

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: P860019

Luminaire Tested: **SPHB-24SE-M-L835-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: P860019  
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-L835-CD  
Description: 24000 Lumen Standard Efficacy Select Pro High Bay with Medium Lens  
and, 3500K 80CRI LEDs  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.   Condition   Description

**Summary**

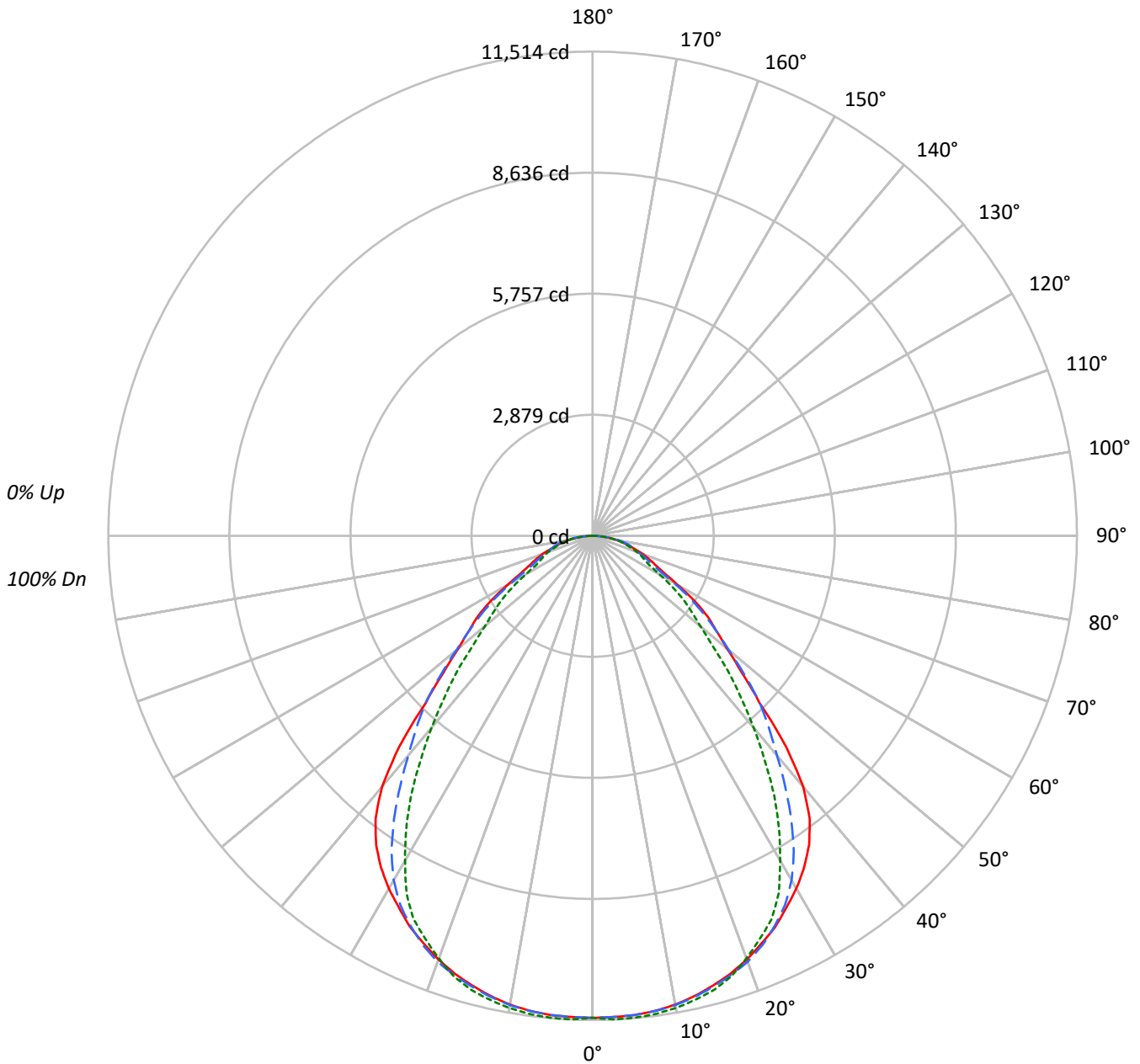
Lumens per Lamp: N/A  
Luminaire Lumens: 23793.0 lumens  
Efficiency: N/A  
Efficacy: 150.0 lumens/watt  
Spacing Criteria (0/90/45): 1.25 / 1.16 / 1.22  
Luminous Opening: Rectangular (W 1' x L: 1.38' x H: 0')  
CIE Type: Direct

