

Scaled data based on original data using
LM-66-11 Electrical and Photometric Measurements of Single-Ended Compact
Fluorescent Lamps

Test Report Prepared for
Cooper Lighting Solutions
(formerly Eaton)

Brand: SHAPER

Report Number: 253p307

Luminaire Tested: **307-24-CFL/4/18-120V-24**

Issue Date: 3/3/2020

Test Information

Test Method: LM-66-11
Report Number: 253p307
Test Lab: METALUX LABORATORIES
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: SHAPER
Catalog Number: 307-24-CFL/4/18-120V-24
Description: SHAPER CLASSIC 307 24" GLASS PENDANT WITH FOUR 18W COMPACT
FLUORESCENT LAMPS
Light Source: FOUR - CF18TTT/841 - 1200 LUMENS - 18 WATTS
Ballast/Driver: (2) C2642UNVSE
PRORATED FROM 253P307

Summary

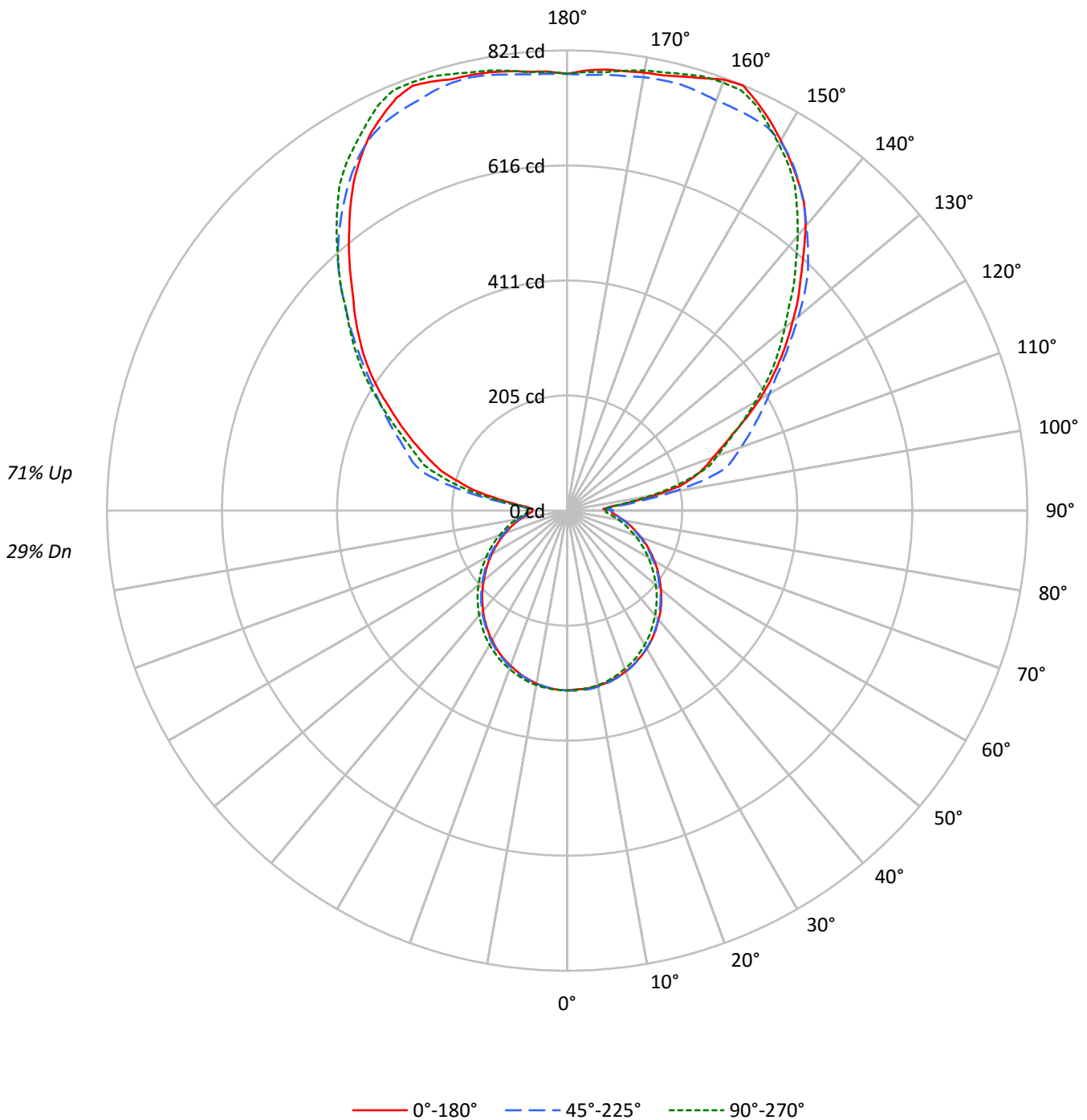
Lumens per Lamp: 1200 (4 lamps)
Luminaire Lumens: 3763.2 lumens
Efficiency: 78.4%
Efficacy: 51.6 lumens/watt
Spacing Criteria (0/90/45): 1.28 / 1.28 / 1.41
Luminous Opening: Vertical Cylinder (Dia: 2' x H: 0.58')
CIE Type: Semi-Indirect

