112
15°	4259	4022	3980
20°	4179	3896	3836
25°	4080	3751	3684
30°	3980	3620	3529
35°	3867	3481	3406
40°	3760	3356	3274
45°	3641	3235	3169
50°	3525	3116	3054
55°	3393	2993	2948
60°	3266	2869	2842
65°	3138	2736	2714
70°	2941	2586	2582
75°	2693	2416	2450
80°	2412	2249	2299
85°	2145	2133	2211



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	38.2	0.7
10°-20°	108.9	2.1
20°-30°	163.0	3.1
30°-40°	194.6	3.7
40°-50°	203.6	3.9
50°-60°	191.1	3.6
60°-70°	159.6	3.0
70°-80°	114.2	2.2
80°-90°	71.7	1.4
90°-100°	89.1	1.7
100°-110°	252.2	4.8
110°-120°	551.3	10.5
120°-130°	687.3	13.1
130°-140°	727.0	13.9
140°-150°	675.9	12.9
150°-160°	544.3	10.4
160°-170°	351.3	6.7
170°-180°	121.1	2.3
0°-30°	310.1	5.9
0°-40°	504.7	9.6
0°-60°	899.4	17.1
0°-90°	1244.8	23.7
90°-120°	892.6	17.0
90°-150°	2982.8	56.9
90°-180°	3999.0	76.3
0°-180°	5244.3	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	403	403	403	403	403	
5°	404	403	400	403	403	38
15°	384	386	385	389	389	108
25°	347	351	353	358	358	160
35°	299	306	311	318	320	187
45°	244	255	266	274	278	188
55°	186	201	216	228	232	167
65°	129	146	165	178	183	127
75°	70	91	112	126	132	75
85°	22	44	67	81	86	23
90°	7	38	72	90	97	7
95°	63	44	73	92	98	75
105°	286	302	240	94	91	303
115°	531	543	567	586	594	524
125°	747	755	771	782	788	667
135°	930	935	944	954	954	715
145°	1072	1078	1080	1085	1087	671
155°	1180	1179	1180	1184	1179	544
165°	1245	1242	1241	1248	1242	352
175°	1274	1270	1270	1276	1270	121
180°	1274	1274	1274	1274	1274	



