

Scaled data based on original data using  
LM-79-08 Approved Method: Electrical and Photometric Measurements of Solid-State  
Lighting Products

Test Report Prepared for

Cooper Lighting Solutions

(formerly Eaton)

Brand: METALUX

Report Number: P860029

Luminaire Tested: **SPHB-24SE-N-L840-CD**

Issue Date: 7/11/2024

This test was performed under the Supervised Manufacturer's Testing Program. The results of this test have not been influenced by sources from within Cooper Lighting Solutions or from external interests.



**Test Information**

Test Method: LM-79-08  
Report Number: P860029  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2404-343-7)  
Test Lab: INNOVATION CENTER  
Issue Date: 7/11/2024  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: METALUX  
Catalog Number: SPHB-24SE-N-L840-CD  
Description: 24000 Lumen Standard Efficacy Select Pro High Bay with Narrow Lens  
and, 4000K 80CRI LEDs  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.   Condition   Description

**Summary**

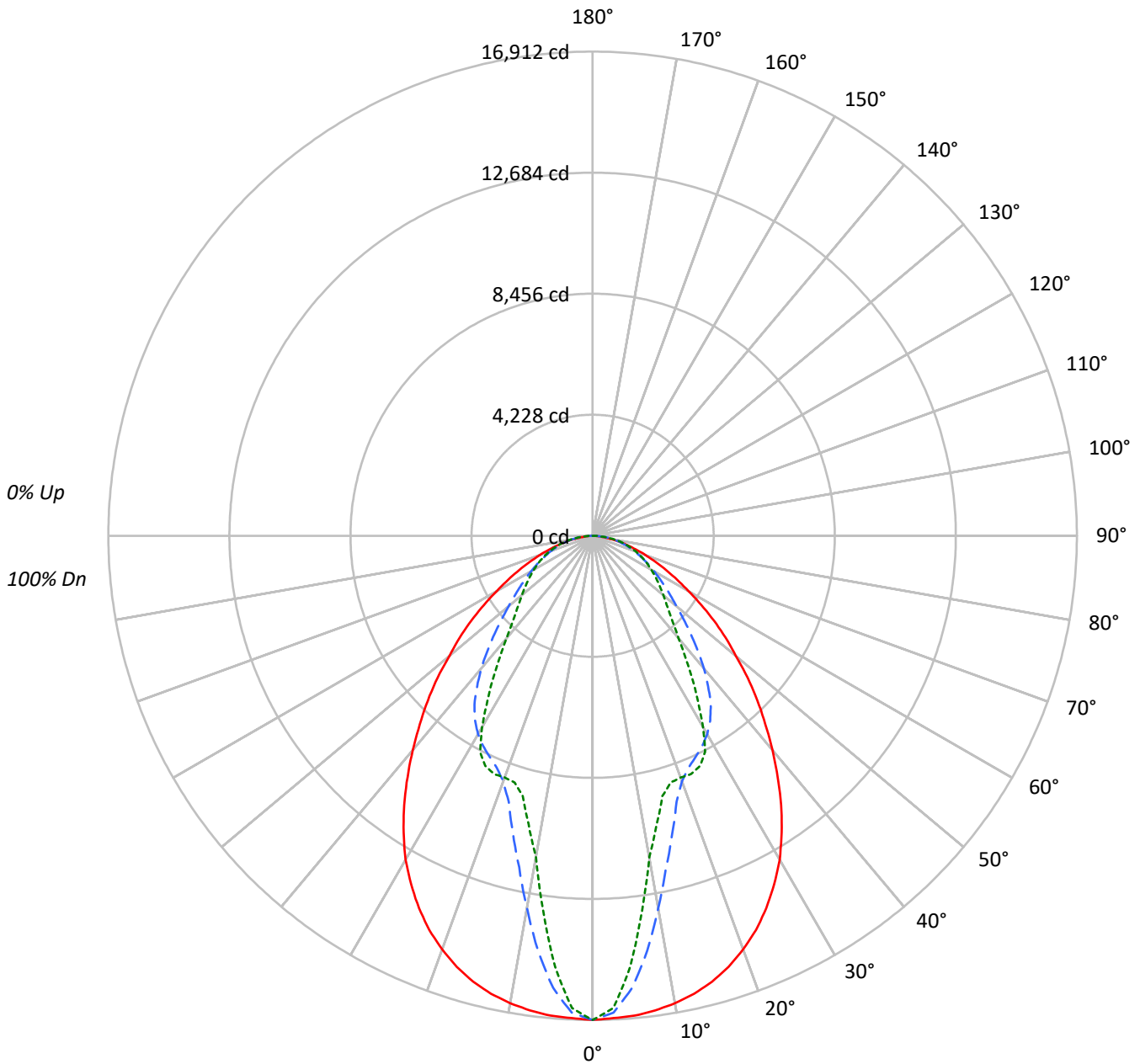
Lumens per Lamp: N/A  
Luminaire Lumens: 24786.0 lumens  
Efficiency: N/A  
Efficacy: 156.3 lumens/watt  
Spacing Criteria (0/90/45): 1.16 / 0.54 / 0.94  
Luminous Opening: Rectangular (W 1' x L: 1.38' x H: 0')  
CIE Type: Direct

