

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: G3-1907-388-5

Luminaire Tested: **HLB4SP-5000K**

Test Date: 07/05/19

**Test Information**

Test Method: LM-41-14  
Report Number: G3-1907-388-5  
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-5000K  
Description: 4IN HLBSP AT 5000K.  
Light Source: (64) SEOUL LEDS 90 CRI 5000K  
CSPY11  
Ballast/Driver: (1) LEEDARSON ELECT DRIVER  
4HLBSP-CCTS

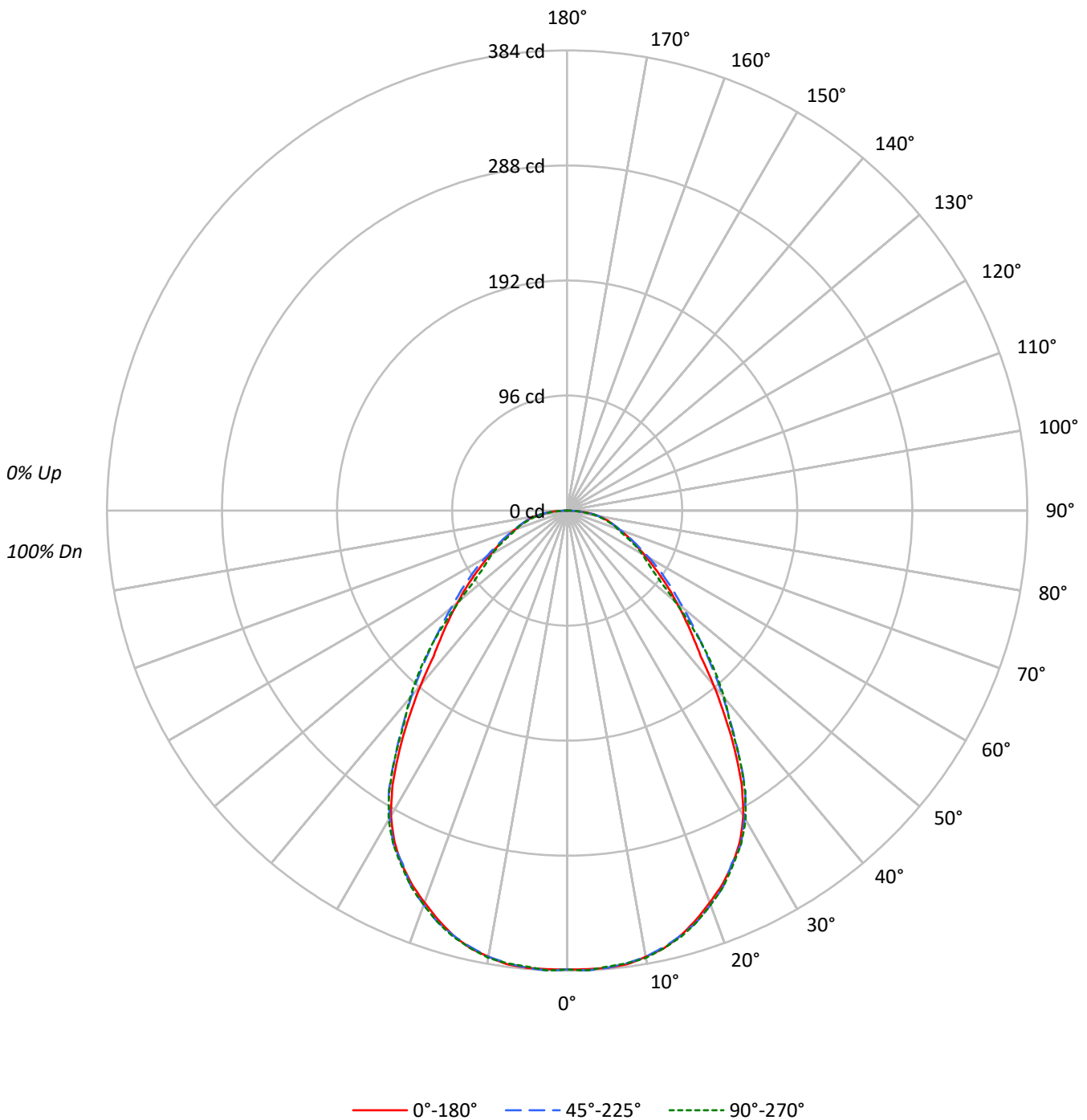
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 764.6 lumens  
Efficiency: N/A  
Efficacy: 78.3 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): 9.77  
Input Voltage (V): 120.0  
Input Current (Ain): 0.0833  
Voltage Rise (V): NR  
Power Factor: 0.978  
Total Harmonic Distortion (THDi): 11.8%  
Frequency (hertz): 60  
Stabilization Time: 0.5 HR  
Operation Time: 3 HR  
Ambient Temperature (°C): 24.6  
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	102	98	107	103	100	97	99	96	94	95	93	91	92	90	88					86				
2	101	94	88	83	99	92	86	82	89	84	80	85	81	78	82	79	76					74				
3	93	84	77	71	91	82	76	70	80	74	69	77	72	68	74	70	67					65				
4	86	76	68	62	84	74	67	61	72	65	60	70	64	60	68	63	59					57				
5	80	69	60	54	78	67	60	54	65	59	53	64	58	53	62	57	52					50				
6	75	62	54	48	73	62	54	48	60	53	48	58	52	47	57	51	47					45				
7	70	57	49	44	68	56	49	43	55	48	43	54	47	43	52	47	43					41				
8	65	53	45	39	64	52	45	39	51	44	39	50	43	39	48	43	39					37				
9	61	49	41	36	60	48	41	36	47	40	36	46	40	36	45	39	35					34				
10	58	45	38	33	56	45	38	33	44	37	33	43	37	33	42	37	33					31				

