

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: P332777-830

Luminaire Tested: **S124DIW-S795D470U830-4F0-1E-UDD-D**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P332777-830  
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-6,  
Test Lab: INNOVATION CENTER  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: NEO-RAY  
Catalog Number: S124DIW-S795D470U830-4F0-1E-UDD-D  
Description: DEFINE 4 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE  
DOWNLIGHT 795 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER  
UPLIGHT 470 LUMENS PER FOOT, NO LENS  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 4820.2 lumens  
Efficiency: N/A  
Efficacy: 127.9 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: General Diffuse

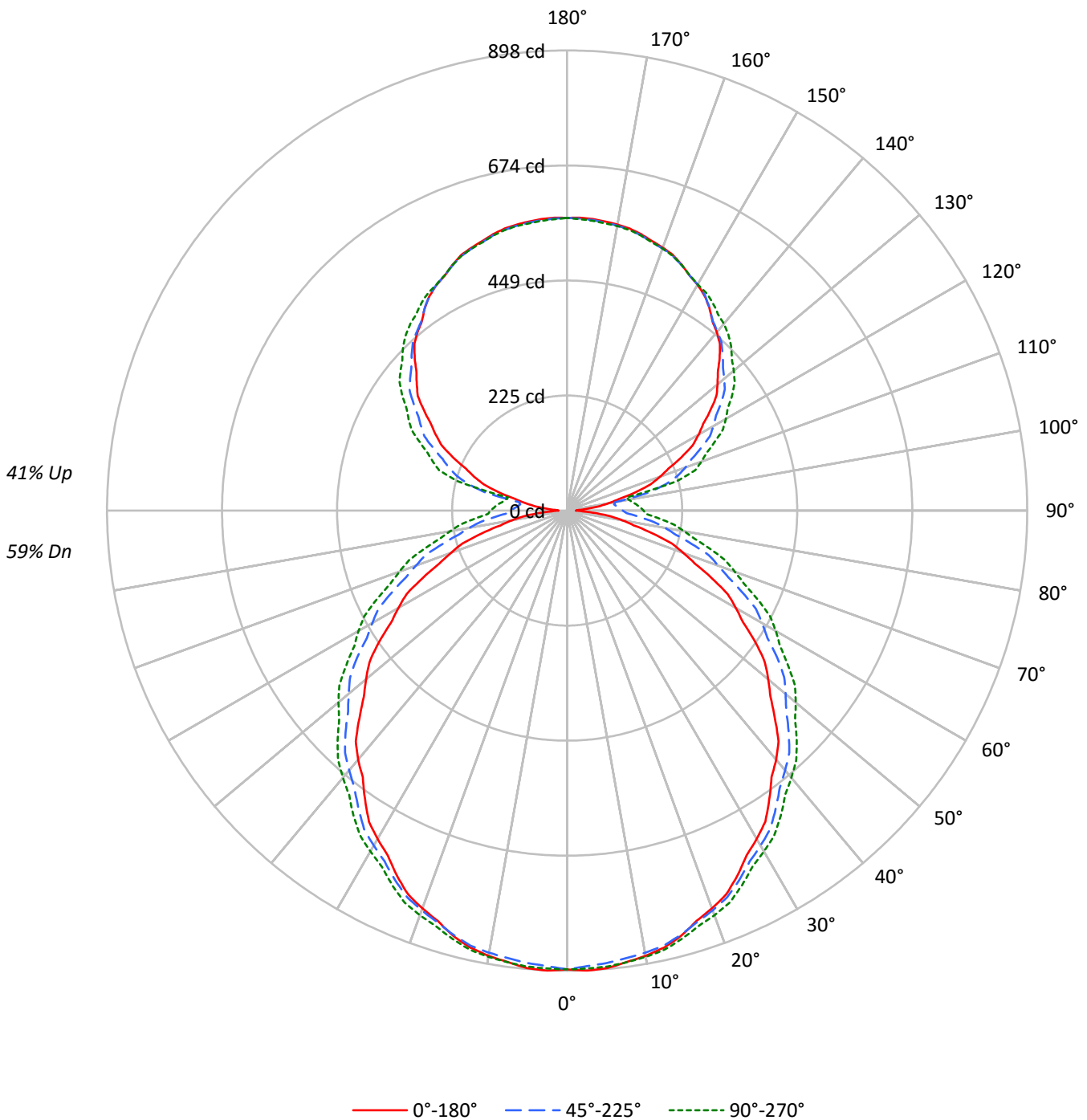
Input Watts (W): 37.7  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	0
RCR																		
0	109	109	109	109	102	102	102	102	88	88	88	76	76	76	64	64	64	59
1	99	94	89	85	92	87	83	80	76	73	70	65	63	61	55	53	52	47
2	89	81	74	69	83	76	70	65	65	61	57	56	53	50	47	45	43	38
3	81	71	63	57	75	66	59	53	57	52	47	49	45	41	42	38	36	32
4	74	62	54	48	69	58	51	45	51	45	40	44	39	35	37	33	30	27
5	68	56	47	41	63	52	44	38	45	39	34	39	34	30	33	29	26	23
6	62	50	41	35	58	47	39	33	41	34	30	35	30	26	30	26	23	20
7	58	45	36	31	54	42	35	29	37	31	26	32	27	23	27	23	20	18
8	54	41	33	27	50	38	31	26	34	27	23	29	24	21	25	21	18	16
9	50	37	29	24	46	35	28	23	31	25	21	27	22	18	23	19	16	14
10	47	34	27	22	43	32	25	21	28	23	19	25	20	17	21	18	15	13

