

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: H32019

Luminaire Tested: **M200-23P**

Issue Date: 3/3/2020



Test Information

Test Method: LM-46-04
Report Number: H32019
Test Lab:
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: HALO
Catalog Number: M200-23P
Description: HALO 13" SQ. RECESSED HID
SPECULAR REFLECTOR FRESNEL LENS
Light Source: LU100/D/MED 100 WATTS 8800 LUMENS
ED-17 DIFFUSED HPS
Ballast/Driver: -

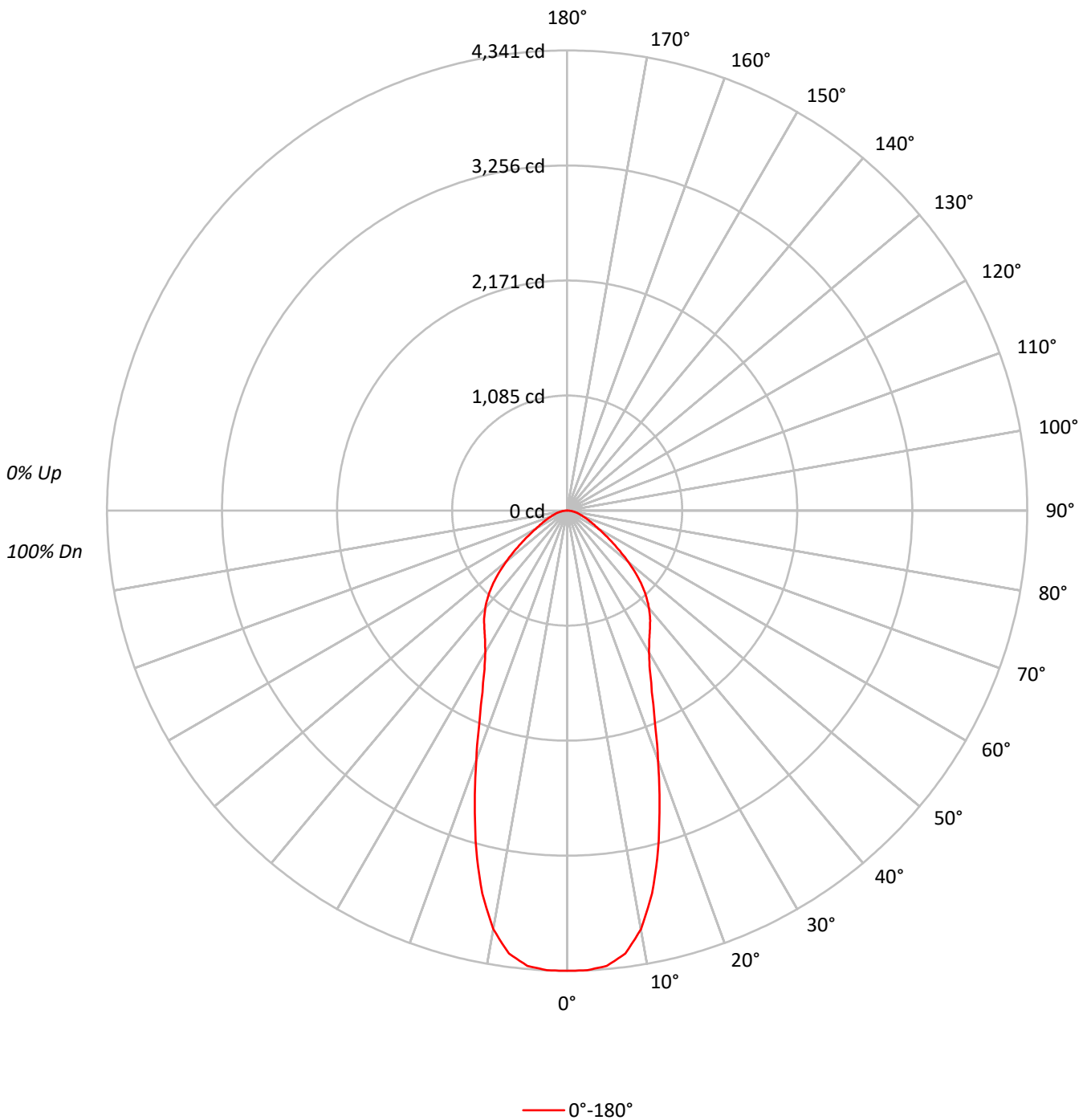
Summary

Lumens per Lamp: 8800 (1 lamp)
Luminaire Lumens: 4674.0 lumens
Efficiency: 53.1%
Efficacy: 40.6 lumens/watt
Spacing Criteria (0/90/45): 0.71 / 0.71 / 0.78
Luminous Opening: Rectangular (W 0.72' x L: 0.72' x H: 0')
CIE Type: Direct

