

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: P332778-935

Luminaire Tested: **S124DIW-S795D470U935-4F0-1E-UDD-D1**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P332778-935  
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-S795D470U935-4F0-1E-UDD-D1  
Description: DEFINE 4 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE  
DOWNLIGHT 795 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER  
UPLIGHT 470 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 4189.0 lumens  
Efficiency: N/A  
Efficacy: 111.1 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-Direct

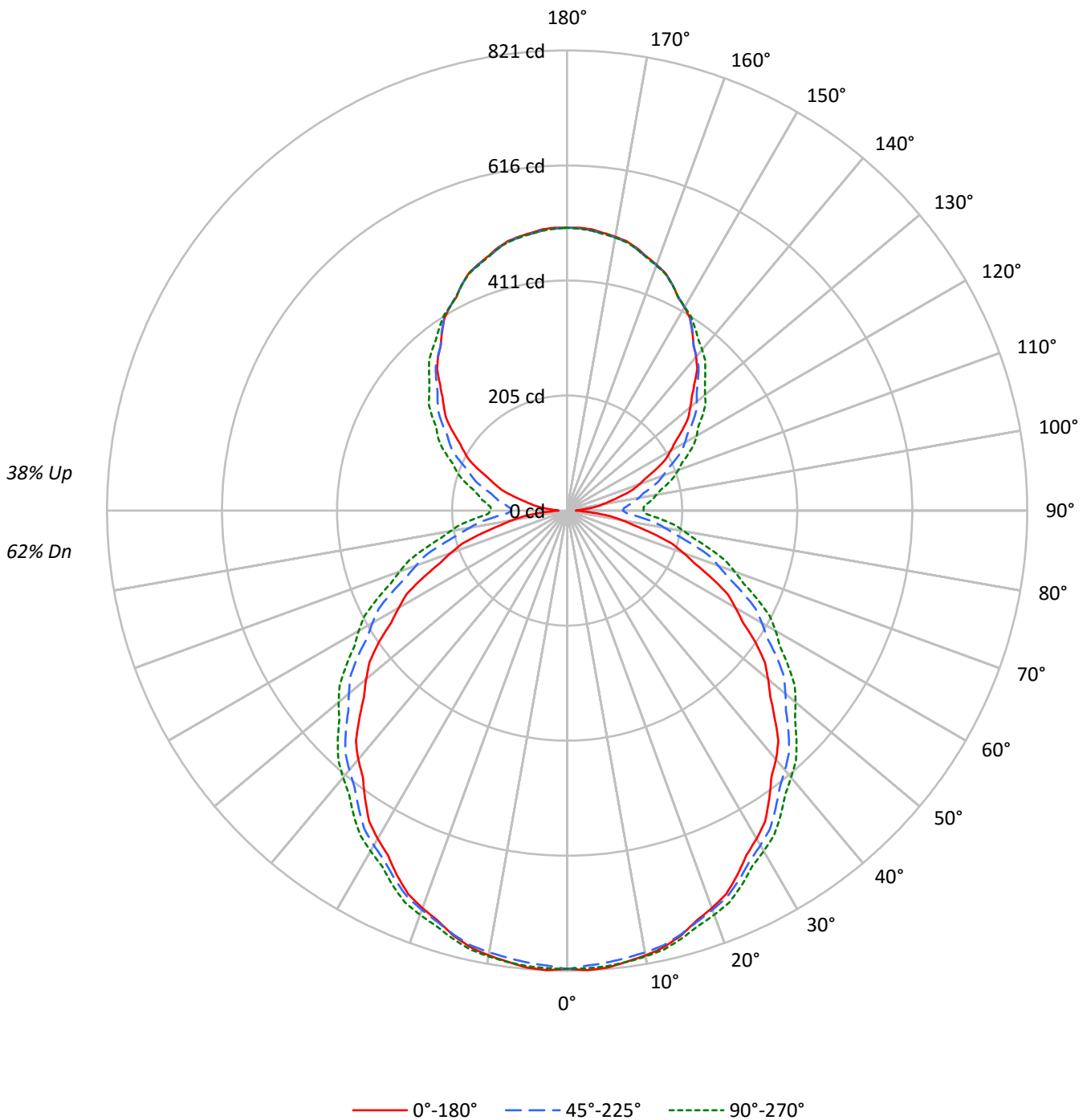
Input Watts (W): 37.7  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	110	110	110	110	103	103	103	103	90	90	90	78	78	78	67	67	67	62
1	99	94	90	86	92	88	84	81	77	74	71	67	64	62	57	55	54	49
2	90	82	75	69	84	76	70	65	67	62	58	58	54	51	49	47	44	40
3	82	71	63	57	76	67	60	54	58	53	48	51	46	43	43	40	37	33
4	74	63	54	48	69	59	51	45	52	46	41	45	40	36	39	35	32	28
5	68	56	47	41	63	52	45	39	46	40	35	40	35	31	35	31	27	24
6	63	50	41	35	58	47	39	34	41	35	30	36	31	27	31	27	24	21
7	58	45	37	31	54	42	35	29	38	31	27	33	28	24	28	24	21	19
8	54	41	33	27	50	39	31	26	34	28	24	30	25	21	26	22	19	17
9	50	37	30	24	47	35	28	23	31	25	21	28	23	19	24	20	17	15
10	47	34	27	22	44	32	25	21	29	23	19	26	21	17	22	18	15	13

