

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: P332760

Luminaire Tested: **S124DIW-S575D1050U835-4F0-1E-UDD-D1**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P332760  
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-10,  
Test Lab: INNOVATION CENTER  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: NEO-RAY  
Catalog Number: S124DIW-S575D1050U835-4F0-1E-UDD-D1  
Description: DEFINE 4 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE  
DOWNLIGHT 575 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER  
UPLIGHT 1050 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 6006.8 lumens  
Efficiency: N/A  
Efficacy: 132.9 lumens/watt  
Spacing Criteria (0/90/45): 1.23 / 1.28 / 1.39  
Luminous Opening: Rectangular w/ Sides (W: 0.33' x L: 4' x H: 0.08')  
CIE Type: Semi-Indirect

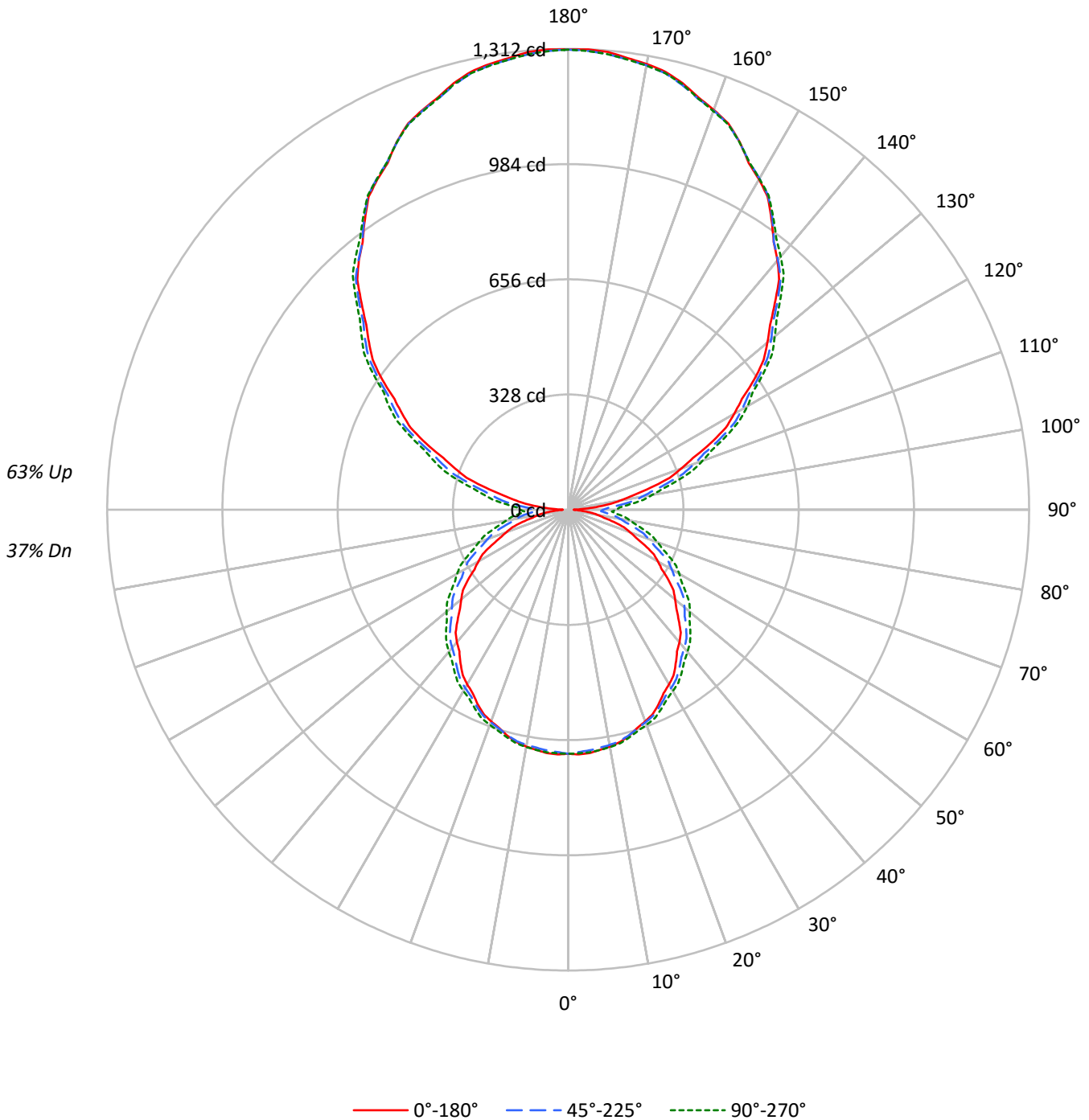
Input Watts (W): 45.2  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	37
1	94	89	85	82	85	81	78	74	65	63	61	51	49	48	37	36	35	29
2	85	78	71	66	77	70	65	60	57	53	50	44	41	39	32	31	29	24
3	78	68	60	55	70	62	55	50	50	45	41	39	35	33	29	26	24	20
4	71	60	52	46	64	54	47	42	44	39	35	34	31	28	25	23	21	17
5	65	53	45	39	58	48	41	36	39	34	30	31	27	24	23	20	18	14
6	60	47	39	34	54	43	36	31	35	30	26	28	24	21	21	18	16	13
7	55	43	35	29	50	39	32	27	32	26	23	25	21	18	19	16	14	11
8	51	39	31	26	46	35	28	24	29	24	20	23	19	16	17	14	12	10
9	47	35	28	23	43	32	26	21	26	21	18	21	17	14	16	13	11	9
10	44	32	25	20	40	29	23	19	24	19	16	19	16	13	15	12	10	8

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°
0°	5610	5610	5610
5°	5628	5483	5498
10°	5593	5393	5388
15°	5543	5289	5260
20°	5467	5175	5135
25°	5382	5046	4997
30°	5290	4919	4856
35°	5185	4787	4732
40°	5102	4663	4603
45°	4978	4549	4492
50°	4873	4416	4375
55°	4765	4291	4237
60°	4596	4132	4112
65°	4410	3962	3958
70°	4186	3768	3778
75°	3872	3553	3616
80°	3526	3347	3457
85°	3082	3163	3364



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	65.8	1.1
10°-20°	188.5	3.1
20°-30°	285.1	4.7
30°-40°	344.9	5.7
40°-50°	364.7	6.1
50°-60°	343.2	5.7
60°-70°	284.7	4.7
70°-80°	200.0	3.3
80°-90°	117.0	1.9
90°-100°	153.5	2.6