Input Watts (W): 158.6  
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									
RC	80									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																			
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	88	84	80	85	81	78	82	79	76	74																			
3	93	84	76	71	91	82	75	70	79	73	69	77	72	68	74	70	66	64																			
4	86	75	67	61	84	74	67	61	72	65	60	69	64	59	67	62	58	56																			
5	80	68	60	54	78	67	59	54	65	58	53	63	57	53	61	56	52	50																			
6	74	62	54	48	73	61	54	48	60	53	47	58	52	47	56	51	47	45																			
7	70	57	49	43	68	56	49	43	55	48	43	53	47	43	52	46	42	40																			
8	65	53	45	39	64	52	44	39	51	44	39	49	43	39	48	43	38	37																			
9	61	49	41	36	60	48	41	36	47	40	36	46	40	35	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°	131912	131912	131912
5°	131759	124116	118243
10°	131308	104620	90191
15°	130216	86845	76003
20°	127593	75702	74609
25°	123492	73246	76357
30°	117655	72072	69490
35°	109242	68488	57583
40°	99475	61484	47549
45°	89794	53349	41743
50°	79242	46389	39089
55°	70317	41839	37625
60°	60261	38691	36858
65°	52161	36362	36673
70°	44637	34979	36628
75°	37469	33967	36303
80°	28590	32826	35548
85°	18722	29121	27385



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	1441.9	5.8
10°-20°	3310.8	13.4
20°-30°	4474.3	18.1
30°-40°	4709.0	19.0
40°-50°	3995.8	16.1
50°-60°	3095.3	12.5
60°-70°	2155.8	8.7
70°-80°	1234.4	5.0
80°-90°	359.2	1.4
90°-100°	9.6	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°	9227.0	37.2
0°-40°	13936.0	56.2
0°-60°	21027.0	84.8
0°-90°	24776.4	100.0
90°-120°	9.6	0.0
90°-150°	9.6	0.0
90°-180°	10.0	0.0
0°-180°	24786.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	16912	16912	16912	16912	16912	
5°	16828	16519	15852	15244	15102	###
15°	16126	13687	10755	9681	9412	4538
25°	14349	10136	8511	8757	8872	6587
35°	11473	7796	7193	6497	6047	7151
45°	8140	5854	4836	3974	3784	6270
55°	5171	3943	3077	2796	2767	4623
65°	2826	2314	1970	1970	1987	2823
75°	1243	1105	1127	1198	1205	1326
85°	209	271	325	306	306	266
90°	1	24	48	61	63	11
95°	1	4	8	8	6	1
105°	0	0	0	0	0	0
115°	0	0	0	0	0	0
125°	0	0	0	0	0	0
135°	0	0	0	0	0	0
145°	0	0	0	0	0	0
155°	0	0	0	0	0	0
165°	0	0	0	0	0	0
175°	0	0	0	0	0	0
180°	0	0	0	0	0	0



