

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: P21278

Luminaire Tested: **ML712827TUNVD010-495WW06-H750ICAT**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P21278
Test Lab: INNOVATION CENTER P2
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: HALO
Catalog Number: ML712827TUNVD010-495WW06-H750ICAT
Description: HALO 6 INCH LED DOWNLIGHT WITH 1200 Lmn MODULE, DIFFUSE LENS AND SEMI-SPECULAR REFLECTOR WITH PLASTIC SPECULAR KICKER
---ABSOLUTE PHOTOMETRY IS BASED ON CALIBRATION FACTORS
CREATED USING A 500 WATT, NIST TRACEABLE, OMNI-DIRECTIONAL LAB LUMEN STANDARD IN THE GONIOPHOTOMETER WITH TEST DISTANCE OF 28.75 FEET----
Light Source: (1)SMT LED 2700K
CL-L241-C26L2-A
Ballast/Driver: (1)ELECTRONIC DRIVER
RHPS314D-CLO

Summary

Lumens per Lamp: 1200 (1 lamp)
Luminaire Lumens: 1200.7 lumens
Efficiency: 100.1%
Efficacy: 49.4 lumens/watt
Spacing Criteria (0/90/45): 1.28 / 1.31 / 1.32
Luminous Opening: Circular (Dia: 0.48' x H: 0')
CIE Type: Direct

