

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: P470181

Luminaire Tested: **VHB2-12-W-UNV-L840-CD-U**

Issue Date: 01/20/2021

**Test Information**

Test Method: LM-79-08  
Report Number: P470181  
Test Lab: INNOVATION CENTER(G3)  
Issue Date: 01/20/2021  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: METALUX  
Catalog Number: VHB2-12-W-UNV-L840-CD-U  
Description: VHB2 LED HIGH BAY LUMINAIRE WITH WIDE DISTRIBUTION LENS  
Light Source: 4000K CCT, 80 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

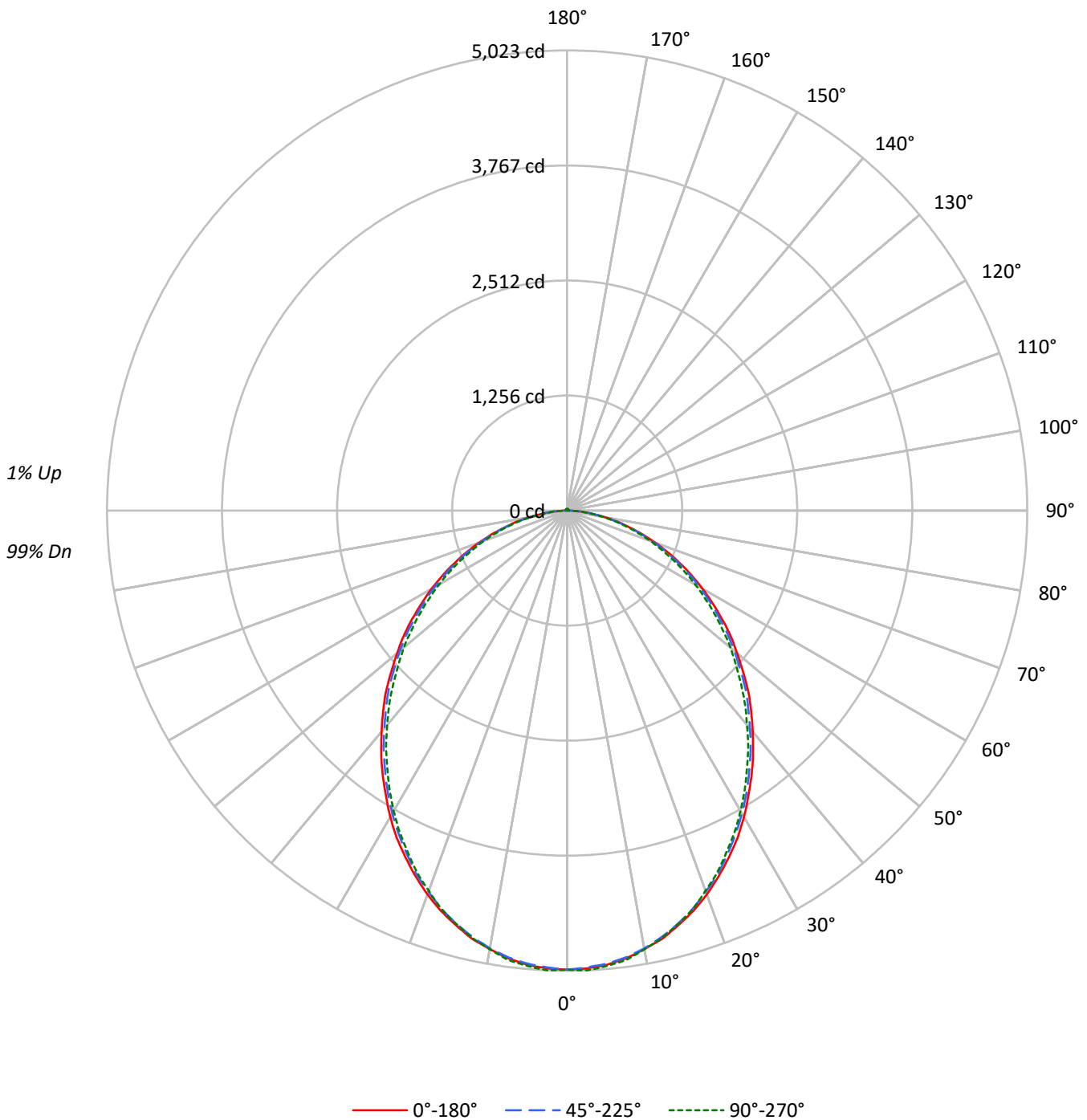
Lumens per Lamp: N/A  
Luminaire Lumens: 12126.5 lumens  
Efficiency: N/A  
Efficacy: 149.0 lumens/watt  
Spacing Criteria (0/90/45): 1.16 / 1.14 / 1.25  
Luminous Opening: Rectangular (W 1.17' x L: 1.5' x H: 0')  
CIE Type: Direct