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

	0°	45°	90°
0°	6603	6603	6603
5°	6622	6453	6471
10°	6582	6347	6342
15°	6524	6225	6190
20°	6435	6090	6044
25°	6334	5939	5882
30°	6226	5788	5714
35°	6103	5635	5569
40°	6004	5488	5417
45°	5858	5352	5286
50°	5735	5197	5149
55°	5608	5051	4987
60°	5409	4863	4840
65°	5191	4662	4657
70°	4927	4433	4447
75°	4561	4182	4255
80°	4149	3940	4067
85°	3636	3724	3960



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	77.4	1.8
10°-20°	221.9	5.3
20°-30°	335.5	8.0
30°-40°	405.9	9.7
40°-50°	429.2	10.2
50°-60°	403.9	9.6
60°-70°	335.1	8.0
70°-80°	235.4	5.6
80°-90°	134.6	3.2
90°-100°	112.3	2.7
100°-110°	157.1	3.7
110°-120°	206.6	4.9
120°-130°	242.7	5.8
130°-140°	257.3	6.1
140°-150°	245.4	5.9
150°-160°	204.8	4.9
160°-170°	136.2	3.3
170°-180°	47.7	1.1
0°-30°	634.9	15.2
0°-40°	1040.8	24.8
0°-60°	1873.9	44.7
0°-90°	2579.0	61.6
90°-120°	475.9	11.4
90°-150°	1221.3	29.2
90°-180°	1610.0	38.4
0°-180°	4189.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	818	818	818	818	818	
5°	819	816	810	816	816	78
15°	785	786	783	791	790	221
25°	718	723	726	736	737	331
35°	628	639	648	661	664	393
45°	524	541	559	574	579	405
55°	410	430	457	475	481	365
65°	284	313	344	366	374	281
75°	158	192	230	255	264	168
85°	49	87	128	155	165	52
90°	16	57	99	127	136	11
95°	35	69	109	134	143	36
105°	99	119	153	176	186	106
115°	176	185	212	231	238	174
125°	251	252	273	289	294	224
135°	321	324	330	343	348	249
145°	389	390	390	395	398	244
155°	445	445	444	446	444	205
165°	484	483	482	484	483	136
175°	504	502	501	504	501	48
180°	504	504	504	504	504	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	817.9	817.9	817.9	817.9	817.9	817.9	817.9	817.9	817.9	817.9	817.9
2.5°	820.8	820.3	819.8	819.3	818.8	817.9	816.6	815.3	814.0	812.7	813.8
5°	818.7	818.1	817.5	816.9	816.3	815.3	813.8	812.4	811.0	809.6	811.2
7.5°	811.8	811.4	811.1	810.7	810.3	809.5	808.4	807.2	806.0	804.9	806.7
10°	805.9	805.7	805.6	805.3	805.1	804.5	803.5	802.5	801.4	800.4	802.3
12.5°	797.9	797.8	797.8	797.7	797.7	797.4	796.7	795.9	795.2	794.5	796.3
15°	784.9	785.1	785.2	785.5	785.7	785.5	784.9	784.3	783.6	783.0	784.9
17.5°	767.1	767.7	768.3	769.0	769.6	769.7	769.6	769.6	769.4	769.3	771.2
20°	754.7	755.3	755.9	756.5	757.1	757.5	757.7	757.9	758.1	758.3	760.3
22.5°	740.7	741.5	742.3	743.0	743.8	744.4	744.8	745.1	745.5	745.9	747.9
25°	718.0	719.2	720.5	721.7	722.9	723.8	724.4	725.0	725.7	726.3	728.5