TEST NUMBER: P332104-830

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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	403.1	403.1	403.1	403.1	403.1	403.1	403.1	403.1	403.1	403.1	403.1
2.5°	404.9	404.7	404.4	404.3	404.0	403.6	402.9	402.3	401.7	401.1	401.7
5°	403.6	403.4	403.2	403.0	402.8	402.5	401.8	401.2	400.7	400.1	400.9
7.5°	399.6	399.7	399.7	399.7	399.8	399.5	399.0	398.4	397.8	397.3	398.2
10°	396.2	396.3	396.5	396.7	396.9	396.8	396.2	395.8	395.3	394.8	395.8
12.5°	391.9	392.2	392.5	392.8	393.0	392.9	392.7	392.3	392.0	391.6	392.6
15°	384.3	384.6	384.8	385.1	385.4	385.6	385.4	385.3	385.2	385.1	386.2
17.5°	374.7	375.2	375.8	376.4	376.9	377.2	377.2	377.1	377.1	377.1	378.0
20°	367.6	368.2	368.7	369.4	369.9	370.3	370.5	370.7	370.9	371.1	372.0
22.5°	360.2	360.8	361.4	361.9	362.6	363.0	363.3	363.5	363.8	364.1	365.2
25°	346.9	347.9	348.9	349.9	350.8	351.5	351.8	352.0	352.3	352.7	353.9
27.5°	333.6	334.7	335.8	337.0	338.1	338.9	339.5	340.2	340.8	341.4	342.5
30°	324.1	325.4	326.7	327.9	329.2	330.2	331.0	331.8	332.5	333.4	334.5
32.5°	313.6	315.0	316.4	317.8	319.2	320.5	321.5	322.5	323.6	324.5	325.8
35°	298.6	300.2	301.8	303.3	304.9	306.3	307.6	308.9	310.1	311.4	312.8
37.5°	282.9	284.6	286.3	288.1	289.8	291.5	293.0	294.6	296.2	297.7	299.4
40°	272.3	274.1	275.8	277.6	279.3	281.2	283.1	285.1	287.0	289.0	290.7
42.5°	260.7	262.9	264.9	267.1	269.3	271.4	273.4	275.4	277.5	279.5	281.3
45°	244.2	246.6	248.8	251.2	253.5	255.9	258.4	260.8	263.3	265.7	267.6
47.5°	226.9	229.5	232.1	234.9	237.5	240.3	243.0	245.8	248.5	251.4	253.4
50°	215.7	218.4	221.1	223.9	226.6	229.4	232.4	235.5	238.6	241.6	243.8
52.5°	203.7	206.6	209.4	212.4	215.3	218.4	221.7	225.1	228.4	231.7	234.0
55°	186.2	189.5	192.7	195.9	199.1	202.5	205.9	209.5	213.0	216.5	219.1
57.5°	169.2	172.5	175.9	179.3	182.6	186.2	190.0	193.9	197.7	201.6	204.2
60°	157.2	160.7	164.3	167.8	171.3	175.0	179.1	183.0	187.0	191.1	193.8
62.5°	146.0	149.6	153.2	156.7	160.3	164.3	168.5	172.8	177.0	181.3	183.9
65°	128.7	132.5	136.3	140.1	143.9	148.0	152.2	156.6	160.8	165.1	168.1
67.5°	111.1	115.2	119.2	123.2	127.2	131.5	135.8	140.3	144.6	149.0	152.1
70°	98.8	103.0	107.2	111.4	115.6	120.1	124.7	129.4	134.1	138.7	141.9
72.5°	87.6	91.8	96.0	100.2	104.3	108.9	113.7	118.6	123.4	128.3	131.5
75°	69.8	74.5	79.0	83.6	88.2	92.9	97.8	102.6	107.5	112.4	115.6
77.5°	54.4	59.0	63.6	68.2	72.9	77.7	82.6	87.5	92.4	97.4	100.8
80°	43.5	48.3	53.1	57.9	62.6	67.6	72.6	77.7	82.8	87.8	91.1
82.5°	34.0	38.8	43.7	48.5	53.4	58.4	63.6	68.7	73.9	79.1	82.4
85°	21.5	26.4	31.3	36.2	41.0	46.1	51.3	56.4	61.5	66.7	70.0
87.5°	11.9	17.2	22.4	27.7	33.0	38.4	43.9	49.5	55.0	60.5	64.0
90°	6.7	13.6	20.5	27.3	34.2	41.5	49.2	56.9	64.7	72.4	76.5
92.5°	23.0	26.7	30.4	34.1	37.9	43.2	50.1	57.1	64.1	71.1	75.6
95°	62.6	57.8	53.0	48.2	43.3	44.5	51.6	58.6	65.7	72.9	77.3
97.5°	120.4	119.9	119.5	119.0	118.7	113.1	102.5	92.0	81.3	70.8	75.4
100°	163.9	171.3	178.6	186.0	193.2	182.8	154.5	126.1	97.7	69.5	74.0
102.5°	213.6	219.4	225.3	231.1	237.0	224.1	192.7	161.3	129.8	98.4	96.0
105°	285.6	290.3	294.9	299.6	304.3	299.3	284.5	269.8	255.0	240.3	205.8
107.5°	361.2	365.0	368.9	372.8	376.5	382.0	389.0	396.0	402.9	409.9	385.2
110°	411.6	415.0	418.5	421.9	425.4	430.2	436.4	442.6	448.8	455.1	450.6



