

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: P21279

Luminaire Tested: **ML712827TUNVD010-495PWW06-H750ICAT**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P21279
Test Lab: INNOVATION CENTER P2
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: HALO
Catalog Number: ML712827TUNVD010-495PWW06-H750ICAT
Description: HALO 6 INCH LED DOWNLIGHT WITH 1200 Lmn MODULE, DIFFUSE LENS AND WHITE 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: 1187 (1 lamp)
Luminaire Lumens: 1187.1 lumens
Efficiency: 100.0%
Efficacy: 48.8 lumens/watt
Spacing Criteria (0/90/45): 1.22 / 1.23 / 1.28
Luminous Opening: Circular (Dia: 0.48' x H: 0')
CIE Type: Direct

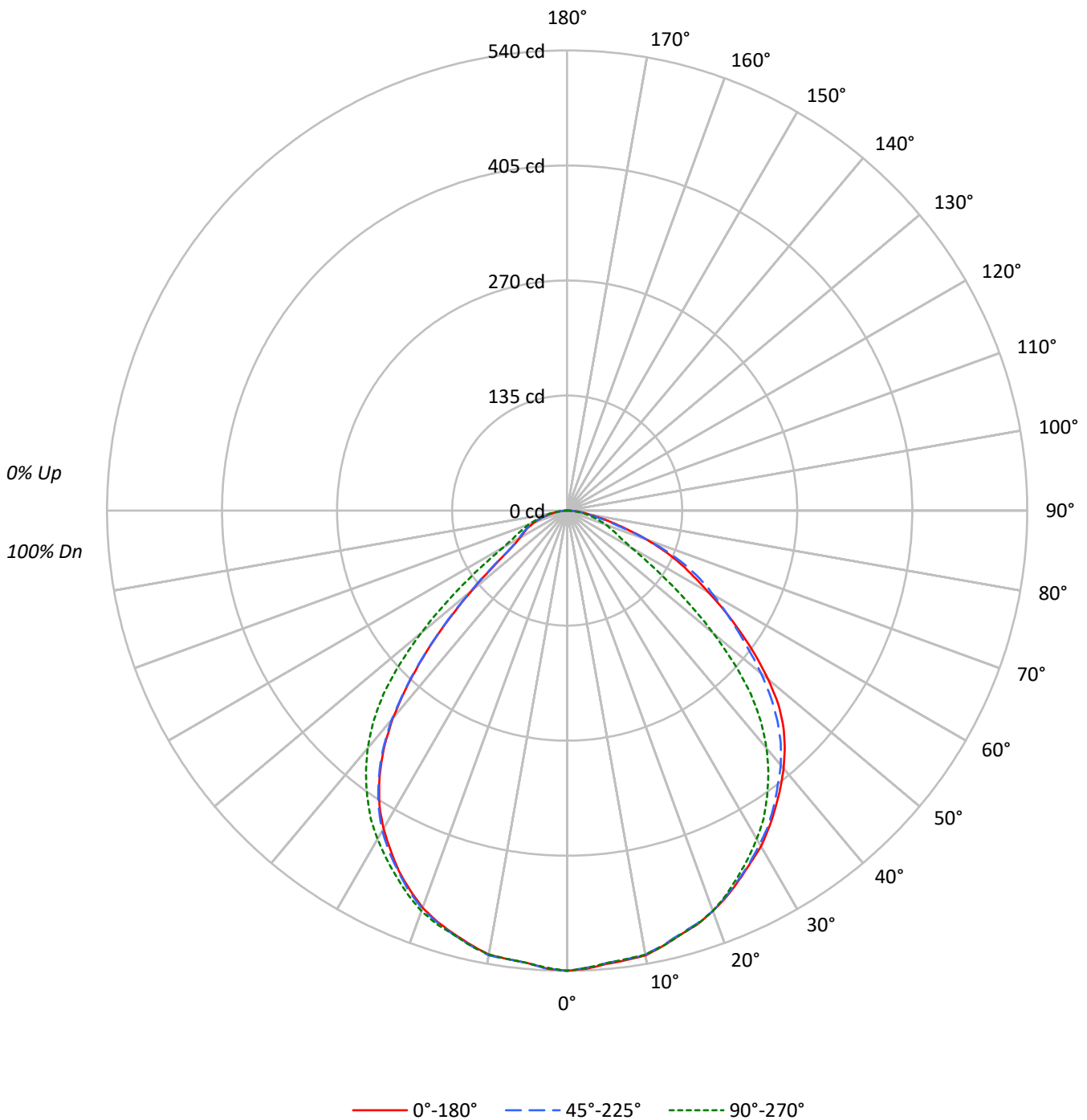
Input Watts (W): 24.3
Input Voltage (V): NR
Input Current (Ain): 0.2037
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: 6 HR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	110	106	103	99	108	104	101	98	100	97	95	96	94	92	92	91	89					87				
2	102	94	89	83	99	93	87	83	89	85	81	86	82	79	83	80	77					75				
3	94	84	77	71	91	83	76	71	80	74	69	77	72	68	75	71	67					65				
4	86	76	68	62	84	74	67	61	72	66	60	70	64	60	68	63	59					57				
5	80	68	60	54	78	67	60	54	65	58	53	63	57	53	62	56	52					50				
6	74	62	54	48	73	61	53	48	59	52	47	58	52	47	56	51	46					45				
7	69	57	48	43	68	56	48	43	54	47	42	53	47	42	52	46	42					40				
8	65	52	44	39	63	51	44	38	50	43	38	49	43	38	48	42	38					36				
9	61	48	40	35	59	47	40	35	46	39	35	45	39	34	44	38	34					33				
10	57	44	37	32	56	44	37	32	43	36	32	42	36	32	41	35	31					30				