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

	0°	45°	90°
0°	7228	7228	7228
5°	7250	7064	7083
10°	7205	6948	6943
15°	7141	6814	6777
20°	7044	6667	6616
25°	6934	6501	6439
30°	6815	6336	6256
35°	6681	6168	6097
40°	6573	6008	5930
45°	6413	5859	5787
50°	6278	5689	5636
55°	6138	5529	5459
60°	5920	5324	5298
65°	5683	5104	5098
70°	5394	4853	4868
75°	4992	4579	4659
80°	4540	4312	4453
85°	3980	4075	4334



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	84.8	1.8
10°-20°	242.9	5.0
20°-30°	367.3	7.6
30°-40°	444.4	9.2
40°-50°	469.8	9.7
50°-60°	442.2	9.2
60°-70°	366.8	7.6
70°-80°	257.7	5.3
80°-90°	147.3	3.1
90°-100°	106.0	2.2
100°-110°	188.6	3.9
110°-120°	281.2	5.8
120°-130°	326.7	6.8
130°-140°	334.1	6.9
140°-150°	304.7	6.3
150°-160°	244.0	5.1
160°-170°	157.4	3.3
170°-180°	54.2	1.1
0°-30°	695.0	14.4
0°-40°	1139.4	23.6
0°-60°	2051.4	42.6
0°-90°	2823.2	58.6
90°-120°	575.8	11.9
90°-150°	1541.3	32.0
90°-180°	1997.0	41.4
0°-180°	4820.2	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	895	895	895	895	895	
5°	896	893	886	894	893	85
15°	859	860	857	866	865	242
25°	786	792	795	806	807	362
35°	688	700	710	723	727	431
45°	573	593	612	628	634	443
55°	449	471	500	520	526	400
65°	311	343	377	401	410	308
75°	172	210	252	279	289	183
85°	53	95	140	169	180	57
90°	17	62	109	139	149	12
95°	37	56	97	125	136	41
105°	138	161	199	226	221	145
115°	246	258	288	310	318	243
125°	342	343	366	386	393	305
135°	421	421	429	445	453	324
145°	484	484	484	490	495	302
155°	529	530	528	530	529	244
165°	558	556	556	559	556	158
175°	571	569	569	572	568	54
180°	571	571	571	571	571	



