

Scaled data based on original data using

LM-41-14 Approved Method for Photometric Testing Of Indoor Fluorescent Luminaires

Test Report Prepared for

Cooper Lighting Solutions

(formerly Eaton)

Brand: HALO

Report Number: P380848

Luminaire Tested: **H36RTAT-3020WW**

Issue Date: 3/3/2020



Test Information

Test Method: LM-41-14
Report Number: P380848
Test Lab: INNOVATION CENTER (G1)
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: HALO
Catalog Number: H36RTAT-3020WW
Description: 3" WALL WASH PINHOLE, MW TRIM
Light Source: -
Ballast/Driver: -

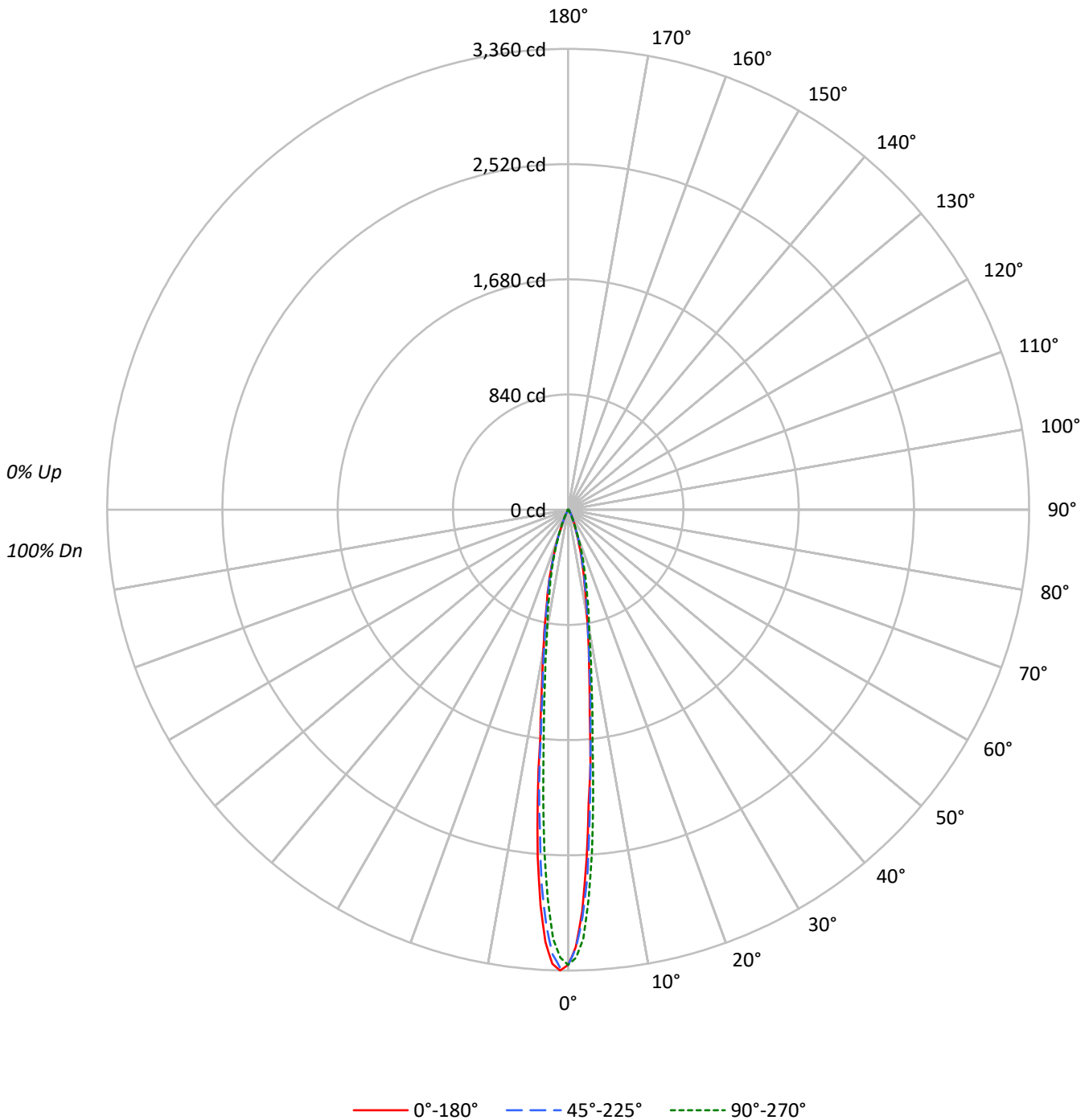
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 342.7 lumens
Efficiency: N/A
Efficacy: 41.3 lumens/watt
Spacing Criteria (0/90/45): 0.22 / 0.21 / 0.26
Luminous Opening: Circular (Dia: 0.17' x H: 0')
CIE Type: Direct