Input Watts (W): 73
Input Voltage (V): NR
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	80	80	80	80	72	72	72	72	56	56	56	42	42	42	29	29	29	23
1	72	69	65	63	65	62	59	56	48	46	45	36	35	33	25	24	23	18
2	66	60	55	50	58	53	49	46	42	39	36	31	29	27	21	20	19	14
3	60	52	46	42	53	47	42	38	37	33	30	27	25	23	19	17	16	12
4	54	46	40	35	48	41	36	32	32	28	25	24	21	19	16	15	13	10
5	50	41	34	30	44	37	31	27	29	25	22	21	19	17	15	13	12	9
6	46	36	30	25	41	33	27	23	26	22	19	19	16	14	13	11	10	7
7	42	33	26	22	37	29	24	20	23	19	16	17	15	13	12	10	9	7
8	39	29	23	19	35	27	21	18	21	17	14	16	13	11	11	9	8	6
9	36	27	21	17	32	24	19	16	19	15	13	15	12	10	10	8	7	5
10	34	24	19	15	30	22	17	14	18	14	11	13	11	9	9	8	6	5

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	1099	1099	1099
5°	1065	1065	1062
10°	1037	1032	1024
15°	1007	998	986
20°	981	966	947
25°	952	935	911
30°	926	901	871
35°	896	867	834
40°	866	832	795
45°	838	798	758
50°	807	763	718
55°	777	730	683
60°	749	696	648
65°	723	665	614
70°	698	635	581
75°	673	610	558
80°	659	588	532
85°	648	573	522



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ZONAL LUMENS:

Zone	Lumens	% Fixture	% Lamp
0°-10°	30.4	0.8	0.6
10°-20°	87.5	2.3	1.8
20°-30°	133.7	3.6	2.8
30°-40°	163.5	4.3	3.4
40°-50°	174.4	4.6	3.6
50°-60°	167.5	4.5	3.5
60°-70°	146.9	3.9	3.1
70°-80°	117.6	3.1	2.5
80°-90°	86.9	2.3	1.8
90°-100°	103.9	2.8	2.2
100°-110°	256.8	6.8	5.4
110°-120°	342.5	9.1	7.1
120°-130°	408.6	10.9	8.5
130°-140°	446.5	11.9	9.3
140°-150°	436.0	11.6	9.1
150°-160°	359.8	9.6	7.5
160°-170°	225.5	6.0	4.7
170°-180°	75.1	2.0	1.6
0°-30°	251.7	6.7	5.2
0°-40°	415.2	11.0	8.6
0°-60°	757.1	20.1	15.8
0°-90°	1108.6	29.5	23.1
90°-120°	703.2	18.7	14.7
90°-150°	1994.4	53.0	41.5
90°-180°	2655.0	70.6	55.3
0°-180°	3763.2	100.0	78.4

