

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: P860020

Luminaire Tested: **SPHB-24SE-M-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: P860020  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2404-343-1)  
Test Lab: INNOVATION CENTER  
Issue Date: 7/11/2024  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: METALUX  
Catalog Number: SPHB-24SE-M-L840-CD  
Description: 24000 Lumen Standard Efficacy Select Pro High Bay with Medium Lens  
and, 4000K 80CRI LEDs  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.   Condition   Description

**Summary**

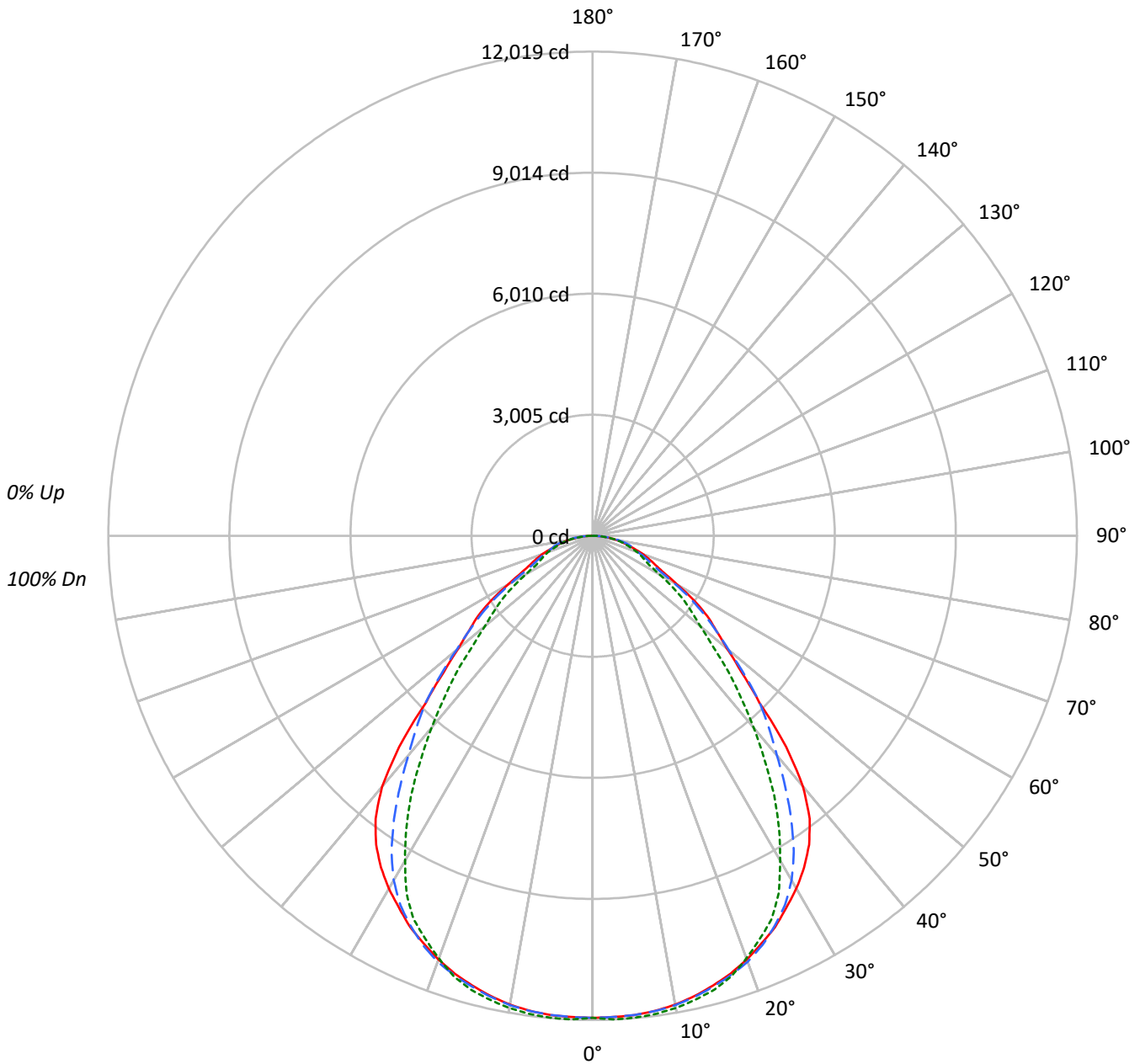
Lumens per Lamp: N/A  
Luminaire Lumens: 24836.0 lumens  
Efficiency: N/A  
Efficacy: 156.6 lumens/watt  
Spacing Criteria (0/90/45): 1.25 / 1.16 / 1.22  
Luminous Opening: Rectangular (W 1' x L: 1.38' x H: 0')  
CIE Type: Direct