Input Watts (W): 8.3
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	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100
1	115	113	112	110	113	111	110	108	107	106	105	104	103	102	100	100	99	97
2	112	108	106	103	110	107	104	102	104	102	100	101	99	98	98	97	96	95
3	109	104	101	98	107	103	100	98	101	98	96	98	96	95	96	95	93	92
4	106	101	97	94	104	100	96	94	98	95	93	96	94	92	94	92	91	90
5	103	98	94	91	102	97	93	91	95	92	90	94	91	89	92	90	88	87
6	100	95	91	88	99	94	90	88	93	90	87	91	89	87	90	88	86	85
7	98	92	88	86	97	92	88	85	90	87	85	89	87	85	89	86	84	83
8	96	90	86	83	95	89	86	83	88	85	83	88	85	83	87	84	82	81
9	94	88	84	81	93	87	84	81	86	83	81	86	83	81	85	82	81	80
10	92	86	82	80	91	85	82	80	85	81	79	84	81	79	83	81	79	78

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	1637527	1637527	1637527
5°	922677	1034112	1258962
10°	390773	438868	520529
15°	193076	237004	274802
20°	91358	108684	118660
25°	47906	39196	27764
30°	27916	10824	3988
35°	15058	6625	1807
40°	9661	4508	1288
45°	7675	3489	698
50°	6908	3070	0
55°	2581	860	0
60°	987	0	0
65°	0	0	0
70°	0	0	0
75°	0	0	0
80°	0	0	0
85°	0	0	0



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	160.2	46.8
10°-20°	129.4	37.8
20°-30°	37.5	10.9
30°-40°	8.7	2.5
40°-50°	4.9	1.4
50°-60°	1.8	0.5
60°-70°	0.2	0.0
70°-80°	0.0	0.0
80°-90°	0.0	0.0
90°-100°	0.0	0.0
100°-110°	0.0	0.0
110°-120°	0.0	0.0
120°-130°	0.0	0.0
130°-140°	0.0	0.0
140°-150°	0.0	0.0
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	327.2	95.5
0°-40°	335.9	98.0
0°-60°	342.6	100.0
0°-90°	342.7	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	342.7	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	3319	3319	3319	3319	3319	
5°	1863	1860	2088	2365	2542	141
15°	378	398	464	517	538	109
25°	88	87	72	51	51	43
35°	25	23	11	4	3	17
45°	11	12	5	1	1	9
55°	3	3	1	0	0	4
65°	0	0	0	0	0	0
75°	0	0	0	0	0	0
85°	0	0	0	0	0	0
90°	0	0	0	0	0	0



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
0°	3319	3319	3319	3319	3319	3319	3319	3319	3319	3319	3319
1°	3188	3188	3164	3185	3183	3196	3185	3214	3209	3188	3198
2°	2929	2958	2938	2928	2938	2933	2945	2952	2942	3001	2971
3°	2552	2575	2563	2548	2595	2596	2559	2602	2634	2615	2679
4°	2142	2145	2158	2177	2192	2217	2164	2200	2234	2222	2237
5°	1863	1822	1803	1814	1827	1825	1818	1841	1852	1845	1860
6°	1494	1508	1504	1511	1527	1532	1552	1570	1535	1545	1548
7°	1270	1269	1306	1286	1264	1261	1304	1293	1291	1325	1334
8°	1087	1067	1084	1096	1092	1086	1069	1070	1095	1098	1100
9°	933	918	903	914	924	932	922	930	931	926	933
10°	780	789	797	792	788	802	788	798	798	794	815
12.5°	544	550	551	550	551	547	552	553	564	571	566
15°	378	385	379	381	384	385	385	388	391	393	398
17.5°	256	260	262	259	264	263	262	266	267	272	276
20°	174	176	176	177	180	180	179	182	183	185	186
22.5°	123	123	122	121	123	125	124	124	125	125	127
25°	88	88	87	87	87	87	87	88	87	87	87
27.5°	64	65	65	64	64	64	64	64	64	63	62
30°	49	48	48	48	47	47	47	47	45	45	44
32.5°	34	34	34	33	33	33	33	32	32	31	31
35°	25	25	25	25	24	24	24	24	24	23	23
37.5°	19	19	19	19	19	19	19	19	19	18	18
40°	15	15	15	15	15	16	15	15	15	15	15
42.5°	13	13	13	13	13	13	13	13	13	13	13
45°	11	11	11	11	11	11	11	11	11	11	12
47.5°	10	10	10	10	10	10	10	10	10	10	10
50°	9	9	9	9	9	9	10	9	10	10	10
52.5°	7	7	7	7	7	7	7	7	7	7	7
55°	3	3	3	3	3	3	3	3	3	3	3
57.5°	1	1	1	1	1	1	1	1	1	1	1
60°	1	1	1	1	1	1	1	1	1	1	1
62.5°	1	1	1	1	1	1	1	1	1	1	1
65°	0	0	0	0	0	0	0	0	0	0	0
67.5°	0	0	0	0	0	0	0	0	0	0	0
70°	0	0	0	0	0	0	0	0	0	0	0
72.5°	0	0	0	0	0	0	0	0	0	0	0
75°	0	0	0	0	0	0	0	0	0	0	0
77.5°	0	0	0	0	0	0	0	0	0	0	0
80°	0	0	0	0	0	0	0	0	0	0	0
82.5°	0	0	0	0	0	0	0	0	0	0	0
85°	0	0	0	0	0	0	0	0	0	0	0
87.5°	0	0	0	0	0	0	0	0	0	0	0
90°	0	0	0	0	0	0	0	0	0	0	0