100°-110°	305.6	5.1
110°-120°	467.7	7.8
120°-130°	591.6	9.8
130°-140°	651.4	10.8
140°-150°	633.8	10.6
150°-160°	531.7	8.9
160°-170°	353.7	5.9
170°-180°	123.9	2.1
0°-30°	539.4	9.0
0°-40°	884.4	14.7
0°-60°	1592.2	26.5
0°-90°	2193.9	36.5
90°-120°	926.9	15.4
90°-150°	2803.7	46.7
90°-180°	3813.0	63.5
0°-180°	6006.8	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	695	695	695	695	695	
5°	696	693	688	694	693	66
15°	667	668	665	672	672	188
25°	610	615	617	625	626	281
35°	534	543	551	561	564	334
45°	445	460	475	487	492	344
55°	349	365	388	403	408	311
65°	241	266	293	311	318	239
75°	134	163	195	216	224	142
85°	41	74	109	131	140	44
90°	16	58	99	127	136	12
95°	71	106	145	168	176	76
105°	243	261	292	314	324	258
115°	446	454	476	492	497	440
125°	646	647	664	676	680	576
135°	831	837	843	853	855	643
145°	1009	1012	1013	1016	1017	631
155°	1155	1155	1154	1158	1154	531
165°	1257	1254	1252	1258	1254	354
175°	1308	1303	1302	1308	1302	124
180°	1310	1310	1310	1310	1310	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	694.9	694.9	694.9	694.9	694.9	694.9	694.9	694.9	694.9	694.9	694.9
2.5°	697.4	697.0	696.6	696.1	695.7	695.0	693.9	692.8	691.6	690.5	691.5
5°	695.7	695.2	694.6	694.1	693.6	692.7	691.5	690.3	689.1	687.9	689.3
7.5°	689.8	689.4	689.1	688.8	688.5	687.9	686.9	685.9	684.8	683.8	685.4
10°	684.8	684.6	684.4	684.3	684.1	683.6	682.7	681.8	681.0	680.1	681.7
12.5°	677.9	677.9	677.9	677.8	677.8	677.5	676.9	676.3	675.7	675.1	676.5
15°	666.9	667.1	667.2	667.4	667.6	667.4	666.9	666.4	665.8	665.3	666.9
17.5°	651.8	652.3	652.8	653.3	653.9	654.1	654.0	653.9	653.8	653.7	655.2
20°	641.2	641.7	642.2	642.8	643.3	643.6	643.8	644.0	644.1	644.3	646.0
22.5°	629.4	630.0	630.7	631.3	632.0	632.5	632.8	633.1	633.4	633.7	635.5
25°	610.1	611.1	612.2	613.2	614.2	615.0	615.5	616.0	616.6	617.1	619.0
27.5°	588.6	590.1	591.6	593.2	594.7	595.8	596.6	597.4	598.2	599.0	600.8
30°	574.3	575.7	577.0	578.4	579.8	581.1	582.3	583.5	584.7	586.0	587.9
32.5°	558.7	560.4	562.0	563.7	565.4	566.9	568.2	569.6	570.9	572.3	574.4
35°	533.8	535.9	538.0	540.0	542.1	544.0	545.7	547.5	549.2	550.9	553.4
37.5°	508.8	511.1	513.5	515.9	518.3	520.6	522.7	524.9	527.0	529.1	531.6