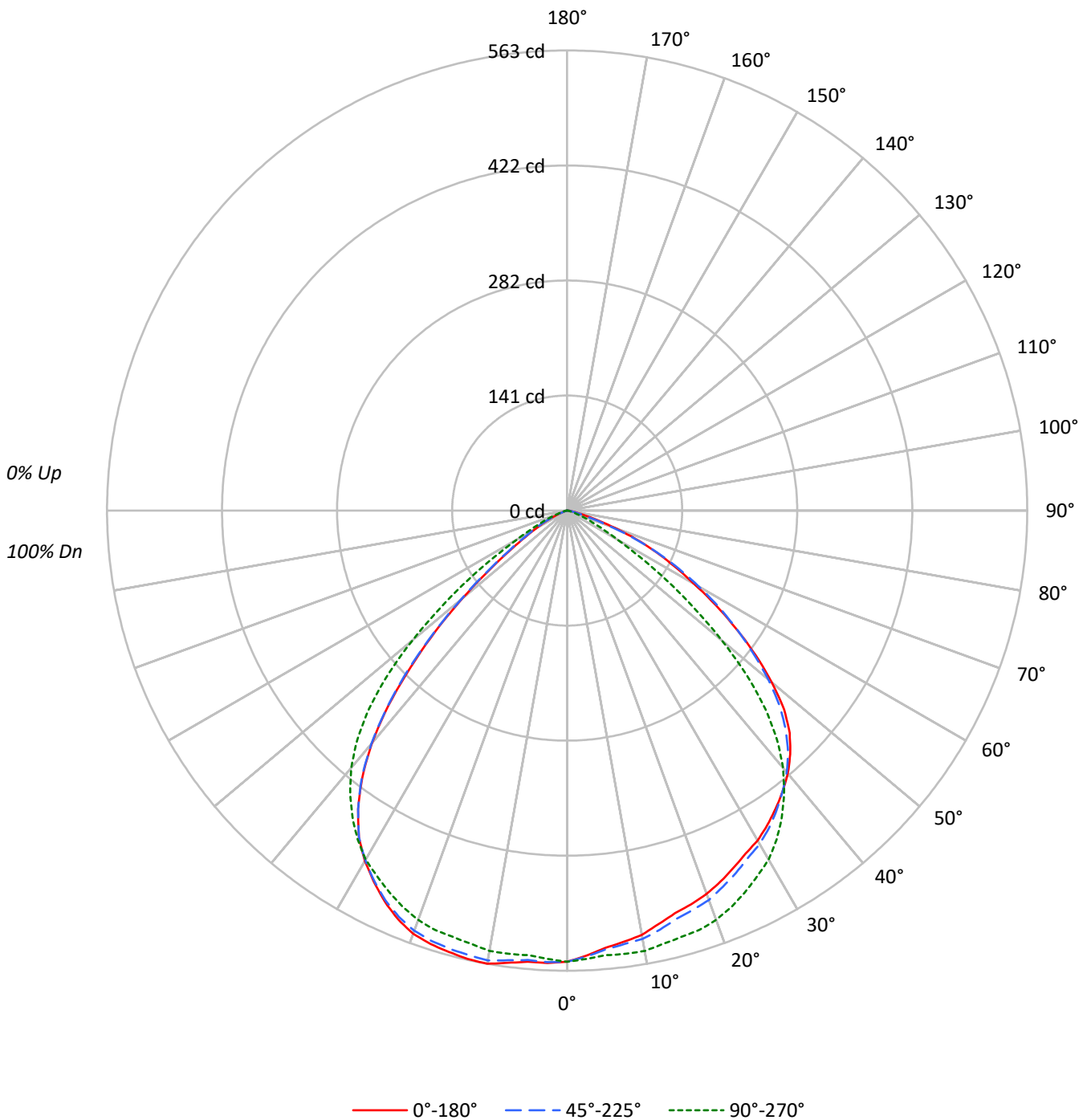
Input Watts (W): 24.3
Input Voltage (V): NR
Input Current (A_{in}): 0.2041
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: 6 HR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	50	30	10	0		
RCR																										
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100					100			
1	111	108	104	101	109	105	102	100	101	99	97	98	96	94	94	92	91	89					89			
2	103	97	91	86	101	95	90	85	91	87	84	88	85	82	85	82	80	78					78			
3	95	87	80	74	93	85	79	74	82	77	73	80	75	71	77	73	70	68					68			
4	88	78	71	65	86	77	70	64	74	68	64	72	67	63	70	66	62	60					60			
5	82	71	63	57	80	70	62	57	68	61	56	66	60	56	64	59	55	53					53			
6	76	64	56	50	74	63	56	50	62	55	50	60	54	49	58	53	49	47					47			
7	71	59	51	45	69	58	50	45	56	50	45	55	49	44	54	48	44	42					42			
8	66	54	46	41	65	53	46	40	52	45	40	51	45	40	49	44	40	38					38			
9	62	49	42	37	61	49	42	37	48	41	37	47	41	36	46	40	36	34					34			
10	58	46	38	34	57	45	38	33	44	38	33	43	37	33	43	37	33	31					31			

