

Scaled data based on original data using
LM-46-04 Photometric Testing of Indoor Luminaires Using High Intensity Discharge or
Incandescent Filament Lamps (Reaffirmed 2012)

Test Report Prepared for

Cooper Lighting Solutions

(formerly Eaton)

Brand: HALO

Report Number: H20016

Luminaire Tested: **L1751 (MOD)**

Issue Date: 3/3/2020



Test Information

Test Method: LM-46-04
Report Number: H20016
Test Lab:
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: HALO
Catalog Number: L1751 (MOD)
Description: HALO COMP. FLUOR. VERSION W/O SHIELD
Light Source: 18WQT4 18W 1250 LUMENS
10mm QUAD TUBE COMPACT FLUORESCENT
Ballast/Driver: -

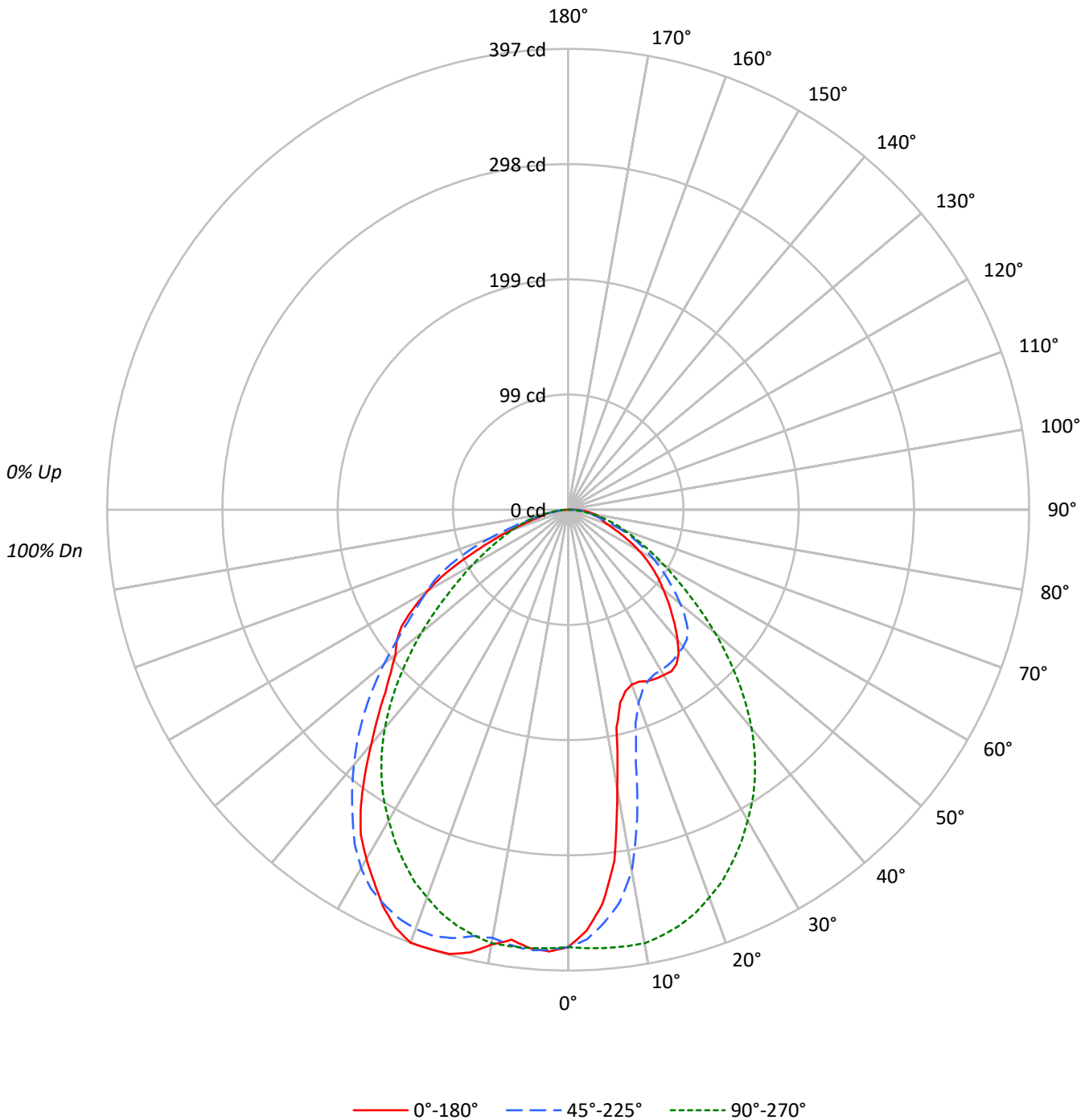
Summary

Lumens per Lamp: 1250 (1 lamp)
Luminaire Lumens: 799.9 lumens
Efficiency: 64.0%
Efficacy: 32.0 lumens/watt
Spacing Criteria (0/90/45): 1.01 / 1.22 / 1.22
Luminous Opening: Point Source (0' x 0' x 0')
CIE Type: Direct

Input Watts (W): 25
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	76	76	76	76	74	74	74	74	71	71	71	68	68	68	65	65	65	64
1	70	67	65	63	68	66	64	62	63	61	60	61	59	58	58	57	56	55
2	64	59	55	52	63	58	54	51	56	53	50	54	51	49	52	50	48	47
3	59	53	48	44	57	52	47	43	50	46	43	48	45	42	46	44	41	40
4	54	47	42	38	53	46	41	37	45	40	37	43	39	36	42	38	36	35
5	50	42	37	33	49	42	36	33	40	36	32	39	35	32	38	34	31	30
6	46	38	33	29	45	38	32	29	36	32	28	35	31	28	34	31	28	27
7	43	35	29	26	42	34	29	26	33	29	25	32	28	25	32	28	25	24
8	40	32	27	23	39	31	26	23	31	26	23	30	26	23	29	25	23	21
9	38	29	24	21	37	29	24	21	28	24	21	28	23	21	27	23	20	19