27.5°	692.8	694.5	696.3	698.1	699.9	701.3	702.2	703.1	704.0	705.0	707.1
30°	675.9	677.5	679.2	680.8	682.4	683.9	685.4	686.7	688.2	689.6	691.8
32.5°	657.5	659.5	661.5	663.4	665.4	667.1	668.7	670.3	671.9	673.5	676.1
35°	628.3	630.7	633.2	635.6	638.0	640.2	642.3	644.4	646.4	648.4	651.3
37.5°	598.7	601.6	604.4	607.2	610.0	612.7	615.2	617.7	620.3	622.8	625.7
40°	579.7	582.4	585.0	587.6	590.3	593.1	595.9	598.7	601.6	604.4	607.5
42.5°	557.8	560.7	563.7	566.6	569.6	572.7	576.1	579.5	582.8	586.1	589.5
45°	523.8	527.7	531.6	535.5	539.3	543.2	547.1	551.0	554.7	558.6	562.1
47.5°	491.5	495.4	499.4	503.4	507.4	511.6	516.1	520.6	525.0	529.5	533.1
50°	468.0	472.4	476.9	481.4	485.9	490.3	494.8	499.3	503.8	508.2	512.4
52.5°	444.5	449.0	453.5	458.0	462.4	467.3	472.3	477.5	482.7	487.8	491.8
55°	410.3	414.6	418.9	423.1	427.4	432.6	438.7	444.8	450.9	457.0	461.1
57.5°	372.0	377.3	382.6	387.9	393.1	398.8	404.9	411.0	417.1	423.1	427.9
60°	347.1	352.4	357.7	363.0	368.2	374.3	381.0	387.7	394.4	401.1	405.8
62.5°	322.9	328.7	334.5	340.3	346.0	352.3	359.0	365.8	372.5	379.2	383.8
65°	283.9	290.4	297.0	303.4	310.0	316.7	323.6	330.5	337.4	344.3	349.4
67.5°	246.3	253.3	260.2	267.1	274.1	281.2	288.6	296.0	303.4	310.8	316.0
70°	220.7	227.6	234.5	241.5	248.4	255.7	263.5	271.2	278.9	286.6	292.1
72.5°	195.8	202.9	210.0	217.1	224.1	231.8	240.0	248.2	256.5	264.7	270.0
75°	157.6	165.1	172.5	180.1	187.6	195.7	204.2	212.8	221.4	229.9	235.6
77.5°	121.8	129.8	137.8	145.8	153.7	162.2	171.2	180.1	189.1	198.0	203.8
80°	99.8	108.0	116.1	124.2	132.4	140.9	149.9	158.9	167.8	176.8	182.9
82.5°	77.8	86.3	94.8	103.2	111.7	120.5	129.4	138.4	147.3	156.3	162.5
85°	48.6	57.1	65.6	74.2	82.7	91.6	100.7	109.9	119.1	128.2	134.3
87.5°	27.4	35.8	44.3	52.9	61.3	70.1	79.1	88.2	97.3	106.3	112.3
90°	15.8	24.9	34.0	43.1	52.2	61.5	70.9	80.3	89.8	99.3	105.6
92.5°	22.3	30.7	39.1	47.5	56.0	64.7	74.0	83.3	92.5	101.7	107.8
95°	35.3	42.8	50.3	57.8	65.3	73.5	82.5	91.4	100.4	109.3	115.1
97.5°	51.7	58.1	64.5	70.9	77.3	85.0	93.9	103.0	111.9	120.9	126.6
100°	64.7	70.3	75.9	81.6	87.2	94.5	103.1	111.8	120.5	129.3	135.0
102.5°	79.0	83.9	88.6	93.4	98.2	104.8	113.3	121.7	130.3	138.7	144.3
105°	99.2	103.3	107.5	111.6	115.8	121.8	129.7	137.6	145.4	153.3	158.7
107.5°	122.0	125.4	128.9	132.3	135.8	141.0	148.3	155.4	162.6	169.8	175.0
110°	136.9	139.9	142.9	145.9	149.0	153.9	161.0	168.1	175.1	182.1	186.7