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									
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	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°	89411	89411	89411
5°	89587	89563	90072
10°	89665	89760	90311
15°	89403	89635	90258
20°	89012	89464	88749
25°	88362	88115	86618
30°	87243	85187	80325
35°	85411	78371	71591
40°	79264	69366	60637
45°	61839	62005	50181
50°	50506	51221	40526
55°	45251	43545	35610
60°	36226	34293	28490
65°	30359	27791	25196
70°	28824	26479	25652
75°	26153	28111	24739
80°	26282	28725	26079
85°	22866	26795	21783



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	1089.9	4.6
10°-20°	3134.6	13.2
20°-30°	4679.5	19.7
30°-40°	5106.1	21.5
40°-50°	4177.0	17.6
50°-60°	2746.4	11.5
60°-70°	1575.7	6.6
70°-80°	954.8	4.0
80°-90°	320.6	1.3
90°-100°	8.3	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°	8904.0	37.4
0°-40°	14010.1	58.9
0°-60°	20933.6	88.0
0°-90°	23784.6	100.0
90°-120°	8.3	0.0
90°-150°	8.3	0.0
90°-180°	8.0	0.0
0°-180°	23793.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	11463	11463	11463	11463	11463	
5°	11442	11424	11439	11486	11504	###
15°	11071	11070	11100	11171	11177	3125
25°	10267	10291	10238	10114	10064	4723
35°	8970	8767	8231	7670	7518	5559
45°	5606	6025	5621	4962	4549	4450
55°	3328	3237	3202	2752	2619	2931
65°	1645	1621	1506	1465	1365	1682
75°	868	939	933	895	821	939
85°	256	290	299	262	243	277
90°	2	21	42	50	53	12
95°	2	3	4	4	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°	11463.0	11463.0	11463.0	11463.0	11463.0
2.5°	11455.5	11438.8	11453.9	11500.8	11514.4
5°	11441.9	11423.7	11438.8	11485.7	11503.8
7.5°	11395.0	11384.4	11399.5	11446.4	11469.1
10°	11320.9	11308.8	11333.0	11373.8	11402.5
12.5°	11210.5	11206.0	11228.7	11287.6	11299.7
15°	11071.4	11069.9	11100.2	11171.2	11177.3
17.5°	10914.2	10912.7	10950.5	10997.4	10980.7
20°	10723.7	10734.3	10778.1	10734.3	10692.0
22.5°	10495.4	10528.7	10539.3	10401.7	10380.5
25°	10267.1	10291.3	10238.4	10114.4	10064.5
27.5°	9972.3	10001.0	9902.8	9725.9	9583.8
30°	9686.6	9659.4	9458.3	9116.6	8918.5
32.5°	9358.5	9261.7	8900.4	8428.7	8248.8
35°	8969.9	8767.3	8230.6	7669.7	7518.5
37.5°	8478.6	8108.2	7521.6	6936.5	6708.2
40°	7784.6	7356.8	6812.5	6207.7	5955.3
42.5°	6812.5	6653.8	6203.2	5522.9	5222.0
45°	5606.0	6024.8	5621.1	4962.0	4549.2
47.5°	4798.7	5380.8	4895.4	4419.2	3850.7
50°	4162.2	4562.8	4221.1	3791.8	3339.7
52.5°	3702.6	3823.5	3685.9	3214.2	2957.2
55°	3327.6	3236.9	3202.1	2751.6	2618.6
57.5°	2862.0	2812.1	2722.9	2399.3	2224.0
60°	2322.2	2428.1	2198.3	2106.0	1826.3
62.5°	1908.0	2012.3	1765.9	1759.8	1527.0
65°	1644.9	1620.7	1505.8	1465.0	1365.2
67.5°	1455.9	1380.3	1341.0	1288.1	1253.3
70°	1263.9	1232.2	1161.1	1171.7	1124.8
72.5°	1053.8	1094.6	1023.5	1043.2	958.5
75°	867.8	938.9	932.8	895.0	820.9
77.5°	715.1	790.7	804.3	769.5	709.1
80°	585.1	636.5	639.5	618.4	580.6
82.5°	429.4	459.6	482.3	446.0	421.8
85°	255.5	290.3	299.4	261.6	243.4
87.5°	83.2	116.4	130.0	134.6	136.1
90°	1.5	21.2	42.3	49.9	52.9
92.5°	1.5	6.0	9.1	13.6	15.1
95°	1.5	3.0	4.5	4.5	3.0
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)