Input Watts (W): 81.4  
Input Voltage (V): 120  
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: 24 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	101	101	101	99				
1	109	104	100	97	106	102	98	95	98	95	92	94	91	89	90	88	86	84				
2	100	92	85	79	97	90	84	78	86	81	76	83	78	75	79	76	73	71				
3	91	81	73	67	89	79	72	66	76	70	65	73	68	64	71	66	62	60				
4	84	72	63	57	81	71	63	57	68	61	56	66	60	55	63	58	54	52				
5	77	65	56	49	75	63	55	49	61	54	48	59	53	48	57	52	47	45				
6	71	58	50	43	69	57	49	43	56	48	43	54	47	42	52	46	42	40				
7	66	53	45	39	65	52	44	38	51	43	38	49	43	38	48	42	37	35				
8	62	49	40	35	60	48	40	34	47	39	34	45	39	34	44	38	34	32				
9	58	45	37	31	56	44	36	31	43	36	31	42	35	31	41	35	31	29				
10	54	41	34	28	53	41	33	28	40	33	28	39	33	28	38	32	28	26				

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

	0°	45°	90°
0°	30824	30824	30824
5°	30731	30653	30809
10°	30361	30302	30369
15°	29841	29741	29757
20°	29191	28980	28902
25°	28343	28091	27924
30°	27425	27111	26892
35°	26364	26023	25710
40°	25298	24908	24523
45°	24343	23959	23361
50°	23162	22805	22274
55°	22139	21658	21070
60°	20994	20529	19861
65°	19759	19281	18593
70°	18309	17968	17343
75°	16678	16455	15884
80°	14912	14664	14151
85°	12647	12647	12336