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	321	321	321	321	321	
5°	320	322	320	319	319	30
15°	312	314	310	306	306	88
25°	296	296	290	284	283	136
35°	270	269	261	253	251	169
45°	237	235	226	217	214	183
55°	199	197	187	178	175	178
65°	160	158	147	139	136	159
75°	121	120	110	104	100	129
85°	86	86	76	73	70	74
90°	81	82	70	68	62	42
95°	77	87	78	82	71	82
105°	236	294	231	269	201	243
115°	328	371	330	343	310	328
125°	462	472	450	440	429	413
135°	590	608	572	572	540	457
145°	718	720	708	689	673	449
155°	803	775	798	766	778	369
165°	801	787	806	791	797	228
175°	790	781	785	781	786	75
180°	779	779	779	779	779	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°
0°	320.9	320.9	320.9	320.9	320.9	320.9	320.9	320.9	320.9
2.5°	319.6	322.3	321.6	321.6	320.3	320.3	320.3	320.3	320.3
5°	319.6	322.3	321.6	320.9	319.6	319.6	318.9	318.9	318.9
7.5°	318.9	321.6	320.9	319.6	318.2	317.6	316.2	316.2	316.2
10°	317.6	319.6	318.9	318.2	316.2	314.9	313.6	313.6	313.6
12.5°	315.6	317.6	316.9	315.6	313.6	312.2	310.2	309.5	309.5
15°	312.2	314.9	313.6	312.2	309.5	308.2	306.2	305.5	305.5
17.5°	309.5	311.6	310.2	308.2	305.5	303.5	301.5	300.8	300.2
20°	305.5	307.5	306.2	304.2	300.8	298.8	296.1	295.5	294.8
22.5°	300.8	302.8	301.5	298.8	295.5	293.5	290.8	289.4	288.8
25°	295.5	297.5	296.1	293.5	290.1	286.8	284.1	282.7	282.7
27.5°	290.1	292.1	290.1	287.4	283.4	280.7	277.4	275.4	275.4
30°	284.1	286.1	283.4	280.7	276.7	273.4	270.0	268.0	267.3
32.5°	277.4	278.7	276.7	273.4	269.3	265.3	262.0	260.0	260.0
35°	270.0	271.4	268.7	265.3	261.3	257.3	253.3	251.9	251.3
37.5°	262.0	264.0	261.3	257.3	252.6	248.6	244.6	242.5	242.5
40°	253.9	255.3	252.6	248.6	243.9	239.9	235.8	233.8	233.2
42.5°	245.9	246.6	243.9	239.9	235.2	230.5	226.5	224.4	223.8
45°	237.2	237.8	235.2	230.5	225.8	221.1	217.1	214.4	214.4
47.5°	227.8	228.5	225.8	221.1	216.4	211.7	207.0	205.0	204.4
50°	218.4	219.1	215.7	211.7	206.4	201.7	197.0	195.0	194.3
52.5°	209.0	209.7	206.4	201.7	197.0	191.6	186.9	184.9	184.2
55°	199.0	199.7	197.0	192.3	186.9	182.2	177.6	175.5	174.9
57.5°	189.6	189.6	186.9	182.2	176.9	171.5	167.5	165.5	164.8
60°	179.6	180.2	176.9	172.2	166.8	162.1	158.1	156.1	155.4
62.5°	170.2	170.2	167.5	162.8	157.5	152.8	148.1	146.1	145.4
65°	160.1	160.8	157.5	152.8	147.4	142.7	138.7	136.7	136.0
67.5°	150.8	150.8	148.1	143.4	138.0	133.3	130.0	127.3	126.6
70°	140.7	140.7	138.7	133.3	128.0	124.0	120.6	118.6	117.2
72.5°	130.6	131.3	129.3	124.0	118.6	115.2	111.9	109.9	108.5
75°	121.3	121.9	119.9	115.2	109.9	106.5	103.8	101.2	100.5
77.5°	112.6	113.2	111.2	105.9	101.2	97.8	95.8	93.1	91.8
80°	103.8	103.8	102.5	97.2	92.5	89.8	87.8	85.1	83.8
82.5°	94.5	95.8	93.8	89.1	84.4	81.7	79.7	77.7	76.4
85°	86.4	87.1	85.8	81.1	76.4	74.4	73.0	70.4	69.7
87.5°	79.7	79.7	77.7	73.7	69.7	67.7	65.7	64.3	63.0
90°	81.1	81.7	81.7	74.4	69.7	67.7	67.7	63.6	62.3
92.5°	64.3	65.7	69.0	65.7	65.7	66.3	67.0	63.6	61.6
95°	77.1	80.4	87.1	81.1	77.7	79.1	81.7	75.7	71.0
97.5°	112.6	119.3	132.7	123.3	108.5	115.9	121.9	111.9	96.5
100°	160.8	170.2	190.3	174.2	150.1	160.8	171.5	158.1	130.0
102.5°	208.4	215.1	248.6	219.1	194.3	204.4	223.1	199.0	172.9
105°	235.8	252.6	293.5	263.3	231.2	244.6	268.7	230.5	201.0
107.5°	258.0	279.4	312.2	296.1	266.7	278.0	289.4	262.6	235.8
110°	276.7	304.2	329.6	316.9	284.8	298.8	304.2	286.1	258.6



