

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: P332783-830

Luminaire Tested: **S124DIW-S795D770U830-4F0-1E-UDD-D**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P332783-830  
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-S795D770U830-4F0-1E-UDD-D  
Description: DEFINE 4 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE  
DOWNLIGHT 795 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER  
UPLIGHT 770 LUMENS PER FOOT, NO LENS  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 5948.1 lumens  
Efficiency: N/A  
Efficacy: 132.2 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

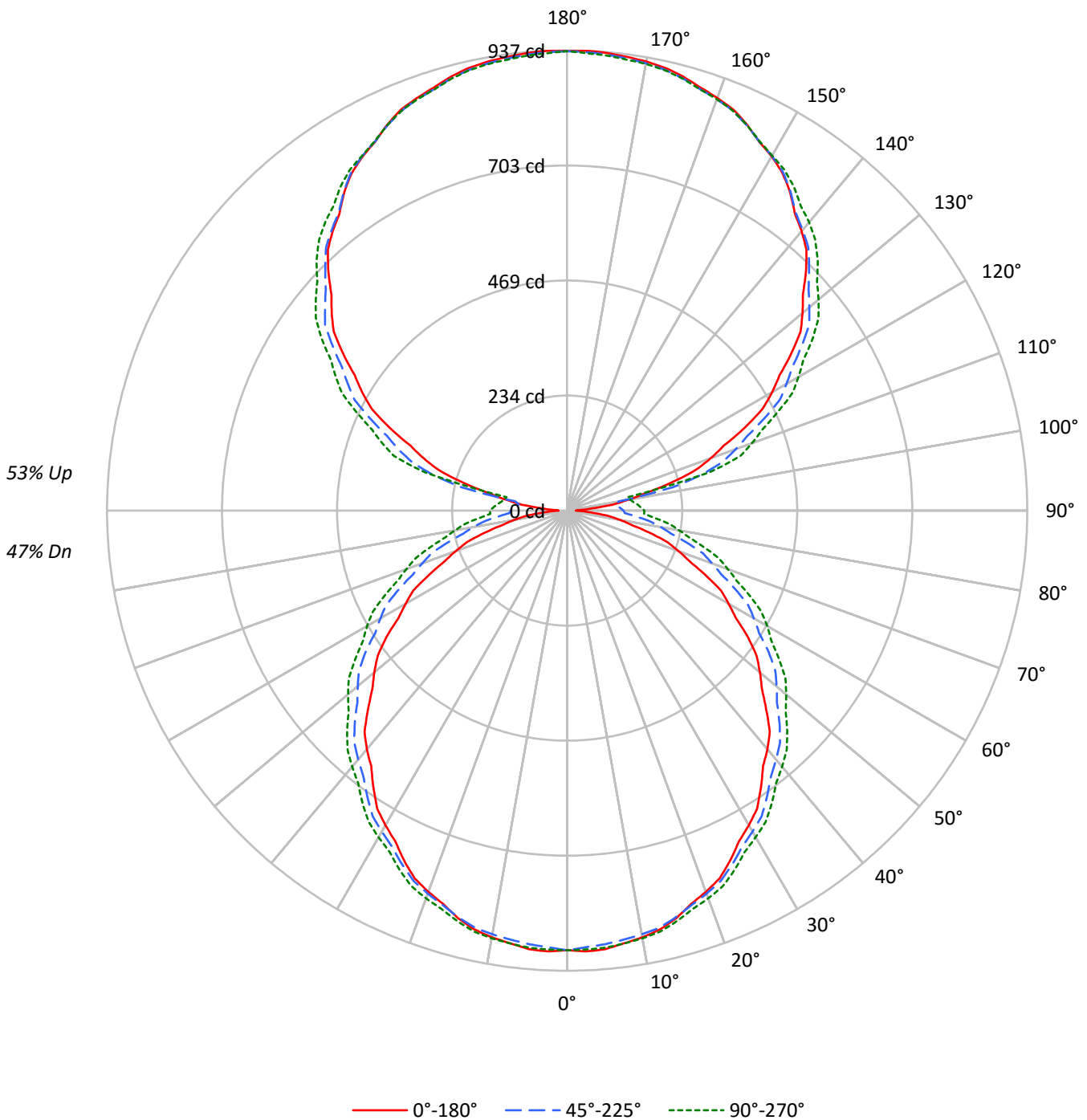
Input Watts (W): 45  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	50	30	10	0	
RCR																						
0	107	107	107	107	98	98	98	98	82	82	82	67	67	67	54	54	54	47				47
1	96	92	87	83	88	84	81	77	70	68	65	58	56	54	46	45	44	38				38
2	87	79	73	67	80	73	67	63	61	57	53	50	47	44	40	38	36	31				31
3	79	69	62	56	72	64	57	52	54	48	44	44	40	37	35	32	30	26				26
4	72	61	53	47	66	56	49	44	47	42	37	39	35	31	31	28	26	22				22
5	66	54	46	40	61	50	43	37	42	36	32	35	30	27	28	25	22	19				19
6	61	49	40	34	56	45	37	32	38	32	28	31	27	24	25	22	19	16				16
7	56	44	36	30	52	40	33	28	34	29	24	28	24	21	23	20	17	14				14
8	52	40	32	26	48	37	30	25	31	26	22	26	22	18	21	18	15	13				13
9	49	36	29	23	44	34	27	22	29	23	19	24	20	16	19	16	14	11				11
10	45	33	26	21	42	31	24	20	26	21	17	22	18	15	18	15	12	10				10