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	16911.9	16911.9	16911.9	16911.9	16911.9
2.5°	16862.9	16807.3	16671.8	16584.0	16515.6
5°	16828.0	16519.4	15851.9	15243.8	15101.8
7.5°	16723.4	16045.6	14619.0	13494.4	13210.4
10°	16578.8	15365.2	13209.1	11800.5	11387.4
12.5°	16386.4	14638.3	11858.6	10531.4	10328.7
15°	16125.6	13686.8	10754.7	9680.6	9412.0
17.5°	15787.4	12703.0	9736.1	9115.1	9040.2
20°	15371.7	11800.5	9120.2	8908.5	8988.5
22.5°	14904.3	10923.9	8762.6	8851.7	9001.4
25°	14349.1	10136.3	8510.8	8757.4	8872.3
27.5°	13725.5	9424.9	8279.7	8505.7	8505.7
30°	13063.2	8832.3	8002.1	7981.5	7715.5
32.5°	12289.8	8328.8	7639.3	7230.1	6835.0
35°	11472.6	7795.6	7192.6	6496.7	6047.4
37.5°	10615.3	7299.8	6627.1	5709.2	5290.9
40°	9769.6	6810.5	6038.4	5001.7	4669.9
42.5°	8927.8	6312.1	5425.1	4428.4	4166.3
45°	8140.3	5853.8	4836.4	3974.0	3784.2
47.5°	7339.8	5367.0	4292.9	3608.6	3476.9
50°	6530.3	4873.8	3822.9	3318.1	3221.3
52.5°	5848.6	4414.2	3424.0	3043.1	2985.0
55°	5170.8	3943.0	3076.7	2796.5	2766.8
57.5°	4498.1	3504.0	2759.0	2570.5	2564.1
60°	3862.9	3093.4	2480.2	2376.9	2362.7
62.5°	3322.0	2685.5	2215.5	2166.4	2172.9
65°	2826.2	2313.6	1970.2	1970.2	1987.0
67.5°	2366.6	1971.5	1745.5	1775.2	1798.5
70°	1957.3	1661.6	1533.8	1585.5	1606.1
72.5°	1570.0	1373.7	1331.1	1387.9	1404.7
75°	1243.3	1105.2	1127.1	1198.1	1204.6
77.5°	921.8	870.2	927.0	1004.5	1018.7
80°	636.5	641.7	730.8	785.0	791.4
82.5°	410.6	448.0	547.4	575.8	565.5
85°	209.2	271.1	325.4	306.0	306.0
87.5°	80.0	117.5	138.1	162.7	171.7
90°	1.3	24.5	47.8	60.7	63.3
92.5°	1.3	6.5	10.3	11.6	10.3
95°	1.3	3.9	7.7	7.7	6.5
97.5°	0.0	0.0	0.0	0.0	0.0
100°	0.0	0.0	0.0	0.0	0.0
102.5°	0.0	0.0	0.0	0.0	0.0
105°	0.0	0.0	0.0	0.0	0.0



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**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°
112.5°	0.0	0.0	0.0	0.0	0.0
115°	0.0	0.0	0.0	0.0	0.0
117.5°	0.0	0.0	0.0	0.0	0.0
120°	0.0	0.0	0.0	0.0	0.0
122.5°	0.0	0.0	0.0	0.0	0.0
125°	0.0	0.0	0.0	0.0	0.0
127.5°	0.0	0.0	0.0	0.0	0.0
130°	0.0	0.0	0.0	0.0	0.0
132.5°	0.0	0.0	0.0	0.0	0.0
135°	0.0	0.0	0.0	0.0	0.0
137.5°	0.0	0.0	0.0	0.0	0.0
140°	0.0	0.0	0.0	0.0	0.0
142.5°	0.0	0.0	0.0	0.0	0.0
145°	0.0	0.0	0.0	0.0	0.0
147.5°	0.0	0.0	0.0	0.0	0.0
150°	0.0	0.0	0.0	0.0	0.0
152.5°	0.0	0.0	0.0	0.0	0.0
155°	0.0	0.0	0.0	0.0	0.0
157.5°	0.0	0.0	0.0	0.0	0.0
160°	0.0	0.0	0.0	0.0	0.0
162.5°	0.0	0.0	0.0	0.0	0.0
165°	0.0	0.0	0.0	0.0	0.0
167.5°	0.0	0.0	0.0	0.0	0.0
170°	0.0	0.0	0.0	0.0	0.0
172.5°	0.0	0.0	0.0	0.0	0.0
175°	0.0	0.0	0.0	0.0	0.0
177.5°	0.0	0.0	0.0	0.0	0.0
180°	0.0	0.0	0.0	0.0	0.0



Report Generated By 670246072 / DESKTOP-50001EG







— 0°-180°    - - 45°-225°    - - - - 90°-270°







107.5°	0.0	0.0	0.0	0.0	0.0
110°	0.0	0.0	0.0	0.0	0.0



(END OF REPORT)