40°	492.6	494.8	497.1	499.3	501.6	503.9	506.3	508.7	511.2	513.6	516.2
42.5°	473.9	476.4	478.9	481.5	484.0	486.7	489.5	492.3	495.2	498.0	500.9
45°	445.1	448.4	451.7	455.0	458.2	461.5	464.8	468.1	471.4	474.7	477.6
47.5°	417.6	420.9	424.3	427.7	431.1	434.7	438.5	442.3	446.1	449.9	453.0
50°	397.6	401.4	405.2	409.1	412.9	416.7	420.5	424.3	428.1	431.9	435.3
52.5°	377.7	381.5	385.3	389.1	392.9	397.0	401.4	405.7	410.1	414.4	417.9
55°	348.6	352.2	355.9	359.5	363.1	367.5	372.7	377.9	383.1	388.3	391.8
57.5°	316.1	320.6	325.1	329.6	334.1	338.9	344.0	349.2	354.4	359.5	363.6
60°	294.9	299.4	303.9	308.4	312.9	318.0	323.7	329.4	335.1	340.8	344.8
62.5°	274.4	279.3	284.2	289.1	294.0	299.3	305.0	310.7	316.5	322.2	326.1
65°	241.2	246.8	252.3	257.8	263.4	269.1	274.9	280.8	286.7	292.6	296.9
67.5°	209.3	215.2	221.1	227.0	232.8	238.9	245.2	251.5	257.8	264.1	268.5
70°	187.5	193.4	199.3	205.2	211.1	217.3	223.8	230.4	237.0	243.6	248.2
72.5°	166.4	172.4	178.4	184.4	190.4	196.9	203.9	210.9	217.9	224.9	229.4
75°	133.8	140.2	146.6	153.0	159.4	166.3	173.5	180.8	188.1	195.3	200.2
77.5°	103.5	110.3	117.1	123.8	130.6	137.8	145.4	153.0	160.6	168.2	173.1
80°	84.8	91.7	98.7	105.6	112.5	119.7	127.4	135.0	142.6	150.2	155.4
82.5°	66.1	73.3	80.5	87.7	94.9	102.3	109.9	117.5	125.1	132.8	138.1
85°	41.2	48.5	55.8	63.0	70.3	77.8	85.6	93.4	101.2	108.9	114.1
87.5°	23.6	31.2	38.7	46.3	53.8	61.6	69.5	77.5	85.4	93.3	98.6
90°	15.5	24.9	34.3	43.7	53.1	62.4	71.6	80.9	90.1	99.3	105.7
92.5°	33.5	42.6	51.6	60.7	69.8	78.6	87.3	96.0	104.7	113.4	119.1
95°	70.9	78.6	86.4	94.1	101.8	110.0	118.7	127.4	136.0	144.7	150.0
97.5°	115.3	121.9	128.4	134.9	141.5	149.2	158.0	166.9	175.8	184.6	190.0
100°	150.4	155.8	161.2	166.6	172.0	179.1	187.8	196.6	205.4	214.1	219.3
102.5°	187.7	192.0	196.3	200.6	204.9	211.3	219.7	228.2	236.6	245.1	250.2
105°	243.0	246.7	250.4	254.1	257.8	263.3	270.6	277.9	285.2	292.5	297.5
107.5°	302.7	305.8	308.9	312.0	315.1	319.7	325.9	332.1	338.3	344.5	349.4
110°	342.6	345.4	348.3	351.2	354.0	358.4	364.2	370.0	375.9	381.7	385.2



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	384.1	386.3	388.5	390.8	393.0	396.8	402.2	407.6	412.9	418.3	422.0