**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	1.4
10°-20°	242.9	4.1
20°-30°	367.3	6.2
30°-40°	444.4	7.5
40°-50°	469.8	7.9
50°-60°	442.2	7.4
60°-70°	366.8	6.2
70°-80°	257.7	4.3
80°-90°	148.4	2.5
90°-100°	118.5	2.0
100°-110°	268.0	4.5
110°-120°	433.2	7.3
120°-130°	519.6	8.7
130°-140°	540.5	9.1
140°-150°	497.7	8.4
150°-160°	399.7	6.7
160°-170°	257.8	4.3
170°-180°	88.8	1.5
0°-30°	695.0	11.7
0°-40°	1139.4	19.2
0°-60°	2051.4	34.5
0°-90°	2824.3	47.5
90°-120°	819.7	13.8
90°-150°	2377.5	40.0
90°-180°	3124.0	52.5
0°-180°	5948.1	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°	18	66	115	147	157	12
95°	52	63	103	133	144	60
105°	220	245	284	313	299	230
115°	399	411	442	464	472	393
125°	557	560	582	603	610	497
135°	688	688	697	714	722	530
145°	792	793	793	799	805	495
155°	867	867	865	868	866	400
165°	914	911	911	916	910	258
175°	935	932	932	937	930	89
180°	935	935	935	935	935	



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**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°	30.1	39.5	48.9	58.4	67.9	77.6	87.6	97.6	107.5	117.5	124.2
90°	18.1	28.7	39.4	50.0	60.6	71.4	82.2	93.0	103.8	114.6	122.1
92.5°	24.0	32.1	40.2	48.4	56.6	66.0	76.8	87.7	98.5	109.2	116.5
95°	51.6	53.5	55.6	57.7	59.8	65.4	74.7	84.1	93.3	102.6	109.5
97.5°	93.6	103.2	112.8	122.4	132.1	132.7	124.4	116.1	107.8	99.4	105.4
100°	125.7	134.4	143.0	151.6	160.1	158.1	145.2	132.5	119.7	107.0	110.4
102.5°	162.7	169.8	177.0	184.1	191.2	197.7	203.4	209.1	214.8	220.5	197.8
105°	219.6	225.0	230.4	235.8	241.2	248.4	257.4	266.5	275.4	284.5	291.4
107.5°	274.1	278.2	282.4	286.4	290.6	297.1	305.9	314.8	323.7	332.5	338.7
110°	310.3	313.9	317.4	321.0	324.6	330.7	339.5	348.3	356.9	365.7	371.1



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	345.3	348.9	352.5	356.1	359.7	365.4	373.3	381.2	389.1	396.9	401.8
115°	399.2	401.7	404.2	406.6	409.1	413.8	420.8	427.7	434.7	441.7	447.0
117.5°	448.7	450.5	452.3	454.1	456.0	460.4	467.4	474.4	481.4	488.3	492.9
120°	481.5	482.8	484.1	485.3	486.6	490.4	496.7	503.0	509.3	515.7	520.4
122.5°	512.8	513.3	513.8	514.3	514.8	518.2	524.6	530.9	537.2	543.6	548.2
125°	556.8	557.1	557.5	557.9	558.4	561.2	566.4	571.7	576.9	582.2	586.9
127.5°	599.1	599.0	598.9	598.9	598.8	601.2	606.2	611.2	616.2	621.2	625.2
130°	625.7	625.7	625.6	625.5	625.4	627.4	631.4	635.5	639.5	643.6	647.7
132.5°	650.8	650.9	651.0	651.0	651.1	652.8	656.3	659.8	663.2	666.7	670.6
135°	687.7	687.5	687.3	687.2	687.0	688.1	690.2	692.4	694.6	696.7	700.7
137.5°	721.0	721.0	720.8	720.6	720.5	721.0	722.6	724.0	725.4	726.9	730.5
140°	742.9	743.0	743.1	743.2	743.3	743.6	744.1	744.6	745.2	745.7	749.0
142.5°	761.7	762.2	762.7	763.3	763.7	764.0	764.1	764.1	764.2	764.3	767.1
145°	791.5	791.8	792.1	792.3	792.6	792.7	792.7	792.7	792.7	792.7	794.2
147.5°	815.5	816.1	816.8	817.5	818.1	818.3	818.2	818.0	817.8	817.7	818.0
150°	832.8	833.3	833.7	834.1	834.4	834.6	834.4	834.2	834.2	834.0	834.0
152.5°	846.6	847.1	847.5	848.0	848.5	848.5	848.2	848.0	847.7	847.4	847.6
155°	866.9	867.0	867.1	867.3	867.5	867.3	866.9	866.4	865.9	865.4	866.1
157.5°	884.1	884.0	883.9	883.8	883.7	883.4	882.9	882.3	881.7	881.3	882.0
160°	894.1	893.6	893.2	892.8	892.3	891.9	891.8	891.6	891.5	891.4	892.3
162.5°	903.1	902.5	901.9	901.4	900.7	900.3	900.2	900.0	899.8	899.8	900.7
165°	914.5	913.6	912.9	912.1	911.3	911.0	911.0	911.0	911.0	911.0	912.2
167.5°	923.4	922.6	921.8	921.0	920.1	919.7	919.6	919.5	919.5	919.4	920.7
170°	928.4	927.5	926.5	925.6	924.7	924.3	924.4	924.6	924.7	924.9	926.1
172.5°	931.8	930.9	929.9	929.0	928.0	927.7	927.8	927.9	928.1	928.3	929.5
175°	935.4	934.4	933.6	932.6	931.7	931.3	931.4	931.6	931.8	931.9	933.3
177.5°	937.1	936.2	935.4	934.4	933.6	933.3	933.6	933.8	934.1	934.2	935.3
180°	935.4	935.4	935.4	935.4	935.4	935.4	935.4	935.4	935.4	935.4	935.4