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	32949	32949	32949
5°	32176	32716	33195
10°	31942	33154	34124
15°	31516	33370	34544
20°	31697	33857	35000
25°	31745	33919	34775
30°	32119	33980	34118
35°	32427	33374	32500
40°	32727	32025	28986
45°	32500	28954	22877
50°	30366	22937	15508
55°	26329	15402	8950
60°	21369	8476	5253
65°	16949	4802	2966
70°	10820	2443	1222
75°	4843	1153	461
80°	2406	687	344
85°	2055	685	0



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ZONAL LUMENS:

Zone	Lumens	% Fixture	% Lamp
0°-10°	52.1	4.3	4.3
10°-20°	152.0	12.7	12.7
20°-30°	234.4	19.5	19.5
30°-40°	279.3	23.3	23.3
40°-50°	251.7	21.0	21.0
50°-60°	151.7	12.6	12.6
60°-70°	65.4	5.4	5.4
70°-80°	12.5	1.0	1.0
80°-90°	1.7	0.1	0.1
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°	438.5	36.5	36.5
0°-40°	717.8	59.8	59.8
0°-60°	1121.2	93.4	93.4
0°-90°	1200.7	100.0	100.1
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°	1200.7	100.0	100.1

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	552	552	552	552	552	
5°	537	539	546	552	554	51
15°	510	517	540	555	559	145
25°	482	489	515	526	528	223
35°	445	447	458	446	446	279
45°	385	378	343	274	271	294
55°	253	254	148	90	86	226
65°	120	122	34	23	21	118
75°	21	16	5	3	2	28
85°	3	3	1	0	0	4
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	552	552	552	552	552	552	552	552	552	552	552
2.5°	545	545	545	545	545	545	545	545	546	546	546
5°	537	536	536	536	536	537	537	538	538	539	540
7.5°	532	531	532	532	532	533	533	534	535	535	536
10°	527	526	526	527	527	528	529	530	531	532	533
12.5°	518	517	518	518	519	520	521	522	523	525	527
15°	510	510	510	510	511	512	513	515	516	517	520
17.5°	505	504	504	504	506	506	508	509	511	512	515
20°	499	498	498	499	500	501	502	503	505	507	509
22.5°	491	489	490	491	491	492	493	495	496	498	501
25°	482	481	481	481	482	483	484	485	487	489	491
27.5°	473	472	472	473	473	474	475	476	477	479	482
30°	466	465	465	465	466	466	466	468	469	471	472
32.5°	456	456	455	456	456	456	457	458	459	460	461
35°	445	444	444	444	444	445	445	445	446	447	448
37.5°	433	432	432	432	432	432	432	432	432	433	433
40°	420	419	419	419	419	418	418	418	418	418	418
42.5°	404	404	404	403	403	402	402	401	400	400	399
45°	385	384	384	384	383	382	382	380	380	378	378
47.5°	360	359	359	358	358	357	356	355	354	352	351
50°	327	327	327	327	326	326	325	323	323	321	319
52.5°	291	291	291	291	291	291	291	290	289	287	286
55°	253	253	254	255	256	256	256	255	255	254	253
57.5°	216	216	216	218	219	220	220	221	221	220	219
60°	179	179	180	182	184	185	185	186	186	186	186
62.5°	148	148	149	151	152	153	153	154	154	154	154
65°	120	120	120	121	121	121	122	122	122	122	122
67.5°	91	91	91	90	90	90	89	88	88	88	88
70°	62	62	62	61	60	59	58	56	56	55	56
72.5°	38	38	37	36	35	34	33	32	31	30	30
75°	21	21	21	20	19	19	18	17	16	16	15
77.5°	12	12	11	11	11	10	10	10	9	9	8
80°	7	7	7	7	7	6	6	6	6	6	6
82.5°	5	5	5	5	5	4	4	4	4	4	4
85°	3	3	3	3	3	3	3	3	3	3	3
87.5°	2	2	2	2	2	2	2	2	2	1	1
90°	0	0	0	0	0	0	0	0	0	0	0



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°	105°
0°	552	552	552	552	552	552	552	552	552	552	552
2.5°	546	547	547	548	548	548	549	549	550	550	551
5°	540	541	541	542	543	544	545	546	547	547	548
7.5°	538	539	540	541	543	544	545	547	548	549	550
10°	535	537	538	540	542	544	545	547	549	550	552
12.5°	528	531	533	535	537	540	541	543	546	548	550
15°	522	524	527	529	532	535	537	540	542	544	546
17.5°	518	520	523	526	529	532	535	538	540	542	544
20°	512	515	518	521	524	527	531	533	536	538	540
22.5°	503	506	510	513	516	520	523	525	528	530	532
25°	494	497	500	503	507	510	513	515	518	520	521
27.5°	484	487	490	493	496	499	502	504	506	508	509
30°	474	477	480	483	486	488	491	493	494	495	495
32.5°	463	466	468	471	473	475	477	477	478	478	478
35°	449	451	453	455	457	458	458	458	458	456	454
37.5°	434	435	436	437	438	438	438	436	434	431	427
40°	418	418	418	418	417	416	414	411	406	401	394
42.5°	399	398	397	395	392	389	385	380	373	364	354
45°	376	374	372	368	363	356	350	343	333	322	309
47.5°	348	345	341	334	326	317	308	298	286	273	260
50°	316	313	306	297	285	272	260	247	235	222	208
52.5°	283	278	269	257	241	225	210	196	184	171	158
55°	250	245	234	218	199	179	162	148	136	125	115
57.5°	217	212	200	183	161	139	119	105	95	87	81
60°	184	179	168	150	128	105	85	71	64	59	56
62.5°	154	149	139	122	101	79	61	49	44	41	40
65°	122	119	110	95	77	58	43	34	30	28	27
67.5°	88	86	80	69	55	40	29	23	20	18	17
70°	55	55	52	45	35	25	18	14	12	11	10
72.5°	30	30	29	25	20	14	10	8	7	6	6
75°	14	14	14	13	11	8	6	5	4	4	4
77.5°	8	8	7	7	6	5	4	3	3	3	2
80°	5	5	5	4	4	3	3	2	2	2	2
82.5°	4	4	3	3	3	2	2	2	1	1	1
85°	3	2	2	2	2	2	1	1	1	1	0
87.5°	1	1	1	1	1	1	1	0	0	0	0
90°	0	0	0	0	0	0	0	0	0	0	0