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CANDELA DISTRIBUTION (continued):

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°	95°
0°	3319	3319	3319	3319	3319	3319	3319	3319	3319	3319	3319
1°	3214	3215	3217	3241	3232	3253	3240	3257	3259	3266	3284
2°	2978	2995	3032	3041	3072	3074	3085	3090	3111	3132	3138
3°	2642	2699	2691	2754	2752	2772	2787	2813	2818	2838	2856
4°	2291	2340	2279	2343	2351	2389	2393	2460	2464	2495	2529
5°	1899	1944	1913	1937	1950	1990	1997	2042	2070	2088	2113
6°	1545	1558	1590	1604	1617	1649	1654	1674	1690	1705	1753
7°	1329	1320	1332	1349	1355	1349	1385	1384	1415	1436	1448
8°	1118	1098	1110	1142	1125	1136	1149	1168	1176	1207	1210
9°	932	942	951	975	981	966	983	997	1016	1030	1030
10°	800	817	827	842	845	836	849	864	875	876	895
12.5°	580	589	596	588	594	606	609	617	633	641	660
15°	408	410	415	421	429	437	443	450	457	464	474
17.5°	279	285	290	302	303	304	306	314	318	321	322
20°	187	189	191	198	200	200	201	208	206	207	211
22.5°	124	124	127	129	129	130	128	130	127	126	126
25°	87	88	87	85	86	81	82	79	73	72	70
27.5°	62	59	57	55	53	49	45	41	37	33	30
30°	43	41	39	37	35	33	30	26	22	19	15
32.5°	30	29	28	26	26	25	23	20	17	13	10
35°	22	22	21	20	20	19	18	16	14	11	8
37.5°	18	17	17	16	16	16	14	13	11	9	7
40°	15	14	14	14	14	13	12	11	9	7	6
42.5°	13	13	13	12	12	12	11	10	8	7	5
45°	11	11	11	11	11	11	10	9	7	5	4
47.5°	10	10	10	10	10	10	9	9	7	5	3
50°	10	10	9	10	9	9	9	8	7	4	3
52.5°	7	7	7	7	7	7	6	6	5	3	2
55°	3	3	3	3	3	3	3	2	2	1	1
57.5°	1	1	1	1	1	1	1	1	1	1	0
60°	1	1	1	1	1	1	1	0	0	0	0
62.5°	1	1	1	0	1	1	1	0	0	0	0
65°	0	0	0	0	0	0	0	0	0	0	0
67.5°	0	0	0	0	0	0	0	0	0	0	0
70°	0	0	0	0	0	0	0	0	0	0	0
72.5°	0	0	0	0	0	0	0	0	0	0	0
75°	0	0	0	0	0	0	0	0	0	0	0
77.5°	0	0	0	0	0	0	0	0	0	0	0
80°	0	0	0	0	0	0	0	0	0	0	0
82.5°	0	0	0	0	0	0	0	0	0	0	0
85°	0	0	0	0	0	0	0	0	0	0	0
87.5°	0	0	0	0	0	0	0	0	0	0	0
90°	0	0	0	0	0	0	0	0	0	0	0



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CANDELA DISTRIBUTION (continued):