115°	446.4	447.9	449.5	451.0	452.6	455.9	461.0	466.1	471.2	476.2	479.8
117.5°	505.8	506.9	508.0	509.1	510.2	513.2	518.0	522.9	527.7	532.5	535.4
120°	544.9	546.3	547.7	549.1	550.5	553.4	557.8	562.1	566.4	570.8	573.1
122.5°	586.2	586.7	587.1	587.6	588.0	590.5	594.9	599.3	603.8	608.2	610.9
125°	646.4	646.2	646.0	645.9	645.7	647.7	651.8	655.9	660.0	664.1	666.9
127.5°	701.6	702.1	702.6	703.1	703.6	705.3	708.3	711.2	714.2	717.1	719.8
130°	739.8	740.3	740.8	741.3	741.8	743.5	746.2	749.0	751.8	754.5	757.2
132.5°	779.5	779.9	780.2	780.5	780.8	782.0	784.0	786.1	788.1	790.1	792.7
135°	831.2	832.6	833.9	835.3	836.6	837.9	839.1	840.3	841.6	842.8	845.1
137.5°	888.4	888.8	889.3	889.7	890.2	890.9	891.9	892.8	893.8	894.7	896.6
140°	926.5	926.7	927.0	927.3	927.6	927.8	928.0	928.1	928.3	928.5	930.5
142.5°	960.7	961.1	961.5	961.9	962.4	962.4	962.1	961.9	961.6	961.3	963.2
145°	1008.8	1009.5	1010.2	1010.9	1011.7	1012.1	1012.4	1012.6	1012.8	1013.0	1013.9
147.5°	1056.6	1057.5	1058.4	1059.3	1060.2	1060.6	1060.4	1060.2	1060.0	1059.8	1059.8
150°	1085.7	1086.5	1087.2	1087.9	1088.7	1089.0	1089.0	1089.0	1089.0	1089.0	1089.0
152.5°	1112.7	1113.2	1113.7	1114.2	1114.7	1115.0	1115.2	1115.4	1115.6	1115.8	1116.3
155°	1154.9	1154.9	1154.9	1154.9	1154.9	1154.8	1154.5	1154.3	1154.1	1153.9	1154.8
157.5°	1190.5	1190.1	1189.7	1189.3	1188.9	1188.7	1188.6	1188.6	1188.5	1188.5	1189.2
160°	1211.6	1211.4	1211.1	1210.9	1210.7	1210.5	1210.2	1210.0	1209.8	1209.6	1210.2
162.5°	1231.0	1230.5	1229.9	1229.3	1228.7	1228.3	1228.1	1227.9	1227.6	1227.4	1228.6
165°	1257.2	1256.5	1255.8	1255.2	1254.5	1253.9	1253.5	1253.0	1252.6	1252.1	1253.5
167.5°	1277.2	1276.3	1275.4	1274.4	1273.5	1273.0	1273.1	1273.1	1273.1	1273.2	1274.5
170°	1288.6	1287.5	1286.3	1285.2	1284.1	1283.6	1283.9	1284.1	1284.3	1284.5	1285.9
172.5°	1296.7	1295.7	1294.8	1293.9	1292.9	1292.5	1292.5	1292.6	1292.6	1292.6	1294.2
175°	1307.8	1306.7	1305.6	1304.5	1303.3	1302.7	1302.4	1302.2	1302.0	1301.8	1303.3
177.5°	1311.5	1310.6	1309.7	1308.8	1307.9	1307.4	1307.4	1307.4	1307.4	1307.4	1308.7
180°	1309.9	1309.9	1309.9	1309.9	1309.9	1309.9	1309.9	1309.9	1309.9	1309.9	1309.9