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	460.1	463.1	466.0	468.9	471.9	476.5	482.5	488.5	494.6	500.7	503.2
115°	531.4	533.9	536.3	538.7	541.1	545.1	550.4	555.9	561.3	566.7	571.1
117.5°	600.8	603.0	605.4	607.7	609.9	613.2	617.5	621.7	625.9	630.3	634.2
120°	643.7	646.0	648.4	650.7	653.2	656.3	660.2	663.9	667.8	671.7	675.6
122.5°	687.6	689.4	691.2	693.0	694.7	697.6	701.4	705.3	709.2	713.0	716.4
125°	747.3	749.0	750.6	752.3	754.0	756.8	760.3	764.0	767.7	771.4	773.9
127.5°	805.6	807.2	808.8	810.4	812.0	814.5	817.7	821.1	824.5	827.8	830.5
130°	842.0	843.6	845.2	846.8	848.3	850.6	853.3	856.1	858.9	861.7	864.4
132.5°	876.5	878.2	879.8	881.5	883.2	885.0	887.3	889.6	891.7	894.0	896.6
135°	929.6	930.8	931.9	933.1	934.2	935.8	937.7	939.6	941.5	943.5	945.8
137.5°	975.0	976.5	978.0	979.5	981.0	982.3	983.4	984.5	985.5	986.6	989.1
140°	1004.8	1006.2	1007.4	1008.7	1009.9	1011.1	1011.9	1012.9	1013.8	1014.7	1017.0
142.5°	1032.9	1034.1	1035.3	1036.4	1037.6	1038.6	1039.2	1040.0	1040.7	1041.3	1043.3
145°	1072.1	1073.5	1074.9	1076.2	1077.6	1078.5	1078.9	1079.3	1079.8	1080.2	1081.4
147.5°	1108.6	1109.6	1110.5	1111.4	1112.5	1113.1	1113.5	1114.0	1114.4	1114.8	1115.5
150°	1131.3	1131.9	1132.6	1133.2	1133.8	1134.3	1134.7	1135.2	1135.6	1136.0	1136.4
152.5°	1151.8	1152.1	1152.4	1152.6	1152.9	1153.2	1153.5	1153.7	1154.0	1154.2	1155.0
155°	1180.5	1180.1	1179.7	1179.3	1178.8	1178.7	1178.9	1179.1	1179.4	1179.6	1180.6
157.5°	1202.9	1202.9	1202.8	1202.8	1202.7	1202.6	1202.4	1202.1	1201.9	1201.7	1203.0
160°	1216.5	1216.3	1216.1	1215.9	1215.7	1215.4	1215.2	1215.0	1214.8	1214.7	1215.9
162.5°	1229.4	1228.8	1228.3	1227.8	1227.2	1226.8	1226.6	1226.4	1226.2	1226.0	1227.4
165°	1244.9	1244.3	1243.7	1243.0	1242.4	1242.0	1241.7	1241.5	1241.3	1241.1	1242.8
167.5°	1257.0	1256.2	1255.4	1254.5	1253.7	1253.2	1253.2	1253.2	1253.2	1253.2	1254.9
170°	1263.9	1263.0	1262.2	1261.3	1260.5	1260.1	1260.1	1260.1	1260.1	1260.1	1261.7
172.5°	1268.4	1267.3	1266.4	1265.4	1264.3	1263.9	1264.0	1264.2	1264.4	1264.6	1266.3
175°	1274.2	1273.2	1272.1	1271.1	1270.1	1269.6	1269.8	1270.1	1270.3	1270.5	1272.0
177.5°	1275.7	1274.9	1274.1	1273.3	1272.4	1272.1	1272.2	1272.4	1272.5	1272.7	1274.1
180°	1274.2	1274.2	1274.2	1274.2	1274.2	1274.2	1274.2	1274.2	1274.2	1274.2	1274.2



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	403.1	403.1	403.1	403.1	403.1	403.1	403.1	403.1
2.5°	402.3	402.9	403.6	403.8	403.8	403.7	403.6	403.5
5°	401.6	402.5	403.2	403.6	403.5	403.3	403.2	403.1
7.5°	399.3	400.2	401.1	401.6	401.5	401.3	401.2	401.1
10°	396.8	397.8	398.7	399.1	398.9	398.7	398.5	398.3
12.5°	393.4	394.4	395.2	395.6	395.4	395.2	395.0	394.8
15°	387.1	388.0	389.1	389.5	389.4	389.3	389.2	389.1
17.5°	378.8	379.8	380.6	381.0	380.8	380.7	380.6	380.4
20°	372.9	373.7	374.7	375.1	375.2	375.3	375.4	375.5
22.5°	366.3	367.4	368.5	369.1	369.0	368.9	368.9	368.8
25°	355.2	356.5	357.7	358.4	358.4	358.4	358.4	358.4
27.5°	343.6	344.7	345.8	346.4	346.5	346.6	346.6	346.7
30°	335.6	336.9	338.0	338.6	338.6	338.6	338.6	338.6
32.5°	327.1	328.3	329.5	330.3	330.5	330.7	331.0	331.2
35°	314.3	315.8	317.3	318.2	318.6	319.0	319.3	319.7
37.5°	301.0	302.7	304.4	305.4	305.7	306.0	306.3	306.6
40°	292.3	294.0	295.6	296.6	297.0	297.5	297.8	298.2
42.5°	283.1	284.9	286.7	287.9	288.5	289.0	289.5	290.1
45°	269.4	271.3	273.1	274.5	275.2	276.0	276.8	277.6
47.5°	255.5	257.7	259.8	261.1	261.6	262.3	262.9	263.5
50°	246.0	248.3	250.5	252.0	252.7	253.4	254.0	254.8
52.5°	236.4	238.7	241.0	242.6	243.5	244.3	245.1	245.9
55°	221.8	224.4	227.1	228.8	229.5	230.4	231.1	231.9
57.5°	206.9	209.5	212.2	214.0	214.9	215.8	216.8	217.6
60°	196.5	199.3	202.0	203.9	204.9	206.0	207.1	208.2
62.5°	186.6	189.4	192.1	194.0	195.0	196.0	197.0	198.0
65°	171.0	173.9	176.8	178.8	179.7	180.8	181.7	182.7
67.5°	155.3	158.5	161.7	163.8	164.6	165.4	166.3	167.0
70°	145.1	148.2	151.3	153.4	154.3	155.2	156.3	157.2
72.5°	134.6	137.8	141.0	143.2	144.1	145.1	146.1	147.0
75°	118.9	122.1	125.4	127.5	128.7	129.9	131.0	132.2
77.5°	104.2	107.5	110.9	113.0	114.0	114.9	115.7	116.7
80°	94.4	97.8	101.1	103.2	104.2	105.2	106.2	107.2
82.5°	85.7	89.0	92.4	94.4	95.5	96.4	97.4	98.4
85°	73.4	76.7	80.0	82.2	83.1	84.2	85.1	86.1
87.5°	67.5	71.0	74.5	76.7	77.8	78.8	79.9	81.0
90°	80.7	84.8	89.0	91.8	93.1	94.5	96.0	97.4
92.5°	80.2	84.8	89.4	92.3	93.4	94.5	95.8	96.9
95°	81.8	86.3	90.9	93.6	94.5	95.5	96.5	97.5
97.5°	80.0	84.5	89.2	92.1	93.2	94.4	95.6	96.8
100°	78.5	82.9	87.5	90.4	91.5	92.7	93.9	95.1
102.5°	93.5	91.0	88.5	87.9	89.4	90.7	92.1	93.4
105°	171.3	136.8	102.3	85.7	86.9	88.2	89.5	90.9
107.5°	360.5	335.8	311.1	285.1	258.0	230.7	203.5	176.3
110°	446.3	441.9	437.4	420.6	391.2	362.0	332.7	303.4