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CATALOG NUMBER: S124DIW-S795D470U830-4F0-1E-UDD-D

**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	895.3	895.3	895.3	895.3	895.3	895.3	895.3	895.3	895.3	895.3	895.3
2.5°	898.5	898.0	897.4	896.9	896.4	895.4	893.9	892.5	891.1	889.7	890.9
5°	896.3	895.6	894.9	894.3	893.6	892.5	890.9	889.4	887.8	886.3	888.1
7.5°	888.6	888.3	887.9	887.5	887.0	886.2	885.0	883.6	882.3	881.1	883.1
10°	882.2	882.0	881.8	881.6	881.4	880.7	879.6	878.4	877.3	876.2	878.3
12.5°	873.5	873.4	873.4	873.3	873.3	872.9	872.1	871.3	870.5	869.8	871.7
15°	859.2	859.4	859.6	859.9	860.1	859.9	859.2	858.6	857.8	857.1	859.2
17.5°	839.7	840.4	841.0	841.8	842.4	842.6	842.5	842.4	842.3	842.2	844.2
20°	826.1	826.8	827.5	828.1	828.8	829.2	829.4	829.6	829.9	830.1	832.4
22.5°	810.9	811.7	812.6	813.4	814.3	814.9	815.3	815.7	816.1	816.5	818.7
25°	786.0	787.3	788.7	790.0	791.4	792.4	793.1	793.7	794.4	795.0	797.5
27.5°	758.4	760.3	762.2	764.2	766.2	767.7	768.7	769.7	770.7	771.8	774.0
30°	739.9	741.7	743.5	745.3	747.1	748.7	750.3	751.8	753.4	754.9	757.3
32.5°	719.8	722.0	724.2	726.2	728.4	730.3	732.1	733.8	735.6	737.3	740.1
35°	687.8	690.4	693.1	695.8	698.4	700.9	703.1	705.4	707.6	709.8	712.9
37.5°	655.4	658.6	661.7	664.7	667.8	670.7	673.4	676.2	679.0	681.7	684.9
40°	634.6	637.5	640.4	643.3	646.2	649.2	652.3	655.4	658.6	661.7	665.1
42.5°	610.6	613.8	617.1	620.3	623.6	627.0	630.7	634.3	638.0	641.6	645.4
45°	573.4	577.7	581.9	586.2	590.4	594.7	598.9	603.1	607.3	611.5	615.4
47.5°	538.0	542.3	546.7	551.1	555.4	560.1	565.0	569.9	574.8	579.7	583.6
50°	512.3	517.2	522.1	527.0	531.9	536.8	541.7	546.6	551.5	556.4	560.9
52.5°	486.6	491.5	496.4	501.3	506.2	511.5	517.1	522.7	528.4	534.0	538.4
55°	449.1	453.8	458.5	463.2	467.9	473.5	480.2	486.9	493.6	500.3	504.7
57.5°	407.3	413.0	418.9	424.6	430.4	436.6	443.3	449.9	456.6	463.2	468.4
60°	379.9	385.8	391.5	397.4	403.1	409.7	417.1	424.4	431.8	439.1	444.2
62.5°	353.5	359.9	366.2	372.5	378.8	385.7	393.0	400.4	407.7	415.1	420.2
65°	310.8	317.9	325.1	332.2	339.3	346.7	354.2	361.8	369.4	376.9	382.5
67.5°	269.7	277.3	284.8	292.4	300.0	307.8	315.9	324.0	332.2	340.3	345.9
70°	241.6	249.2	256.7	264.4	271.9	279.9	288.4	296.9	305.3	313.8	319.8
72.5°	214.3	222.1	229.9	237.6	245.3	253.7	262.8	271.7	280.8	289.7	295.6
75°	172.5	180.7	188.9	197.2	205.4	214.2	223.6	232.9	242.3	251.7	257.9
77.5°	133.4	142.0	150.8	159.6	168.2	177.6	187.4	197.2	207.0	216.8	223.1
80°	109.2	118.2	127.1	136.0	145.0	154.3	164.1	173.9	183.7	193.5	200.2
82.5°	85.2	94.4	103.8	113.0	122.2	131.9	141.7	151.5	161.3	171.1	177.9
85°	53.2	62.5	71.8	81.2	90.6	100.3	110.3	120.3	130.4	140.3	147.0
87.5°	30.0	39.2	48.5	57.9	67.1	76.7	86.6	96.5	106.5	116.4	122.9
90°	17.3	27.2	37.2	47.2	57.1	67.3	77.7	87.9	98.3	108.7	115.6
92.5°	20.6	28.7	36.8	44.9	53.0	62.1	72.5	82.8	93.1	103.5	110.4
95°	36.6	40.6	44.8	48.9	53.1	59.7	68.9	78.1	87.4	96.6	103.2
97.5°	61.7	70.0	78.4	86.7	95.1	98.5	96.9	95.4	93.9	92.3	98.2
100°	81.1	88.6	96.0	103.6	111.1	112.6	108.2	103.8	99.4	95.0	99.3
102.5°	103.7	110.0	116.3	122.6	128.9	135.5	142.3	149.1	155.9	162.8	151.2
105°	137.6	142.6	147.7	152.7	157.7	164.6	173.3	182.0	190.8	199.4	205.9
107.5°	170.8	174.7	178.7	182.7	186.5	192.7	201.2	209.6	218.1	226.5	232.4
110°	192.6	196.0	199.3	202.7	206.1	212.1	220.5	228.8	237.1	245.5	250.8