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	694.9	694.9	694.9	694.9	694.9	694.9	694.9	694.9
2.5°	692.5	693.4	694.4	694.8	694.7	694.5	694.4	694.3
5°	690.7	692.0	693.4	694.0	693.9	693.7	693.5	693.3
7.5°	687.0	688.5	690.1	690.8	690.6	690.4	690.2	690.1
10°	683.2	684.8	686.3	687.0	686.9	686.7	686.5	686.3
12.5°	678.0	679.4	680.8	681.5	681.5	681.4	681.4	681.4
15°	668.4	670.0	671.5	672.2	672.1	671.9	671.7	671.5
17.5°	656.8	658.4	660.0	660.7	660.6	660.5	660.3	660.2
20°	647.8	649.5	651.2	652.1	652.1	652.1	652.1	652.1
22.5°	637.2	638.9	640.6	641.7	641.9	642.2	642.5	642.8
25°	620.9	622.8	624.7	625.7	625.9	626.1	626.2	626.4
27.5°	602.6	604.3	606.1	607.1	607.3	607.5	607.7	607.9
30°	589.8	591.7	593.6	594.7	595.0	595.4	595.7	596.1
32.5°	576.6	578.8	581.0	582.2	582.6	582.9	583.3	583.6
35°	555.8	558.2	560.6	562.1	562.6	563.1	563.6	564.2
37.5°	534.1	536.5	539.0	540.5	541.0	541.6	542.1	542.7
40°	518.8	521.4	524.0	525.6	526.3	527.0	527.7	528.4
42.5°	503.8	506.6	509.5	511.2	511.8	512.3	512.9	513.4
45°	480.6	483.5	486.4	488.3	489.2	490.1	490.9	491.8
47.5°	456.0	459.1	462.1	464.1	465.2	466.2	467.3	468.3
50°	438.8	442.3	445.7	448.0	449.0	450.0	451.1	452.1
52.5°	421.4	424.8	428.3	430.5	431.6	432.6	433.6	434.7
55°	395.2	398.7	402.1	404.4	405.4	406.5	407.5	408.5
57.5°	367.7	371.9	376.0	378.5	379.5	380.4	381.4	382.4
60°	348.8	352.8	356.7	359.4	360.8	362.2	363.6	365.0
62.5°	330.1	334.1	338.1	340.7	342.1	343.5	344.9	346.3
65°	301.2	305.6	309.9	312.7	314.1	315.5	316.9	318.3
67.5°	272.9	277.3	281.7	284.5	285.9	287.2	288.6	289.9
70°	252.9	257.6	262.2	265.2	266.4	267.6	268.8	270.0
72.5°	233.9	238.5	243.0	245.9	247.3	248.6	250.0	251.3
75°	205.0	209.8	214.7	217.9	219.4	221.0	222.6	224.1
77.5°	178.1	183.0	187.9	191.2	192.8	194.5	196.1	197.8
80°	160.6	165.7	170.9	174.2	175.6	177.0	178.4	179.8
82.5°	143.4	148.7	154.1	157.5	159.0	160.5	162.0	163.6
85°	119.3	124.5	129.7	133.2	134.9	136.6	138.3	140.1
87.5°	103.9	109.2	114.5	117.9	119.5	121.1	122.7	124.4
90°	112.1	118.4	124.8	128.9	130.7	132.6	134.4	136.2
92.5°	124.8	130.5	136.2	139.8	141.5	143.1	144.8	146.5
95°	155.4	160.7	166.1	169.5	171.1	172.6	174.2	175.7