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

	0°	45°	90°
0°	94985	94985	94985
5°	95347	95347	95098
10°	95191	95191	95443
15°	94227	94227	94484
20°	91843	92371	92371
25°	89206	88933	89480
30°	84192	84765	85337
35°	73872	75688	75688
40°	61511	65396	66044
45°	51908	56116	56467
50°	45913	48614	45141
55°	41076	43670	37617
60°	37200	39184	35712
65°	35209	35796	33449
70°	33355	34080	32630
75°	35454	35454	33537
80°	38561	38561	35705
85°	39837	36991	34146



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	36.4	4.8
10°-20°	103.3	13.5
20°-30°	149.8	19.6
30°-40°	154.8	20.2
40°-50°	122.0	16.0
50°-60°	86.8	11.4
60°-70°	59.4	7.8
70°-80°	38.2	5.0
80°-90°	14.0	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°	289.4	37.9
0°-40°	444.2	58.1
0°-60°	653.0	85.4
0°-90°	764.6	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	764.6	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	383	383	383	383	383	
5°	383	382	383	382	382	36
15°	367	367	367	367	368	103
25°	326	326	325	326	327	149
35°	244	252	250	245	250	152
45°	148	164	160	152	161	116
55°	95	95	101	97	87	86
65°	60	60	61	59	57	59
75°	37	35	37	37	35	39
85°	14	12	13	13	12	15
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	383	383	383	383	383
2.5°	383	383	384	384	384
5°	383	382	383	382	382
7.5°	382	381	381	382	381
10°	378	378	378	378	379
12.5°	374	373	373	373	374
15°	367	367	367	367	368
17.5°	358	359	360	359	360
20°	348	350	350	348	350
22.5°	338	339	340	338	340
25°	326	326	325	326	327
27.5°	312	313	314	312	314
30°	294	296	296	295	298
32.5°	271	277	277	273	276
35°	244	252	250	245	250
37.5°	216	227	225	218	223
40°	190	206	202	191	204
42.5°	165	186	180	169	183
45°	148	164	160	152	161
47.5°	133	142	142	136	138
50°	119	123	126	121	117
52.5°	107	108	113	108	99
55°	95	95	101	97	87
57.5°	84	84	90	87	79
60°	75	75	79	77	72
62.5°	66	68	69	67	65
65°	60	60	61	59	57
67.5°	53	52	54	51	50
70°	46	46	47	45	45
72.5°	41	41	42	41	41
75°	37	35	37	37	35
77.5°	32	30	31	32	30
80°	27	26	27	27	25
82.5°	21	20	21	21	19
85°	14	12	13	13	12
87.5°	5	5	5	5	4
90°	0	0	0	0	0

(END OF REPORT)