

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: G3-1907-388-1

Luminaire Tested: **HLB4SP-2700K**

Test Date: 07/05/19

**Test Information**

Test Method: LM-41-14  
Report Number: G3-1907-388-1  
Test Lab: INNOVATION CENTER(G3)  
Test Date: 07/05/19  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: HALO  
Catalog Number: HLB4SP-2700K  
Description: 4IN HLBSP AT 2700K.  
Light Source: (64) SEOUL LEDS 90 CRI 2700K  
CSPY11  
Ballast/Driver: (1) LEEDARSON ELECT DRIVER  
4HLBSP-CCTS

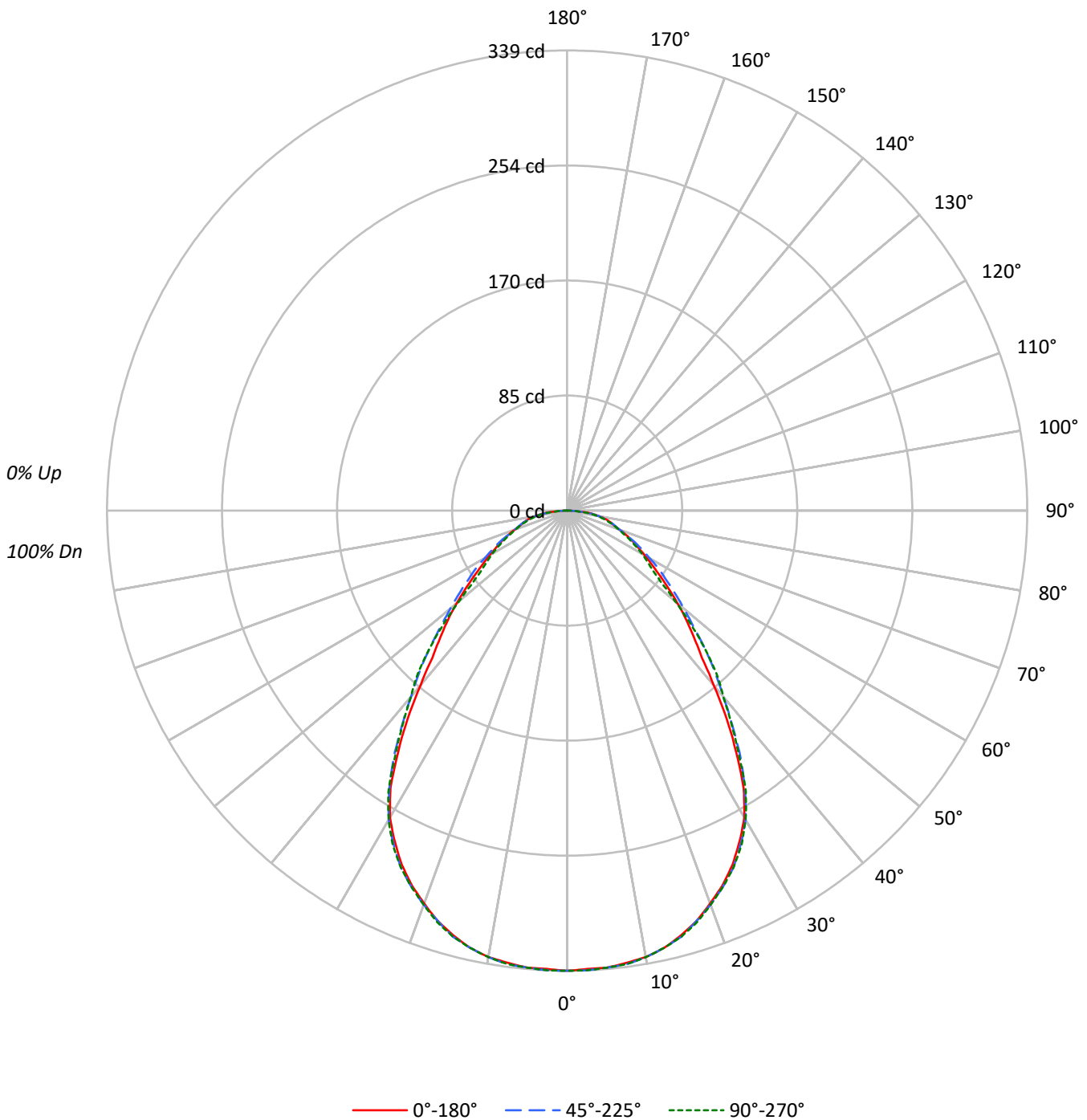
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 677.9 lumens  
Efficiency: N/A  
Efficacy: 69.0 lumens/watt  
Spacing Criteria (0/90/45): 1.15 / 1.16 / 1.16  
Luminous Opening: Rectangular (W 0.21' x L: 0.21' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 9.82  
Input Voltage (V): 120.0  
Input Current (Ain): 0.0837  
Voltage Rise (V): NR  
Power Factor: 0.9783  
Total Harmonic Distortion (THDi): 11.8%  
Frequency (hertz): 60  
Stabilization Time: 0.5 HR  
Operation Time: 3 HR  
Ambient Temperature (°C): 24.7  
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	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	102	98	107	103	100	97	99	96	94	95	93	91	92	90	88	86				86
2	101	94	88	83	99	92	86	82	89	84	80	85	81	78	82	79	76	74				74
3	93	84	77	71	91	82	76	70	80	74	69	77	72	68	74	70	67	65				65
4	86	76	68	62	84	74	67	61	72	65	60	70	64	60	68	63	59	57				57
5	80	68	60	54	78	67	60	54	65	59	53	63	58	53	62	57	52	50				50
6	75	62	54	48	73	62	54	48	60	53	48	58	52	47	57	51	47	45				45
7	70	57	49	43	68	56	49	43	55	48	43	54	47	43	52	47	42	41				41
8	65	53	45	39	64	52	45	39	51	44	39	50	43	39	48	43	39	37				37
9	61	49	41	36	60	48	41	36	47	40	36	46	40	36	45	39	35	34				34
10	58	45	38	33	56	45	38	33	44	37	33	43	37	33	42	37	32	31				31