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	213.6	216.9	220.2	223.5	226.7	232.2	239.9	247.6	255.3	263.1	268.0
115°	246.1	248.4	250.6	253.0	255.2	259.9	266.9	274.0	281.0	288.0	293.1
117.5°	276.2	277.8	279.4	281.0	282.6	286.7	293.6	300.5	307.3	314.1	318.8
120°	295.9	297.0	298.0	299.1	300.1	303.8	310.2	316.5	322.9	329.2	333.9
122.5°	315.1	315.4	315.8	316.1	316.5	319.8	326.0	332.2	338.5	344.8	349.3
125°	341.5	341.7	341.8	342.0	342.0	344.9	350.2	355.6	361.0	366.4	370.9
127.5°	367.2	367.1	367.0	366.8	366.7	369.0	373.7	378.4	383.1	387.9	391.8
130°	383.1	383.0	383.0	382.8	382.7	384.6	388.4	392.2	396.1	399.9	404.1
132.5°	398.6	398.5	398.4	398.4	398.3	399.9	403.1	406.3	409.5	412.7	416.7
135°	420.7	420.6	420.5	420.4	420.3	421.1	423.1	425.1	427.0	429.0	432.7
137.5°	441.0	440.8	440.6	440.5	440.3	440.8	442.0	443.2	444.3	445.5	448.9
140°	454.4	454.3	454.3	454.3	454.2	454.4	454.9	455.2	455.6	456.1	459.3
142.5°	465.5	465.8	466.1	466.5	466.7	466.8	466.8	466.8	466.8	466.7	469.5
145°	483.7	483.7	483.8	483.9	483.9	484.0	484.0	484.0	484.0	484.0	485.4
147.5°	498.3	498.6	498.9	499.3	499.5	499.6	499.5	499.5	499.4	499.3	499.5
150°	508.9	509.1	509.3	509.3	509.5	509.5	509.4	509.3	509.3	509.2	509.2
152.5°	517.0	517.3	517.5	517.7	518.0	518.0	517.9	517.7	517.6	517.4	517.6
155°	529.2	529.3	529.4	529.5	529.6	529.5	529.2	529.0	528.7	528.4	528.8
157.5°	539.8	539.7	539.6	539.6	539.5	539.3	539.0	538.7	538.4	538.1	538.6
160°	545.9	545.6	545.4	545.1	544.8	544.6	544.5	544.4	544.3	544.2	544.8
162.5°	551.4	551.0	550.6	550.3	550.0	549.7	549.6	549.5	549.4	549.3	549.9
165°	558.3	557.8	557.3	556.9	556.4	556.2	556.2	556.2	556.2	556.2	556.9
167.5°	563.7	563.3	562.8	562.3	561.8	561.5	561.5	561.4	561.4	561.3	562.1
170°	566.8	566.3	565.7	565.1	564.6	564.3	564.4	564.5	564.6	564.7	565.4
172.5°	568.9	568.4	567.8	567.2	566.7	566.4	566.5	566.6	566.7	566.8	567.5
175°	571.1	570.5	570.0	569.4	568.8	568.6	568.7	568.8	568.9	569.0	569.9
177.5°	572.1	571.7	571.1	570.5	570.0	569.9	570.0	570.1	570.2	570.4	571.0
180°	571.1	571.1	571.1	571.1	571.1	571.1	571.1	571.1	571.1	571.1	571.1