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°
112.5°	300.8	328.3	350.4	338.4	305.5	318.2	321.6	309.5	283.4
115°	327.6	355.8	371.2	362.5	329.6	341.7	343.0	331.7	309.5
117.5°	361.8	385.2	393.3	387.9	357.8	365.8	364.5	354.4	337.0
120°	396.0	415.4	416.7	416.1	387.3	393.3	386.6	383.9	365.2
122.5°	429.5	448.2	441.5	444.2	418.8	423.4	410.7	413.4	397.3
125°	461.6	480.4	471.7	472.4	449.6	452.2	440.2	442.2	428.8
127.5°	493.8	510.5	503.8	499.8	478.4	480.4	471.0	471.0	457.6
130°	525.3	539.4	538.7	527.3	506.5	508.5	503.8	497.8	485.1
132.5°	558.8	567.5	574.9	560.8	536.0	542.7	536.0	523.3	513.2
135°	589.6	597.0	607.7	588.9	572.2	572.2	572.2	552.8	540.0
137.5°	624.4	626.4	635.8	619.1	604.3	602.3	605.7	581.6	572.2
140°	662.0	657.9	664.0	645.9	639.8	631.8	634.5	611.7	605.7
142.5°	694.1	685.4	692.8	675.4	674.0	662.0	662.0	642.5	638.5
145°	718.2	708.9	719.6	701.5	708.2	690.1	688.8	672.7	672.7
147.5°	741.0	730.3	743.0	726.3	733.7	716.2	714.2	700.2	705.5
150°	762.5	751.7	761.1	747.7	755.1	742.4	737.0	727.0	733.0
152.5°	783.9	774.5	771.8	770.5	776.5	765.1	754.4	749.1	759.1
155°	803.3	794.0	775.2	787.9	798.0	782.6	765.8	767.8	778.5
157.5°	820.8	802.7	777.2	798.6	811.4	795.3	773.2	785.2	796.6
160°	818.1	800.0	778.5	800.7	812.7	800.7	778.5	793.3	806.7
162.5°	808.7	794.6	783.2	801.3	812.0	802.7	785.9	791.3	802.7
165°	801.3	789.9	786.6	800.0	806.0	800.0	790.6	790.6	796.6
167.5°	795.3	788.6	786.6	797.3	800.7	798.0	791.9	792.6	796.0
170°	793.3	787.9	785.2	792.6	797.3	794.6	789.3	790.6	794.0
172.5°	790.6	786.6	781.9	787.2	791.3	789.9	784.6	787.9	790.6
175°	789.9	785.9	780.6	782.6	785.2	784.6	781.2	783.9	785.9
177.5°	785.9	781.9	777.9	781.2	783.2	783.2	779.9	781.9	783.9
180°	779.2	779.2	779.2	779.2	779.2	779.2	779.2	779.2	779.2

(END OF REPORT)