97.5°	195.3	200.7	206.0	209.4	210.9	212.4	213.9	215.4
100°	224.4	229.5	234.6	237.8	239.0	240.2	241.4	242.6
102.5°	255.4	260.5	265.7	269.0	270.6	272.1	273.6	275.2
105°	302.5	307.5	312.5	316.0	318.0	320.1	322.2	324.2
107.5°	354.2	359.1	364.0	367.1	368.3	369.5	370.7	371.9
110°	388.8	392.3	395.8	398.6	400.7	402.7	404.8	406.8





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CATALOG NUMBER: S124DIW-S575D1050U835-4F0-1E-UDD-D1

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	425.8	429.5	433.3	435.9	437.4	439.0	440.5	442.0
115°	483.4	487.0	490.6	492.8	493.8	494.8	495.8	496.8
117.5°	538.2	541.0	543.9	545.8	546.7	547.6	548.6	549.5
120°	575.4	577.8	580.1	582.2	584.0	585.9	587.7	589.5
122.5°	613.6	616.3	619.0	620.5	620.9	621.4	621.8	622.3
125°	669.7	672.6	675.4	677.1	677.7	678.3	678.9	679.5
127.5°	722.5	725.1	727.8	729.5	730.3	731.2	732.0	732.8
130°	759.9	762.5	765.2	766.6	766.7	766.9	767.0	767.1
132.5°	795.2	797.7	800.2	801.8	802.5	803.2	803.9	804.5
135°	847.4	849.7	852.0	853.4	853.7	854.1	854.5	854.8
137.5°	898.6	900.5	902.5	903.9	904.9	905.9	906.9	907.9
140°	932.5	934.6	936.6	937.9	938.6	939.2	939.8	940.5
142.5°	965.1	967.1	969.0	970.3	971.0	971.7	972.3	973.0
145°	1014.7	1015.5	1016.3	1016.7	1016.7	1016.7	1016.8	1016.8
147.5°	1059.8	1059.7	1059.7	1059.8	1060.1	1060.5	1060.8	1061.1
150°	1089.0	1089.0	1089.0	1088.9	1088.7	1088.5	1088.2	1088.0
152.5°	1116.8	1117.4	1117.9	1117.9	1117.3	1116.7	1116.1	1115.6
155°	1155.7	1156.6	1157.5	1157.5	1156.6	1155.7	1154.8	1153.9
157.5°	1189.9	1190.5	1191.2	1191.2	1190.4	1189.6	1188.9	1188.1
160°	1210.9	1211.6	1212.3	1212.0	1210.9	1209.8	1208.7	1207.5
162.5°	1229.8	1231.0	1232.3	1232.3	1231.2	1230.1	1228.9	1227.8
165°	1254.8	1256.2	1257.5	1257.7	1256.8	1255.9	1255.0	1254.1
167.5°	1275.9	1277.2	1278.6	1278.6	1277.2	1275.8	1274.4	1273.0
170°	1287.2	1288.6	1289.9	1289.8	1288.3	1286.7	1285.1	1283.5
172.5°	1295.7	1297.2	1298.8	1298.7	1297.2	1295.6	1294.0	1292.4
175°	1304.9	1306.5	1308.1	1308.1	1306.5	1304.9	1303.3	1301.8
177.5°	1310.0	1311.2	1312.5	1312.4	1310.9	1309.5	1308.1	1306.6
180°	1309.9	1309.9	1309.9	1309.9	1309.9	1309.9	1309.9	1309.9

(END OF REPORT)