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	32233	32233	32233
5°	31997	31937	31937
10°	32124	32063	32063
15°	31825	31825	31763
20°	31761	31761	31507
25°	31482	31218	30757
30°	31361	30672	29707
35°	31042	29803	27982
40°	30779	28363	24779
45°	30305	25747	19584
50°	28602	20801	13558
55°	25809	14882	9054
60°	22802	10267	7640
65°	20621	8898	7486
70°	17278	8377	7155
75°	12684	7611	6458
80°	9281	6875	5500
85°	8218	5479	4109



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ZONAL LUMENS:

Zone	Lumens	% Fixture	% Lamp
0°-10°	50.8	4.3	4.3
10°-20°	145.4	12.3	12.3
20°-30°	217.8	18.4	18.4
30°-40°	252.5	21.3	21.3
40°-50°	225.4	19.0	19.0
50°-60°	148.1	12.5	12.5
60°-70°	94.2	7.9	7.9
70°-80°	42.8	3.6	3.6
80°-90°	10.0	0.8	0.8
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°	414.1	34.9	34.9
0°-40°	666.6	56.2	56.2
0°-60°	1040.0	87.6	87.6
0°-90°	1187.1	100.0	100.0
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°	1187.1	100.0	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	540	540	540	540	540	
5°	534	533	533	533	533	51
15°	515	514	515	515	514	146
25°	478	477	474	468	467	221
35°	426	423	409	386	384	267
45°	359	349	305	233	232	275
55°	248	243	143	88	87	222
65°	146	155	63	54	53	144
75°	55	49	33	30	28	61
85°	12	11	8	7	6	14
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°	540	540	540	540	540	540	540	540	540	540	540
2.5°	538	537	537	537	537	537	537	537	537	537	537
5°	534	533	533	533	533	533	533	533	533	533	533
7.5°	532	532	532	531	531	532	532	531	532	531	531
10°	530	529	529	529	529	529	529	529	529	529	529
12.5°	523	522	522	522	522	522	522	522	522	522	522
15°	515	514	514	514	514	514	514	514	514	514	514
17.5°	509	508	508	508	508	508	508	508	508	508	508
20°	500	500	500	500	500	500	500	500	500	500	500
22.5°	490	489	489	489	489	489	489	489	489	489	489
25°	478	477	477	477	477	477	477	477	477	477	477
27.5°	466	466	466	465	466	465	465	465	464	465	464
30°	455	454	454	454	454	454	453	453	453	452	452
32.5°	441	441	441	440	440	440	439	440	439	439	438
35°	426	426	426	425	425	425	424	424	423	423	422
37.5°	411	410	410	410	409	409	408	408	407	406	405
40°	395	395	394	394	394	393	392	391	390	390	388
42.5°	378	377	377	377	376	375	374	373	372	371	369
45°	359	358	358	357	356	355	354	352	351	349	347
47.5°	336	335	335	334	333	332	330	328	326	324	322
50°	308	308	307	306	305	298	303	301	299	297	294
52.5°	278	278	277	277	277	276	274	273	271	269	266