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	152.4	154.9	157.5	160.1	162.6	167.2	173.8	180.5	187.1	193.7	198.2
115°	175.6	177.5	179.3	181.1	183.0	187.0	193.4	199.7	206.0	212.4	216.8
117.5°	198.4	199.5	200.7	201.9	203.0	206.6	212.5	218.4	224.4	230.4	234.3
120°	212.9	213.9	214.8	215.8	216.7	220.1	225.7	231.4	236.9	242.6	246.2
122.5°	228.9	229.1	229.4	229.6	229.9	232.7	238.2	243.7	249.1	254.6	258.3
125°	251.4	251.2	251.0	250.8	250.6	253.0	258.0	263.0	268.0	273.0	276.7
127.5°	272.5	272.6	272.7	272.7	272.8	274.7	278.4	282.2	285.9	289.7	293.3
130°	286.8	286.8	286.9	287.0	287.0	288.7	291.9	295.2	298.4	301.7	305.1
132.5°	302.0	302.0	302.0	302.0	302.0	303.2	305.8	308.3	310.9	313.4	316.8
135°	321.3	321.9	322.4	323.0	323.5	324.4	325.9	327.3	328.7	330.1	333.2
137.5°	343.4	343.5	343.5	343.5	343.5	344.0	344.8	345.6	346.5	347.3	350.0
140°	358.0	358.0	358.0	357.9	357.9	358.0	358.2	358.4	358.6	358.9	361.4
142.5°	370.7	370.8	371.0	371.1	371.3	371.3	371.0	370.8	370.7	370.5	372.7
145°	389.1	389.3	389.4	389.5	389.7	389.8	389.9	389.9	390.0	390.1	391.3
147.5°	407.5	407.8	407.9	408.2	408.4	408.5	408.4	408.3	408.3	408.2	408.3
150°	418.8	418.9	419.0	419.2	419.3	419.4	419.4	419.4	419.4	419.4	419.4
152.5°	428.7	428.8	429.0	429.1	429.3	429.5	429.5	429.6	429.6	429.7	429.9
155°	444.8	444.8	444.8	444.8	444.8	444.7	444.6	444.5	444.4	444.4	444.7
157.5°	458.5	458.3	458.2	458.1	457.9	457.8	457.8	457.8	457.7	457.7	458.0
160°	466.7	466.6	466.5	466.4	466.3	466.2	466.1	466.1	466.0	465.9	466.1
162.5°	474.2	473.9	473.6	473.5	473.2	473.0	472.9	472.9	472.8	472.7	473.2
165°	484.1	483.9	483.6	483.4	483.1	482.9	482.8	482.6	482.4	482.2	482.8
167.5°	491.9	491.5	491.2	490.9	490.4	490.3	490.3	490.3	490.3	490.3	490.9
170°	496.3	495.8	495.4	495.0	494.6	494.4	494.5	494.6	494.6	494.7	495.2
172.5°	499.4	499.0	498.7	498.3	497.9	497.7	497.7	497.8	497.8	497.8	498.4
175°	503.7	503.3	502.8	502.4	502.0	501.7	501.6	501.5	501.4	501.4	502.0
177.5°	505.1	504.7	504.4	504.0	503.7	503.5	503.5	503.5	503.5	503.5	504.0
180°	504.5	504.5	504.5	504.5	504.5	504.5	504.5	504.5	504.5	504.5	504.5



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	817.9	817.9	817.9	817.9	817.9	817.9	817.9	817.9
2.5°	814.9	816.1	817.3	817.8	817.6	817.4	817.3	817.1
5°	812.9	814.5	816.1	816.8	816.6	816.4	816.2	816.0
7.5°	808.5	810.3	812.2	813.0	812.8	812.5	812.4	812.2
10°	804.1	805.9	807.8	808.6	808.4	808.1	808.0	807.8
12.5°	797.9	799.6	801.2	802.0	802.0	801.9	801.9	801.8
15°	786.7	788.5	790.3	791.2	791.0	790.7	790.6	790.3
17.5°	773.0	774.9	776.8	777.7	777.5	777.3	777.1	777.0
20°	762.3	764.4	766.5	767.5	767.5	767.5	767.5	767.5
22.5°	749.9	751.9	754.0	755.2	755.5	755.8	756.1	756.5
25°	730.7	733.0	735.2	736.4	736.6	736.8	737.0	737.3
27.5°	709.1	711.2	713.3	714.5	714.7	715.0	715.2	715.4
30°	694.1	696.3	698.5	699.9	700.3	700.7	701.1	701.5
32.5°	678.6	681.2	683.7	685.3	685.6	686.0	686.5	686.9
35°	654.1	656.9	659.8	661.5	662.1	662.7	663.4	664.0
37.5°	628.5	631.5	634.3	636.1	636.7	637.4	638.0	638.7
40°	610.5	613.6	616.6	618.5	619.4	620.2	621.0	621.8
42.5°	592.9	596.2	599.6	601.7	602.3	603.0	603.6	604.2
45°	565.6	569.0	572.5	574.7	575.8	576.8	577.8	578.8
47.5°	536.7	540.3	543.9	546.2	547.5	548.7	549.9	551.1
50°	516.4	520.5	524.5	527.2	528.4	529.7	530.9	532.1
52.5°	495.9	500.0	504.0	506.7	507.9	509.1	510.3	511.6
55°	465.1	469.2	473.3	476.0	477.2	478.4	479.6	480.8
57.5°	432.8	437.6	442.5	445.5	446.6	447.7	448.9	450.0
60°	410.5	415.2	419.8	423.0	424.6	426.3	427.9	429.6
62.5°	388.5	393.2	397.9	401.1	402.7	404.3	405.9	407.5
65°	354.6	359.6	364.7	368.1	369.7	371.3	372.9	374.5
67.5°	321.2	326.3	331.5	334.8	336.5	338.0	339.7	341.2
70°	297.6	303.2	308.7	312.1	313.5	315.0	316.3	317.8
72.5°	275.3	280.7	286.0	289.5	291.0	292.7	294.2	295.8
75°	241.3	246.9	252.7	256.4	258.3	260.1	261.9	263.7
77.5°	209.6	215.3	221.1	225.0	227.0	228.9	230.8	232.8
80°	189.0	195.1	201.2	205.0	206.6	208.3	209.9	211.5
82.5°	168.8	175.0	181.3	185.4	187.1	188.9	190.7	192.5
85°	140.4	146.5	152.7	156.7	158.8	160.7	162.8	164.9
87.5°	118.3	124.3	130.4	134.2	136.0	137.9	139.7	141.5
90°	112.1	118.5	124.9	129.1	130.9	132.7	134.5	136.3
92.5°	113.8	119.9	126.0	129.8	131.6	133.3	135.0	136.7
95°	120.8	126.6	132.3	136.1	137.9	139.8	141.6	143.4
97.5°	132.2	137.8	143.4	147.1	149.0	150.7	152.4	154.2
100°	140.6	146.3	152.0	155.5	157.0	158.3	159.8	161.2
102.5°	149.9	155.5	161.0	164.6	166.3	168.0	169.6	171.3
105°	164.0	169.4	174.7	178.3	180.2	182.1	184.0	185.9
107.5°	180.3	185.5	190.8	194.1	195.5	197.0	198.5	199.9
110°	191.1	195.6	200.2	203.4	205.3	207.2	209.1	210.9