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	895.3	895.3	895.3	895.3	895.3	895.3	895.3	895.3
2.5°	892.1	893.4	894.7	895.2	895.0	894.8	894.7	894.5
5°	889.9	891.6	893.3	894.2	893.9	893.7	893.5	893.2
7.5°	885.0	887.0	889.1	889.9	889.8	889.5	889.3	889.1
10°	880.2	882.2	884.3	885.1	885.0	884.7	884.5	884.3
12.5°	873.5	875.3	877.1	878.0	878.0	877.9	877.9	877.8
15°	861.2	863.2	865.2	866.1	865.9	865.6	865.4	865.2
17.5°	846.2	848.3	850.4	851.3	851.1	850.9	850.7	850.6
20°	834.5	836.8	839.1	840.2	840.2	840.2	840.2	840.2
22.5°	821.0	823.1	825.4	826.7	827.1	827.4	827.7	828.1
25°	799.9	802.4	804.8	806.2	806.3	806.6	806.8	807.1
27.5°	776.3	778.5	780.9	782.1	782.4	782.7	783.0	783.2
30°	759.8	762.2	764.7	766.2	766.7	767.0	767.5	768.0
32.5°	742.9	745.7	748.5	750.2	750.5	751.0	751.5	752.0
35°	716.0	719.2	722.3	724.2	724.8	725.5	726.2	726.9
37.5°	688.1	691.3	694.4	696.4	697.0	697.8	698.4	699.2
40°	668.4	671.8	675.0	677.1	678.1	678.9	679.9	680.7
42.5°	649.0	652.7	656.4	658.6	659.3	660.1	660.8	661.5
45°	619.2	622.9	626.7	629.1	630.3	631.4	632.5	633.6
47.5°	587.5	591.4	595.4	597.9	599.4	600.7	602.0	603.3
50°	565.3	569.8	574.2	577.1	578.4	579.9	581.2	582.5
52.5°	542.9	547.3	551.8	554.7	556.0	557.3	558.6	560.1
55°	509.2	513.7	518.1	521.0	522.4	523.7	525.0	526.3
57.5°	473.8	479.1	484.4	487.7	488.9	490.1	491.4	492.7
60°	449.4	454.5	459.6	463.1	464.9	466.7	468.4	470.2
62.5°	425.3	430.5	435.5	439.0	440.8	442.6	444.3	446.1
65°	388.1	393.7	399.3	402.9	404.7	406.5	408.2	410.0
67.5°	351.6	357.2	362.9	366.6	368.3	370.0	371.8	373.5
70°	325.8	331.9	337.9	341.7	343.2	344.8	346.3	347.9
72.5°	301.4	307.3	313.1	316.9	318.6	320.4	322.1	323.9
75°	264.1	270.3	276.6	280.7	282.8	284.7	286.7	288.7
77.5°	229.4	235.7	242.0	246.3	248.5	250.5	252.7	254.9
80°	206.9	213.6	220.3	224.4	226.2	228.0	229.8	231.6
82.5°	184.7	191.6	198.5	202.9	204.8	206.8	208.8	210.8
85°	153.7	160.4	167.1	171.5	173.8	176.0	178.2	180.5
87.5°	129.5	136.1	142.7	146.9	148.9	151.0	153.0	155.0
90°	122.7	129.8	136.8	141.3	143.3	145.2	147.2	149.2
92.5°	117.2	124.0	130.9	135.3	137.0	138.8	140.7	142.5
95°	109.8	116.4	123.0	127.3	129.4	131.5	133.6	135.7
97.5°	104.1	110.0	115.8	119.8	121.8	123.9	125.8	127.8
100°	103.8	108.2	112.6	115.6	117.3	118.9	120.6	122.2
102.5°	139.6	128.0	116.5	111.5	113.3	115.1	116.8	118.6
105°	212.3	218.7	225.2	227.5	225.9	224.2	222.6	221.0
107.5°	238.3	244.2	250.2	254.0	256.0	258.0	260.0	261.9
110°	256.2	261.5	266.7	270.5	272.6	274.6	276.6	278.7