10	35	27	22	19	35	27	22	19	26	22	19	26	22	19	25	21	19	18

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	Luminaire represents a point source (luminous area is zero).		
5°	No luminance values can be calculated.		
10°			
15°			
20°			
25°			
30°			
35°			
40°			
45°			
50°			
55°			
60°			
65°			
70°			
75°			
80°			
85°			



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ZONAL LUMENS:

Zone	Lumens	% Fixture	% Lamp
0°-10°	34.5	4.3	2.8
10°-20°	89.7	11.2	7.2
20°-30°	129.8	16.2	10.4
30°-40°	151.8	19.0	12.1
40°-50°	146.0	18.3	11.7
50°-60°	120.0	15.0	9.6
60°-70°	80.5	10.1	6.4
70°-80°	36.8	4.6	2.9
80°-90°	10.5	1.3	0.8
90°-100°	0.3	0.0	0.0
100°-110°	0.0	0.0	0.0
110°-120°	0.0	0.0	0.0
120°-130°	0.0	0.0	0.0
130°-140°	0.0	0.0	0.0
140°-150°	0.0	0.0	0.0
150°-160°	0.0	0.0	0.0
160°-170°	0.0	0.0	0.0
170°-180°	0.0	0.0	0.0
0°-30°	254.0	31.8	20.3
0°-40°	405.7	50.7	32.5
0°-60°	671.7	84.0	53.7
0°-90°	799.5	100.0	64.0
90°-120°	0.3	0.0	0.0
90°-150°	0.3	0.0	0.0
90°-180°	0.0	0.0	0.0
0°-180°	799.9	100.0	64.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	377	377	377	377	377	
5°	340	357	379	381	379	30
15°	172	225	371	382	396	51
25°	163	163	335	375	377	75
35°	163	158	280	324	311	100
45°	126	146	206	249	223	97
55°	89	105	126	168	175	80
65°	51	66	70	112	95	51
75°	29	28	35	38	27	31
85°	15	12	8	6	5	14
90°	7	5	1	0	0	3
95°	0	0	0	0	0	0
105°	0	0	0	0	0	0
115°	0	0	0	0	0	0
125°	0	0	0	0	0	0
135°	0	0	0	0	0	0
145°	0	0	0	0	0	0
155°	0	0	0	0	0	0
165°	0	0	0	0	0	0
175°	0	0	0	0	0	0
180°	0	0	0	0	0	0