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CATALOG NUMBER: S124DIW-S795D470U935-4F0-1E-UDD-D1

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	202.7	207.2	211.7	214.7	216.5	218.1	219.8	221.4
115°	221.2	225.6	230.0	232.8	234.1	235.5	236.8	238.2
117.5°	238.2	242.2	246.1	248.8	250.3	251.8	253.1	254.6
120°	249.9	253.6	257.2	259.8	261.7	263.5	265.3	267.1
122.5°	262.1	265.9	269.7	272.2	273.3	274.4	275.6	276.7
125°	280.4	284.0	287.7	290.2	291.2	292.2	293.3	294.4
127.5°	296.7	300.2	303.7	306.1	307.3	308.6	309.8	311.1
130°	308.7	312.2	315.6	317.8	318.7	319.6	320.5	321.3
132.5°	320.1	323.4	326.7	328.9	330.0	331.1	332.2	333.3
135°	336.3	339.4	342.4	344.5	345.4	346.4	347.3	348.3
137.5°	352.8	355.5	358.3	360.2	361.3	362.3	363.4	364.5
140°	363.9	366.5	369.0	370.8	371.7	372.6	373.6	374.5
142.5°	375.1	377.4	379.7	381.3	382.1	382.9	383.7	384.6
145°	392.4	393.6	394.7	395.5	396.1	396.7	397.2	397.8
147.5°	408.4	408.5	408.5	408.9	409.4	410.0	410.6	411.1
150°	419.4	419.4	419.4	419.4	419.3	419.2	419.1	419.0
152.5°	430.2	430.3	430.6	430.5	430.3	430.1	429.9	429.6
155°	445.1	445.4	445.7	445.7	445.4	445.1	444.7	444.4
157.5°	458.2	458.5	458.7	458.7	458.5	458.1	457.9	457.5
160°	466.4	466.7	466.9	466.8	466.4	466.0	465.5	465.0
162.5°	473.6	474.2	474.6	474.6	474.2	473.7	473.3	472.9
165°	483.3	483.8	484.3	484.4	484.1	483.7	483.4	483.0
167.5°	491.4	491.9	492.4	492.4	491.9	491.4	490.8	490.3
170°	495.8	496.3	496.8	496.7	496.1	495.5	494.9	494.3
172.5°	499.0	499.6	500.2	500.2	499.6	498.9	498.3	497.7
175°	502.6	503.2	503.8	503.8	503.2	502.6	502.0	501.4
177.5°	504.5	505.0	505.5	505.4	504.9	504.4	503.8	503.3
180°	504.5	504.5	504.5	504.5	504.5	504.5	504.5	504.5

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