55°	248	248	248	248	248	248	247	246	245	243	242
57.5°	219	219	219	220	220	221	221	221	220	220	219
60°	191	191	192	193	194	195	196	197	198	198	199
62.5°	167	168	169	170	171	172	174	175	176	178	179
65°	146	146	147	148	149	150	151	152	154	155	157
67.5°	123	123	123	123	124	124	125	126	128	129	130
70°	99	99	98	98	98	98	98	98	98	99	100
72.5°	75	75	74	74	73	72	71	71	70	71	71
75°	55	55	54	53	52	52	51	50	49	49	49
77.5°	39	39	39	38	37	37	36	35	35	34	33
80°	27	27	27	27	26	25	25	25	24	24	23
82.5°	19	19	18	18	18	18	18	17	17	17	16
85°	12	12	12	12	12	12	11	11	11	11	10
87.5°	6	6	6	6	6	6	6	6	5	5	5
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°	540	540	540	540	540	540	540	540	540	540	540
2.5°	537	537	537	537	538	537	537	537	537	537	538
5°	533	533	533	532	533	533	533	533	533	533	533
7.5°	532	531	532	531	531	532	531	531	531	531	531
10°	529	529	529	529	529	529	529	529	529	529	529
12.5°	522	522	522	523	522	523	523	523	523	523	523
15°	515	515	515	515	515	515	515	515	515	515	515
17.5°	509	509	509	508	508	509	509	509	508	508	508
20°	500	500	500	501	500	500	500	500	500	499	499
22.5°	489	489	489	489	489	489	488	488	488	487	487
25°	477	476	477	476	476	475	475	474	473	473	472
27.5°	465	464	464	463	462	462	461	460	459	458	457
30°	452	452	451	450	449	448	447	445	444	442	441
32.5°	438	437	436	435	434	433	431	429	426	424	422
35°	422	420	419	418	416	414	412	409	406	403	399
37.5°	404	403	402	399	397	394	391	388	383	378	373
40°	387	385	383	380	377	373	369	364	359	351	343
42.5°	368	365	362	358	354	349	344	337	329	319	308
45°	345	342	338	333	327	320	313	305	295	282	269
47.5°	320	316	311	304	295	286	277	266	255	242	227
50°	291	287	280	271	260	248	236	224	212	198	185
52.5°	264	259	251	238	224	209	194	182	170	157	145
55°	239	234	224	209	191	173	156	143	132	122	112
57.5°	218	213	201	184	163	142	124	111	101	94	87
60°	198	193	182	164	141	119	99	86	79	74	71
62.5°	179	175	164	147	125	103	84	72	66	63	62
65°	157	154	145	129	109	89	73	63	59	57	56
67.5°	131	129	121	108	92	75	63	55	52	51	50
70°	101	101	95	86	74	62	53	48	46	45	44
72.5°	72	72	69	64	56	49	43	40	39	38	38
75°	48	48	47	45	41	37	34	33	32	32	31
77.5°	33	32	32	31	30	28	27	26	26	25	25
80°	23	22	22	22	21	21	20	20	19	19	19
82.5°	16	16	15	15	15	14	14	14	14	13	13
85°	10	10	10	9	9	9	9	8	8	8	8
87.5°	5	5	4	4	4	4	4	4	3	3	3
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°	540	540	540	540	540	540	540	540	540	540	540