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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°	130.8	137.5	144.1	148.5	150.5	152.5	154.6	156.6
90°	129.4	136.9	144.2	148.9	151.1	153.2	155.2	157.3
92.5°	123.7	130.9	138.2	142.7	144.5	146.4	148.2	150.1
95°	116.5	123.5	130.4	135.0	137.1	139.3	141.5	143.6
97.5°	111.3	117.3	123.2	127.2	129.3	131.3	133.4	135.4
100°	113.8	117.1	120.5	123.0	124.7	126.4	128.2	129.9
102.5°	175.1	152.5	129.8	119.3	121.1	122.9	124.7	126.4
105°	298.4	305.4	312.4	313.9	310.1	306.2	302.5	298.7
107.5°	344.9	351.0	357.1	361.4	363.5	365.7	368.0	370.1
110°	376.5	382.0	387.4	391.2	393.5	395.8	398.0	400.3





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CATALOG NUMBER: S124DIW-S795D770U830-4F0-1E-UDD-D

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	406.7	411.6	416.5	420.1	422.4	424.8	427.3	429.6
115°	452.1	457.3	462.6	466.0	467.5	469.1	470.6	472.2
117.5°	497.5	502.0	506.6	509.7	511.4	513.2	514.9	516.6
120°	525.2	530.0	534.7	537.8	539.3	540.7	542.2	543.8
122.5°	552.8	557.4	562.1	565.1	566.4	567.7	568.9	570.2
125°	591.5	596.3	601.0	604.1	605.6	607.1	608.6	610.0
127.5°	629.1	633.0	636.9	639.5	640.9	642.3	643.8	645.1
130°	651.9	656.0	660.2	662.9	664.3	665.6	666.9	668.3
132.5°	674.6	678.5	682.6	685.1	686.4	687.6	688.8	690.0
135°	704.6	708.4	712.3	715.0	716.7	718.3	720.0	721.6
137.5°	734.1	737.6	741.2	743.6	744.6	745.6	746.6	747.6
140°	752.4	755.8	759.1	761.5	762.8	764.0	765.3	766.6
142.5°	770.1	772.9	775.8	777.7	778.7	779.7	780.6	781.6
145°	795.7	797.2	798.6	800.0	801.2	802.4	803.6	804.8
147.5°	818.3	818.6	819.0	819.5	820.4	821.2	822.2	823.0
150°	834.0	834.0	834.0	834.1	834.2	834.3	834.5	834.6
152.5°	847.9	848.1	848.4	848.5	848.4	848.3	848.2	848.1
155°	866.7	867.3	867.9	868.0	867.5	867.0	866.6	866.2
157.5°	882.9	883.7	884.5	884.5	883.7	882.9	882.0	881.3
160°	893.2	894.1	895.0	895.0	894.1	893.2	892.3	891.4
162.5°	901.6	902.5	903.4	903.4	902.4	901.3	900.2	899.2
165°	913.4	914.6	915.9	915.9	914.5	913.0	911.6	910.2
167.5°	922.1	923.4	924.8	924.7	923.1	921.6	920.0	918.5
170°	927.4	928.7	929.9	929.7	928.2	926.6	925.1	923.5
172.5°	930.8	932.0	933.2	933.0	931.3	929.7	928.0	926.3
175°	934.7	936.1	937.5	937.3	935.4	933.6	931.7	929.8
177.5°	936.3	937.3	938.3	938.0	936.5	935.0	933.6	932.1
180°	935.4	935.4	935.4	935.4	935.4	935.4	935.4	935.4

(END OF REPORT)