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	471.2	3.9
10°-20°	1316.1	10.9
20°-30°	1907.0	15.7
30°-40°	2169.0	17.9
40°-50°	2115.1	17.4
50°-60°	1805.7	14.9
60°-70°	1310.9	10.8
70°-80°	732.0	6.0
80°-90°	205.5	1.7
90°-100°	14.6	0.1
100°-110°	14.4	0.1
110°-120°	14.2	0.1
120°-130°	13.6	0.1
130°-140°	12.9	0.1
140°-150°	11.1	0.1
150°-160°	7.8	0.1
160°-170°	4.3	0.0
170°-180°	1.3	0.0
0°-30°	3694.3	30.5
0°-40°	5863.3	48.4
0°-60°	9784.1	80.7
0°-90°	12032.5	99.2
90°-120°	43.2	0.4
90°-150°	80.8	0.7
90°-180°	94.0	0.8
0°-180°	12126.5	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	5011	5011	5011	5011	5011	
5°	4977	4966	4965	4982	4990	471
15°	4686	4678	4670	4670	4673	1321
25°	4176	4162	4139	4124	4114	1923
35°	3511	3500	3466	3434	3424	2196
45°	2798	2772	2754	2703	2686	2153
55°	2064	2056	2020	1977	1965	1847
65°	1358	1348	1325	1294	1278	1346
75°	702	706	692	675	668	750
85°	179	183	179	174	175	196
90°	13	14	16	20	18	15
95°	6	10	14	16	17	6
105°	11	11	13	16	18	11
115°	13	13	14	16	17	12
125°	13	14	14	16	16	12
135°	15	16	17	17	17	12
145°	14	17	18	20	20	9
155°	14	15	18	18	18	6
165°	11	13	15	17	17	3
175°	13	13	13	14	14	1
180°	13	13	13	13	13	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	5011.4	5011.4	5011.4	5011.4	5011.4
2.5°	5001.3	4988.0	4990.5	5006.9	5023.4
5°	4977.3	4965.9	4964.7	4981.7	4989.9
7.5°	4930.6	4918.6	4918.0	4937.5	4947.0
10°	4861.2	4858.0	4851.7	4864.9	4862.4
12.5°	4788.6	4770.9	4767.7	4778.5	4779.1
15°	4686.3	4678.1	4670.5	4669.9	4673.1
17.5°	4581.5	4563.9	4559.5	4556.9	4563.2
20°	4459.7	4440.2	4427.5	4425.0	4415.6
22.5°	4321.5	4309.5	4297.5	4276.7	4278.6
25°	4176.3	4161.8	4139.1	4124.0	4114.5
27.5°	4028.0	4005.3	3981.3	3967.4	3959.2
30°	3861.4	3847.5	3817.2	3791.3	3786.3
32.5°	3684.7	3675.2	3644.9	3622.2	3607.0
35°	3511.1	3499.8	3465.7	3433.5	3424.0
37.5°	3334.4	3320.5	3291.5	3263.1	3247.3
40°	3150.7	3140.6	3102.1	3068.0	3054.2
42.5°	2973.4	2960.1	2925.4	2883.7	2875.5
45°	2798.5	2772.0	2754.4	2703.2	2685.6
47.5°	2604.8	2597.8	2560.0	2518.9	2499.4
50°	2420.5	2416.1	2383.2	2337.2	2327.7
52.5°	2251.3	2233.7	2203.4	2161.7	2140.2
55°	2064.5	2055.7	2019.7	1977.4	1964.8
57.5°	1881.5	1881.5	1843.0	1807.0	1785.5
60°	1706.6	1695.9	1668.8	1634.1	1614.5
62.5°	1530.5	1521.7	1498.4	1463.6	1446.0
65°	1357.6	1347.5	1324.8	1293.9	1277.5
67.5°	1192.3	1180.3	1165.7	1125.3	1114.6
70°	1018.1	1015.5	999.1	971.3	964.4
72.5°	861.5	859.0	840.1	815.5	807.9
75°	701.8	705.6	692.4	675.3	668.4
77.5°	563.0	559.2	546.6	536.5	524.5
80°	421.0	419.7	414.0	400.2	399.5
82.5°	291.0	296.0	291.6	281.5	277.7
85°	179.2	183.0	179.2	174.2	174.8
87.5°	80.2	81.4	77.0	69.4	64.4
90°	12.6	13.9	16.4	19.6	18.3
92.5°	4.4	9.5	13.9	16.4	17.0
95°	5.7	9.5	13.9	16.4	17.0
97.5°	8.2	9.5	13.9	16.4	17.7
100°	9.5	10.1	13.9	16.4	17.7
102.5°	10.1	10.1	13.9	16.4	17.7
105°	10.7	10.7	13.3	16.4	17.7
107.5°	11.4	10.7	13.3	16.4	17.7
110°	11.4	11.4	13.3	16.4	17.0



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**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°
112.5°	12.0	12.0	13.9	15.8	17.0
115°	12.6	12.6	13.9	15.8	17.0
117.5°	12.6	13.3	13.9	16.4	17.0
120°	13.3	13.9	13.9	16.4	16.4
122.5°	13.3	14.5	14.5	16.4	16.4
125°	13.3	14.5	14.5	16.4	16.4
127.5°	13.9	15.1	14.5	16.4	16.4
130°	14.5	15.1	15.8	16.4	16.4
132.5°	14.5	15.8	16.4	17.0	16.4
135°	15.1	16.4	17.0	17.0	17.0
137.5°	15.8	16.4	17.7	17.7	17.7
140°	15.8	17.0	17.7	18.3	18.3
142.5°	14.5	17.0	17.7	18.9	18.9
145°	14.5	17.0	18.3	19.6	19.6
147.5°	13.9	16.4	17.7	19.6	19.6
150°	13.9	15.8	17.7	18.9	18.9
152.5°	14.5	15.1	17.7	18.3	18.9
155°	13.9	15.1	17.7	18.3	18.3
157.5°	13.3	14.5	17.0	18.3	18.9
160°	12.6	14.5	16.4	18.3	18.3
162.5°	12.0	13.9	15.8	17.7	18.3
165°	11.4	13.3	15.1	17.0	17.0
167.5°	11.4	13.3	14.5	15.8	16.4
170°	12.0	12.6	13.9	14.5	15.1
172.5°	12.6	12.6	13.9	13.9	13.9
175°	12.6	12.6	13.3	13.9	14.5
177.5°	13.3	12.6	12.6	13.9	13.9
180°	12.6	12.6	12.6	12.6	12.6

(END OF REPORT)