2.5°	538	538	538	538	538	538	538	538	538	538	538
5°	533	532	533	533	533	533	533	533	533	533	533
7.5°	531	531	531	531	531	531	531	531	531	531	531
10°	529	529	529	529	530	530	529	529	530	529	529
12.5°	523	523	523	523	523	523	523	522	523	523	522
15°	515	515	515	515	515	515	515	514	514	514	514
17.5°	508	508	507	507	507	507	507	506	507	506	506
20°	499	498	498	497	497	497	497	497	497	496	496
22.5°	486	486	485	484	484	484	484	483	483	483	483
25°	471	471	470	469	469	468	468	467	467	467	467
27.5°	455	454	454	453	452	452	451	450	450	450	450
30°	439	437	436	435	434	434	433	432	432	432	432
32.5°	419	417	415	414	413	412	412	411	411	411	411
35°	395	392	390	388	387	386	386	385	385	385	384
37.5°	367	363	360	358	356	356	355	355	355	354	354
40°	335	329	325	322	320	320	320	319	319	318	318
42.5°	298	289	283	280	278	278	277	277	277	277	277
45°	257	246	239	236	234	233	233	232	232	232	232
47.5°	214	202	195	191	190	189	188	188	188	187	187
50°	171	161	154	150	149	148	147	147	147	147	146
52.5°	133	124	118	116	114	114	113	113	113	112	112
55°	102	96	92	90	89	88	88	88	88	88	87
57.5°	81	77	75	74	74	73	73	73	73	72	72
60°	69	67	66	66	66	65	65	65	65	64	64
62.5°	61	61	60	60	60	60	59	59	59	59	58
65°	55	55	55	55	55	54	54	54	53	53	53
67.5°	50	50	49	49	49	49	48	48	48	48	47
70°	44	44	44	43	43	43	42	42	42	41	41
72.5°	38	37	37	37	36	36	36	35	35	35	35
75°	31	31	30	30	30	30	29	29	29	29	29
77.5°	25	24	24	24	23	23	23	23	22	22	22
80°	19	18	18	18	17	17	17	17	17	16	16
82.5°	13	12	12	12	12	11	11	11	11	11	11
85°	8	7	7	7	7	7	6	6	6	6	6
87.5°	3	3	2	2	2	2	2	2	2	2	2
90°	0	0	0	0	0	0	0	0	0	0	0



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CANDELA DISTRIBUTION (continued):

	165°	170°	175°	180°
0°	540	540	540	540
2.5°	538	538	539	538
5°	533	533	533	533
7.5°	531	531	531	531
10°	529	529	529	529
12.5°	523	522	522	522
15°	514	514	514	514
17.5°	506	506	506	506
20°	496	496	496	496
22.5°	483	483	483	482
25°	467	467	467	467
27.5°	450	450	450	449
30°	432	432	431	431
32.5°	410	410	410	410
35°	385	384	384	384
37.5°	354	354	354	354
40°	318	319	318	318
42.5°	276	276	276	276
45°	232	232	231	232
47.5°	187	187	187	187
50°	146	146	146	146
52.5°	112	112	112	112
55°	87	87	87	87
57.5°	72	72	72	72
60°	64	64	64	64
62.5°	58	58	58	58
65°	53	53	53	53
67.5°	47	47	47	47
70°	41	41	41	41
72.5°	35	35	34	35
75°	28	28	28	28
77.5°	22	22	22	22
80°	16	16	16	16
82.5°	11	11	11	11
85°	6	6	6	6
87.5°	2	2	2	2
90°	0	0	0	0

(END OF REPORT)