Input Watts (W): 158.6  
Input Voltage (V): NR  
Input Current (A<sub>in</sub>): 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					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								
1	110	106	103	99	108	104	101	98	100	97	95	96	94	92	92	91	89	87								
2	102	95	89	84	99	93	87	83	89	85	81	86	82	79	83	80	77	75								
3	94	85	78	72	92	83	77	71	80	75	70	78	73	69	75	71	68	66								
4	87	76	69	63	85	75	68	62	73	66	61	70	65	61	68	64	60	58								
5	81	69	61	55	79	68	61	55	66	59	54	64	58	54	62	57	53	51								
6	75	63	55	49	73	62	54	49	60	54	48	59	53	48	57	52	48	46								
7	70	58	50	44	68	57	49	44	55	49	44	54	48	43	53	47	43	41								
8	66	53	45	40	64	52	45	40	51	44	39	50	44	39	49	43	39	37								
9	61	49	41	36	60	48	41	36	47	41	36	46	40	36	45	40	36	34								
10	58	45	38	33	57	45	38	33	44	37	33	43	37	33	42	37	33	31								

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

	0°	45°	90°
0°	93330	93330	93330
5°	93514	93489	94020
10°	93595	93695	94270
15°	93322	93564	94214
20°	92914	93386	92640
25°	92235	91977	90415
30°	91067	88921	83847
35°	89155	81807	74729
40°	82739	72406	63295
45°	64550	64724	52381
50°	52720	53467	42302
55°	47235	45454	37171
60°	37814	35795	29740
65°	31689	29009	26302
70°	30087	27640	26776
75°	27301	29344	25824
80°	27431	29987	27220
85°	23868	27967	22740



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	1137.7	4.6
10°-20°	3272.0	13.2
20°-30°	4884.6	19.7
30°-40°	5329.9	21.5
40°-50°	4360.1	17.6
50°-60°	2866.8	11.5
60°-70°	1644.7	6.6
70°-80°	996.7	4.0
80°-90°	334.7	1.3
90°-100°	8.7	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°	9294.4	37.4
0°-40°	14624.3	58.9
0°-60°	21851.2	88.0
0°-90°	24827.3	100.0
90°-120°	8.7	0.0
90°-150°	8.7	0.0
90°-180°	9.0	0.0
0°-180°	24836.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	11966	11966	11966	11966	11966	
5°	11943	11924	11940	11989	12008	###
15°	11557	11555	11587	11661	11667	3262
25°	10717	10742	10687	10558	10506	4930
35°	9363	9152	8591	8006	7848	5803
45°	5852	6289	5868	5180	4749	4645
55°	3474	3379	3342	2872	2733	3059
65°	1717	1692	1572	1529	1425	1755
75°	906	980	974	934	857	980
85°	267	303	312	273	254	289
90°	2	22	44	52	55	13
95°	2	3	5	5	3	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°	11965.5	11965.5	11965.5	11965.5	11965.5
2.5°	11957.6	11940.3	11956.0	12005.0	12019.2
5°	11943.4	11924.5	11940.3	11989.2	12008.1
7.5°	11894.5	11883.5	11899.2	11948.2	11971.8
10°	11817.2	11804.5	11829.8	11872.4	11902.4
12.5°	11702.0	11697.2	11720.9	11782.4	11795.1
15°	11556.8	11555.2	11586.8	11660.9	11667.2
17.5°	11392.6	11391.1	11430.5	11479.4	11462.1
20°	11193.8	11204.8	11250.6	11204.8	11160.7
22.5°	10955.5	10990.2	11001.3	10857.7	10835.6
25°	10717.2	10742.4	10687.2	10557.8	10505.7
27.5°	10409.5	10439.4	10336.9	10152.2	10003.9
30°	10111.2	10082.8	9872.9	9516.2	9309.5
32.5°	9768.7	9667.7	9290.6	8798.2	8610.4
35°	9363.1	9151.7	8591.4	8005.9	7848.1
37.5°	8850.3	8463.6	7851.3	7240.5	7002.2
40°	8125.9	7679.3	7111.1	6479.9	6216.3
42.5°	7111.1	6945.4	6475.1	5765.0	5450.9
45°	5851.8	6288.9	5867.6	5179.5	4748.6
47.5°	5009.0	5616.6	5110.0	4612.9	4019.5
50°	4344.6	4762.8	4406.2	3958.0	3486.1
52.5°	3864.9	3991.1	3847.5	3355.1	3086.9
55°	3473.5	3378.8	3342.5	2872.2	2733.4
57.5°	2987.4	2935.4	2842.2	2504.5	2321.5
60°	2424.0	2534.5	2294.6	2198.4	1906.4
62.5°	1991.6	2100.5	1843.3	1837.0	1593.9
65°	1717.0	1691.8	1571.8	1529.2	1425.1
67.5°	1519.8	1440.8	1399.8	1344.6	1308.3
70°	1319.3	1286.2	1212.0	1223.1	1174.1
72.5°	1100.0	1142.6	1068.4	1088.9	1000.5
75°	905.9	980.0	973.7	934.3	856.9
77.5°	746.5	825.4	839.6	803.3	740.2
80°	610.7	664.4	667.6	645.5	606.0
82.5°	448.2	479.8	503.4	465.6	440.3
85°	266.7	303.0	312.5	273.0	254.1
87.5°	86.8	121.5	135.7	140.5	142.0
90°	1.6	22.1	44.2	52.1	55.2
92.5°	1.6	6.3	9.5	14.2	15.8
95°	1.6	3.2	4.7	4.7	3.2
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)