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°
0°	84072	84072	84072
5°	84145	84145	84145
10°	84110	84110	84110
15°	83187	83444	83444
20°	81287	81551	81551
25°	78808	79355	79355
30°	74742	75315	75315
35°	65698	67514	66909
40°	54389	57950	57950
45°	46296	50154	50154
50°	40897	43212	40125
55°	35887	38482	33293
60°	32736	34720	31744
65°	31102	32275	29928
70°	29729	29729	29004
75°	31621	31621	29704
80°	34276	34276	31420
85°	36991	31300	28455



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	32.2	4.7
10°-20°	91.3	13.5
20°-30°	132.7	19.6
30°-40°	137.4	20.3
40°-50°	108.4	16.0
50°-60°	76.8	11.3
60°-70°	52.7	7.8
70°-80°	33.9	5.0
80°-90°	12.4	1.8
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°	256.1	37.8
0°-40°	393.6	58.1
0°-60°	578.8	85.4
0°-90°	677.9	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	677.9	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	339	339	339	339	339	
5°	338	338	338	338	338	32
15°	324	325	325	325	325	91
25°	288	289	290	289	290	132
35°	217	224	223	218	221	135
45°	132	146	143	135	143	103
55°	83	84	89	86	77	75
65°	53	53	55	52	51	53
75°	33	31	33	33	31	34
85°	13	11	11	12	10	13
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	339	339	339	339	339
2.5°	338	339	339	339	339
5°	338	338	338	338	338
7.5°	336	337	337	337	337
10°	334	334	334	334	334
12.5°	330	330	330	330	330
15°	324	325	325	325	325
17.5°	317	317	317	318	318
20°	308	310	309	309	309
22.5°	299	300	300	299	300
25°	288	289	290	289	290
27.5°	275	278	277	277	278
30°	261	263	263	262	263
32.5°	242	245	244	242	245
35°	217	224	223	218	221
37.5°	193	202	200	194	199
40°	168	183	179	170	179
42.5°	147	164	161	150	163
45°	132	146	143	135	143
47.5°	119	127	126	120	123
50°	106	109	112	107	104
52.5°	94	95	100	96	88
55°	83	84	89	86	77
57.5°	74	75	80	77	70
60°	66	67	70	68	64
62.5°	59	60	62	60	57
65°	53	53	55	52	51
67.5°	47	46	47	45	45
70°	41	41	41	40	40
72.5°	36	36	37	37	36
75°	33	31	33	33	31
77.5°	29	27	28	28	27
80°	24	23	24	24	22
82.5°	19	18	18	19	17
85°	13	11	11	12	10
87.5°	5	4	4	5	4
90°	0	0	0	0	0

(END OF REPORT)