Input Watts (W): 115
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	63	63	63	63	62	62	62	62	59	59	59	57	57	57	54	54	54	53
1	59	57	55	54	58	56	54	53	54	53	51	52	51	50	50	49	48	47
2	55	52	49	46	54	51	48	46	49	47	45	47	45	44	46	44	43	42
3	51	47	43	41	50	46	43	40	45	42	40	43	41	39	42	40	38	37
4	48	43	39	36	47	42	39	36	41	38	35	40	37	35	39	36	35	34
5	45	39	35	32	44	39	35	32	38	34	32	37	34	32	36	33	31	30
6	42	36	32	29	41	36	32	29	35	31	29	34	31	29	33	31	29	28
7	40	33	30	27	39	33	29	27	32	29	27	32	29	26	31	28	26	25
8	37	31	27	25	36	31	27	25	30	27	24	30	27	24	29	26	24	23
9	35	29	25	23	35	29	25	23	28	25	23	28	25	23	27	24	22	22
10	33	27	24	21	33	27	24	21	27	23	21	26	23	21	26	23	21	20

AVERAGE LUMINANCE (cd/sqm):

	0°
0°	90135
5°	89854
10°	84547
15°	71238
20°	55373
25°	43323
30°	36971
35°	34498
40°	32580
45°	29364
50°	24292
55°	18535
60°	14036
65°	11398
70°	9774
75°	8985
80°	8370
85°	7862



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ZONAL LUMENS:

Zone	Lumens	% Fixture	% Lamp
0°-10°	402.2	8.6	4.6
10°-20°	910.9	19.5	10.4
20°-30°	885.4	18.9	10.1
30°-40°	853.5	18.3	9.7
40°-50°	762.3	16.3	8.7
50°-60°	467.4	10.0	5.3
60°-70°	235.7	5.0	2.7
70°-80°	119.3	2.6	1.4
80°-90°	37.3	0.8	0.4
90°-100°	0.0	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°	2198.5	47.0	25.0
0°-40°	3051.9	65.3	34.7
0°-60°	4281.7	91.6	48.7
0°-90°	4674.0	100.0	53.1
90°-120°	0.0	0.0	0.0
90°-150°	0.0	0.0	0.0
90°-180°	0.0	0.0	0.0
0°-180°	4674.0	100.0	53.1

CANDELA DISTRIBUTION:

	0°	Flux
0°	4341	
5°	4311	402
15°	3314	911
25°	1891	885
35°	1361	853
45°	1000	762
55°	512	467
65°	232	236
75°	112	119
85°	33	35
90°	0	2
95°	0	0
105°	0	0
115°	0	0
125°	0	0
135°	0	0
145°	0	0
155°	0	0
165°	0	0
175°	0	0
180°	0	0



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CANDELA DISTRIBUTION (FULL):

0°	
0°	4341
2.5°	4340
5°	4311
7.5°	4214
10°	4010
12.5°	3700
15°	3314
17.5°	2896
20°	2506
22.5°	2163
25°	1891
27.5°	1686
30°	1542
32.5°	1441
35°	1361
37.5°	1286
40°	1202
42.5°	1107
45°	1000
47.5°	878
50°	752
52.5°	627
55°	512
57.5°	416
60°	338
62.5°	280
65°	232
67.5°	193
70°	161
72.5°	135
75°	112
77.5°	90
80°	70
82.5°	51
85°	33
87.5°	18
90°	0
92.5°	0
95°	0
97.5°	0
100°	0
102.5°	0
105°	0
107.5°	0
110°	0



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CANDELA DISTRIBUTION (continued):

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

(END OF REPORT)