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°
0°	376.8	376.8	376.8	376.8	376.8	376.8	376.8	376.8	376.8
2.5°	362.9	368.0	370.6	375.4	378.1	379.4	379.4	380.4	380.9
5°	340.5	347.5	357.0	370.2	379.0	381.7	381.0	380.2	379.2
7.5°	305.0	319.3	340.8	363.4	379.4	382.9	378.3	373.9	373.7
10°	243.0	265.6	315.9	354.4	379.2	382.1	374.5	377.4	380.5
12.5°	192.4	208.5	274.2	342.1	375.5	375.7	376.3	388.3	390.7
15°	172.4	180.9	225.1	327.6	370.8	368.0	382.2	394.8	396.2
17.5°	163.9	169.8	192.9	307.5	364.2	360.2	385.1	396.3	396.7
20°	160.2	164.1	177.0	280.7	355.4	354.1	384.3	396.5	397.1
22.5°	160.3	161.9	167.8	248.9	346.5	349.6	381.1	394.3	389.3
25°	162.9	163.2	162.7	218.9	334.7	344.0	375.3	384.3	377.1
27.5°	164.0	165.0	160.1	195.3	322.7	337.6	368.1	369.5	361.9
30°	164.5	165.5	159.5	177.0	309.1	328.7	356.5	353.8	347.5
32.5°	165.2	166.1	159.2	164.2	295.7	319.0	342.0	338.6	332.4
35°	162.6	165.9	158.0	153.5	280.4	307.5	323.7	322.9	311.2
37.5°	156.2	162.5	156.0	145.3	263.9	294.2	305.8	302.0	287.5
40°	146.5	155.0	154.1	138.4	245.8	280.0	287.2	277.5	263.6
42.5°	136.4	145.1	151.3	133.0	226.2	263.8	268.2	252.9	242.7
45°	126.0	134.9	145.5	128.2	206.2	245.8	248.6	232.2	222.8
47.5°	116.4	124.3	136.3	124.0	185.1	225.0	228.0	213.1	207.1
50°	106.9	114.7	126.1	119.7	165.1	204.6	207.2	197.6	194.1
52.5°	98.1	104.6	115.2	114.9	144.8	183.1	186.4	185.4	186.3
55°	89.2	95.0	104.8	109.3	126.0	162.1	168.5	175.3	175.3
57.5°	80.0	85.5	94.9	103.0	109.4	142.3	153.4	162.3	157.9
60°	70.3	76.2	85.0	96.0	95.2	123.6	140.3	143.7	139.9
62.5°	60.3	66.1	75.1	87.2	82.2	107.8	128.1	124.3	119.8
65°	50.7	55.6	65.9	77.9	70.0	94.2	112.2	102.6	95.0
67.5°	41.8	46.1	56.4	67.9	59.9	82.2	93.1	79.2	73.5
70°	34.8	37.0	46.1	57.9	51.0	70.1	72.3	59.6	54.3
72.5°	30.9	30.9	36.0	48.2	43.3	58.1	51.8	42.4	39.0
75°	29.0	27.4	28.3	38.4	35.4	43.9	37.5	28.1	26.7
77.5°	26.6	25.9	22.7	29.4	27.5	31.6	23.4	21.5	22.4
80°	23.6	22.5	19.5	20.3	19.9	20.2	16.5	16.4	16.2
82.5°	19.0	17.7	16.1	14.2	13.4	12.1	11.3	10.5	10.4
85°	15.2	14.2	12.3	10.0	8.0	6.5	6.1	5.2	5.0
87.5°	10.6	9.9	8.5	6.3	4.3	2.6	1.7	1.0	0.7
90°	6.7	6.0	4.7	2.8	1.2	0.6	0.5	0.5	0.5
92.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
95°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
97.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
100°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
102.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
105°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
107.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
110°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°
112.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
115°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
117.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
120°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
122.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
125°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
127.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
130°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
132.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
135°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
137.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
140°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
142.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
145°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
147.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
150°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
152.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
155°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
157.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
160°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
162.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
165°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
167.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
170°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
172.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
175°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
177.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
180°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)