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CATALOG NUMBER: S124DIW-S795D470U830-4F0-1E-UDD-D

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	272.9	277.8	282.7	286.2	288.3	290.5	292.7	294.7
115°	298.2	303.3	308.4	311.7	313.3	314.8	316.4	318.0
117.5°	323.3	327.9	332.5	335.7	337.4	339.2	340.9	342.7
120°	338.6	343.2	347.9	351.0	352.6	354.1	355.7	357.3
122.5°	353.9	358.4	363.0	366.0	367.4	368.8	370.2	371.6
125°	375.4	379.9	384.5	387.4	388.9	390.3	391.7	393.1
127.5°	395.8	399.7	403.7	406.4	407.8	409.3	410.7	412.2
130°	408.1	412.3	416.3	419.1	420.4	421.8	423.1	424.4
132.5°	420.7	424.5	428.5	431.1	432.3	433.6	434.9	436.1
135°	436.4	440.2	443.9	446.6	448.1	449.6	451.2	452.7
137.5°	452.4	455.9	459.3	461.6	462.7	463.7	464.8	465.8
140°	462.4	465.6	468.8	471.0	472.2	473.4	474.7	475.8
142.5°	472.3	475.0	477.8	479.7	480.6	481.5	482.5	483.4
145°	486.8	488.2	489.7	491.0	492.0	493.1	494.2	495.3
147.5°	499.7	500.0	500.3	500.8	501.6	502.5	503.2	504.1
150°	509.2	509.2	509.2	509.3	509.3	509.4	509.5	509.6
152.5°	517.6	517.8	518.0	518.0	518.0	517.9	517.8	517.8
155°	529.1	529.5	529.9	530.0	529.7	529.4	529.1	528.9
157.5°	539.0	539.5	540.0	540.0	539.5	539.0	538.6	538.1
160°	545.4	545.9	546.5	546.5	545.9	545.4	544.8	544.2
162.5°	550.4	551.0	551.6	551.6	550.9	550.3	549.6	549.0
165°	557.7	558.5	559.2	559.1	558.3	557.4	556.6	555.7
167.5°	563.0	563.8	564.7	564.6	563.6	562.7	561.8	560.8
170°	566.2	566.9	567.8	567.7	566.7	565.7	564.8	563.8
172.5°	568.3	569.0	569.8	569.7	568.6	567.6	566.6	565.5
175°	570.7	571.6	572.4	572.2	571.1	570.0	568.8	567.7
177.5°	571.7	572.2	572.9	572.7	571.8	570.9	570.0	569.1
180°	571.1	571.1	571.1	571.1	571.1	571.1	571.1	571.1

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