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CATALOG NUMBER: S123DIW-S340D1030U830-4F0-1E-UDD-D

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	505.9	508.4	511.0	509.5	504.1	498.6	493.0	487.6
115°	575.6	580.0	584.5	587.5	589.1	590.8	592.4	594.0
117.5°	638.3	642.2	646.3	648.8	649.7	650.6	651.5	652.4
120°	679.5	683.4	687.4	689.7	690.3	691.1	691.7	692.4
122.5°	719.7	723.1	726.4	728.6	729.4	730.3	731.1	732.0
125°	776.4	778.8	781.3	783.1	784.2	785.3	786.4	787.5
127.5°	833.0	835.7	838.3	839.7	839.9	840.2	840.5	840.7
130°	867.0	869.8	872.5	873.9	874.0	874.2	874.4	874.6
132.5°	899.3	901.8	904.5	905.8	905.9	906.0	906.1	906.2
135°	948.2	950.6	953.0	954.1	953.9	953.9	953.7	953.6
137.5°	991.6	994.3	996.8	998.2	998.2	998.2	998.3	998.3
140°	1019.4	1021.6	1024.0	1025.1	1025.2	1025.3	1025.3	1025.4
142.5°	1045.3	1047.3	1049.2	1050.2	1050.1	1050.0	1049.9	1049.8
145°	1082.6	1083.8	1085.0	1085.8	1086.2	1086.6	1086.9	1087.3
147.5°	1116.2	1116.8	1117.5	1117.5	1116.8	1116.3	1115.6	1115.0
150°	1136.9	1137.3	1137.7	1137.7	1137.3	1136.8	1136.4	1136.0
152.5°	1155.7	1156.5	1157.3	1157.2	1156.2	1155.3	1154.3	1153.5
155°	1181.7	1182.7	1183.8	1183.6	1182.4	1181.2	1179.9	1178.6
157.5°	1204.3	1205.5	1206.7	1206.5	1204.9	1203.3	1201.6	1200.0
160°	1217.1	1218.4	1219.7	1219.6	1218.0	1216.6	1215.1	1213.6
162.5°	1228.8	1230.3	1231.7	1231.7	1230.5	1229.2	1227.9	1226.5
165°	1244.4	1246.1	1247.8	1247.9	1246.5	1245.0	1243.5	1242.1
167.5°	1256.6	1258.3	1260.0	1260.0	1258.3	1256.6	1254.9	1253.2
170°	1263.4	1265.1	1266.8	1266.8	1265.1	1263.4	1261.7	1260.1
172.5°	1268.0	1269.6	1271.3	1271.2	1269.4	1267.5	1265.6	1263.9
175°	1273.4	1274.9	1276.4	1276.3	1274.6	1272.9	1271.2	1269.5
177.5°	1275.4	1276.8	1278.1	1278.0	1276.3	1274.6	1272.9	1271.2
180°	1274.2	1274.2	1274.2	1274.2	1274.2	1274.2	1274.2	1274.2

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