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CANDELA DISTRIBUTION (continued):

	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°	160°
0°	552	552	552	552	552	552	552	552	552	552	552
2.5°	551	551	552	552	553	553	553	553	553	554	554
5°	549	549	550	551	551	552	553	553	553	554	554
7.5°	551	552	553	554	555	555	556	556	557	557	558
10°	553	554	556	557	558	559	560	561	561	562	561
12.5°	551	553	554	555	557	557	558	559	560	561	561
15°	548	550	551	553	554	555	556	557	557	558	558
17.5°	546	548	549	550	551	552	553	554	554	555	555
20°	542	543	544	545	546	547	548	549	549	550	550
22.5°	533	535	535	536	537	538	538	539	539	540	540
25°	522	523	524	525	525	526	526	526	527	527	527
27.5°	510	510	510	510	511	511	511	511	511	512	512
30°	495	495	495	495	495	494	495	495	495	495	495
32.5°	477	476	475	474	474	474	473	473	473	473	473
35°	452	451	449	447	447	446	446	446	446	446	446
37.5°	423	419	417	415	414	413	413	413	413	412	412
40°	387	382	377	375	374	373	373	373	372	372	372
42.5°	345	337	331	328	326	326	325	325	325	325	325
45°	297	287	280	277	274	274	274	273	273	272	273
47.5°	246	235	227	224	222	221	220	220	220	219	219
50°	195	184	177	173	171	170	170	169	169	168	168
52.5°	146	137	131	128	126	125	125	124	124	123	123
55°	105	98	94	92	90	90	89	88	88	87	87
57.5°	75	70	68	66	65	65	64	63	63	62	62
60°	53	52	50	49	49	48	47	47	46	46	45
62.5°	39	38	37	36	35	35	34	34	33	33	33
65°	27	26	25	24	24	23	23	23	22	22	22
67.5°	17	16	15	15	14	14	14	13	13	13	13
70°	10	9	9	8	8	8	8	8	8	7	7
72.5°	6	5	5	5	5	4	4	4	4	4	4
75°	3	3	3	3	3	3	3	3	2	2	2
77.5°	2	2	2	2	2	2	2	2	2	1	2
80°	1	1	1	1	1	1	1	1	1	1	1
82.5°	1	1	1	1	1	1	1	1	1	1	1
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):

	165°	170°	175°	180°
0°	552	552	552	552
2.5°	554	554	554	554
5°	554	554	555	554
7.5°	558	558	558	558
10°	562	562	563	563
12.5°	561	562	562	562
15°	559	559	559	559
17.5°	556	556	556	556
20°	550	551	551	551
22.5°	540	540	541	541
25°	527	528	528	528
27.5°	512	512	512	512
30°	495	495	495	495
32.5°	473	473	473	474
35°	446	446	446	446
37.5°	412	412	412	412
40°	372	372	372	372
42.5°	324	324	324	324
45°	272	272	272	271
47.5°	218	219	218	218
50°	167	167	167	167
52.5°	122	122	122	122
55°	86	86	86	86
57.5°	61	61	61	61
60°	45	44	44	44
62.5°	32	32	32	32
65°	21	21	21	21
67.5°	13	13	13	13
70°	7	7	7	7
72.5°	4	4	4	4
75°	2	2	2	2
77.5°	1	1	2	2
80°	1	1	1	1
82.5°	1	1	1	1
85°	0	0	0	0
87.5°	0	0	0	0
90°	0	0	0	0

(END OF REPORT)