	100°	105°	110°	112.5°	115°	120°	125°	130°	135°	140°	145°
0°	3319	3319	3319	3319	3319	3319	3319	3319	3319	3319	3319
1°	3279	3295	3310	3309	3309	3312	3323	3330	3340	3336	3338
2°	3134	3148	3176	3184	3177	3207	3225	3246	3245	3265	3254
3°	2927	2934	2923	2986	2976	3007	3001	3032	3040	3059	3078
4°	2572	2606	2608	2632	2670	2644	2706	2742	2754	2758	2821
5°	2151	2212	2221	2242	2277	2268	2371	2375	2365	2398	2441
6°	1774	1828	1849	1827	1890	1927	1920	1969	2030	1992	2085
7°	1439	1473	1507	1535	1514	1556	1573	1604	1626	1679	1680
8°	1226	1239	1258	1272	1300	1311	1308	1342	1347	1361	1371
9°	1060	1079	1087	1085	1107	1123	1114	1137	1165	1154	1173
10°	909	929	928	938	953	959	965	978	1000	994	1014
12.5°	656	665	677	691	680	690	706	713	709	718	713
15°	479	492	496	492	503	502	518	521	517	519	516
17.5°	329	335	330	339	339	345	339	343	346	346	352
20°	211	217	216	217	221	218	211	220	218	217	223
22.5°	129	126	124	122	126	122	118	119	120	117	120
25°	63	61	56	56	52	53	52	51	51	51	51
27.5°	26	22	18	18	18	16	16	17	15	16	15
30°	13	11	9	9	8	8	8	7	7	7	7
32.5°	9	7	6	6	6	5	5	5	5	5	5
35°	6	6	5	5	4	4	4	4	4	4	4
37.5°	5	4	4	4	3	3	3	3	3	3	3
40°	5	4	3	3	3	3	2	2	2	2	2
42.5°	4	3	3	3	2	2	2	2	2	2	2
45°	3	2	2	2	2	1	1	1	1	1	1
47.5°	2	2	1	1	1	1	1	1	1	1	1
50°	2	1	1	1	1	1	1	1	0	0	0
52.5°	1	1	1	1	0	1	0	0	0	0	0
55°	1	1	0	0	0	0	0	0	0	0	0
57.5°	0	0	0	0	0	0	0	0	0	0	0
60°	0	0	0	0	0	0	0	0	0	0	0
62.5°	0	0	0	0	0	0	0	0	0	0	0
65°	0	0	0	0	0	0	0	0	0	0	0
67.5°	0	0	0	0	0	0	0	0	0	0	0
70°	0	0	0	0	0	0	0	0	0	0	0
72.5°	0	0	0	0	0	0	0	0	0	0	0
75°	0	0	0	0	0	0	0	0	0	0	0
77.5°	0	0	0	0	0	0	0	0	0	0	0
80°	0	0	0	0	0	0	0	0	0	0	0
82.5°	0	0	0	0	0	0	0	0	0	0	0
85°	0	0	0	0	0	0	0	0	0	0	0
87.5°	0	0	0	0	0	0	0	0	0	0	0
90°	0	0	0	0	0	0	0	0	0	0	0



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CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	3319	3319	3319	3319	3319	3319	3319	3319
1°	3344	3351	3350	3356	3359	3359	3359	3360
2°	3273	3292	3271	3284	3294	3289	3301	3314
3°	3072	3088	3123	3107	3102	3116	3115	3156
4°	2821	2807	2812	2836	2884	2872	2897	2893
5°	2481	2444	2465	2486	2516	2532	2533	2542
6°	2075	2047	2066	2100	2121	2133	2071	2134
7°	1667	1720	1739	1726	1683	1716	1727	1677
8°	1382	1397	1404	1407	1424	1415	1396	1404
9°	1174	1184	1188	1197	1176	1201	1201	1202
10°	1001	1015	1036	1034	1018	1027	1035	1039
12.5°	721	733	728	741	737	743	739	729
15°	529	523	527	528	536	541	538	538
17.5°	345	354	355	351	348	351	350	348
20°	219	221	218	223	219	219	224	226
22.5°	118	119	120	124	117	120	121	118
25°	51	54	51	49	52	51	51	51
27.5°	16	15	16	16	17	16	17	15
30°	7	7	7	7	7	7	7	7
32.5°	4	5	4	4	4	4	4	5
35°	3	3	3	3	3	3	3	3
37.5°	3	2	3	3	3	2	3	3
40°	2	2	2	2	2	2	2	2
42.5°	2	2	2	2	2	2	2	2
45°	1	1	1	1	1	1	1	1
47.5°	1	1	1	1	1	0	1	1
50°	1	0	0	1	0	0	0	0
52.5°	0	0	0	0	0	0	0	0
55°	0	0	0	0	0	0	0	0
57.5°	0	0	0	0	0	0	0	0
60°	0	0	0	0	0	0	0	0
62.5°	0	0	0	0	0	0	0	0
65°	0	0	0	0	0	0	0	0
67.5°	0	0	0	0	0	0	0	0
70°	0	0	0	0	0	0	0	0
72.5°	0	0	0	0	0	0	0	0
75°	0	0	0	0	0	0	0	0
77.5°	0	0	0	0	0	0	0	0
80°	0	0	0	0	0	0	0	0
82.5°	0	0	0	0	0	0	0	0
85°	0	0	0	0	0	0	0	0
87.5°	0	0	0	0	0	0	0	0
90°	0	0	0	0	0	0	0	0

(END OF REPORT)