

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: P417755

Luminaire Tested: **VHB-1824-W-UNV-L935-CD-U-LEVEL2**

Issue Date: 11/17/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P417755  
Test Lab: INNOVATION CENTER(G3)  
Issue Date: 11/17/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: METALUX  
Catalog Number: VHB-1824-W-UNV-L935-CD-U-LEVEL2  
Description: VHB LED HIGH BAY LUMINAIRE WITH WIDE DISTRIBUTION LENS  
Light Source: 3500K CCT, 90 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

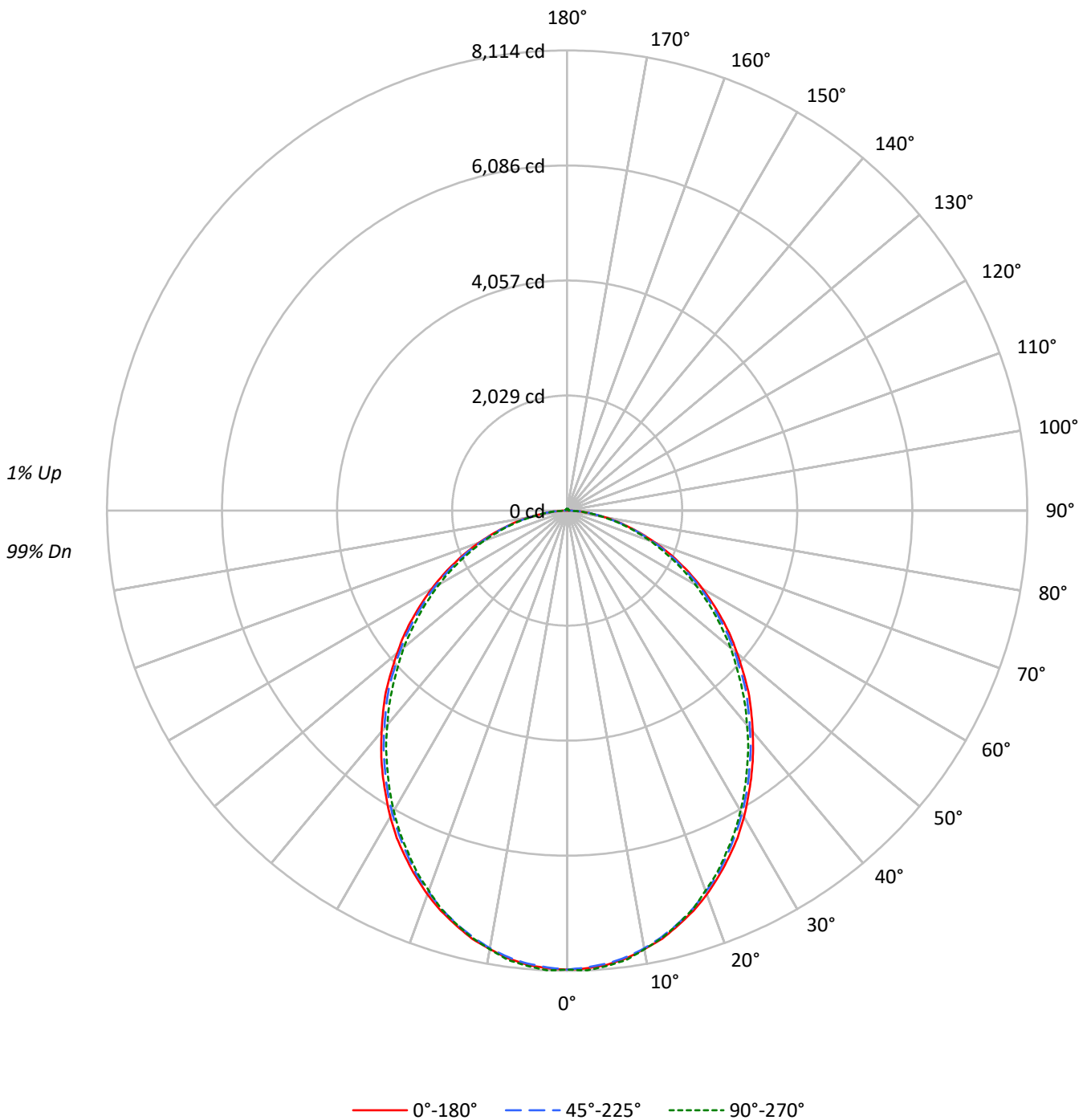
Lumens per Lamp: N/A  
Luminaire Lumens: 19586.5 lumens  
Efficiency: N/A  
Efficacy: 123.7 lumens/watt  
Spacing Criteria (0/90/45): 1.16 / 1.14 / 1.25  
Luminous Opening: Rectangular (W 1.17' x L: 1.5' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 158.3  
Input Voltage (V): 120  
Input Current (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°	49786	49786	49786
5°	49636	49510	49762
10°	49039	48944	49052
15°	48200	48037	48063
20°	47149	46809	46682
25°	45780	45371	45102
30°	44296	43789	43435
35°	42583	42032	41526
40°	40861	40231	39608
45°	39319	38698	37732
50°	37410	36835	35976
55°	35759	34982	34031
60°	33909	33158	32079
65°	31914	31143	30029
70°	29571	29022	28013
75°	26940	26576	25657
80°	24086	23686	22857
85°	20431	20431	19930



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	761.0	3.9
10°-20°	2125.8	10.9
20°-30°	3080.1	15.7
30°-40°	3503.4	17.9
40°-50°	3416.2	17.4
50°-60°	2916.5	14.9
60°-70°	2117.3	10.8
70°-80°	1182.2	6.0
80°-90°	332.0	1.7
90°-100°	23.6	0.1
100°-110°	23.3	0.1
110°-120°	22.9	0.1
120°-130°	22.0	0.1
130°-140°	20.8	0.1
140°-150°	17.9	0.1
150°-160°	12.5	0.1
160°-170°	6.9	0.0
170°-180°	2.1	0.0
0°-30°	5967.0	30.5
0°-40°	9470.4	48.4
0°-60°	15803.1	80.7
0°-90°	19434.7	99.2
90°-120°	69.8	0.4
90°-150°	130.4	0.7
90°-180°	152.0	0.8
0°-180°	19586.5	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	8094	8094	8094	8094	8094	
5°	8039	8021	8019	8046	8060	761
15°	7569	7556	7544	7543	7548	2133
25°	6746	6722	6685	6661	6646	3106
35°	5671	5653	5598	5546	5530	3547
45°	4520	4477	4449	4366	4338	3478
55°	3335	3320	3262	3194	3174	2983
65°	2193	2176	2140	2090	2063	2175
75°	1134	1140	1118	1091	1080	1212
85°	290	296	290	281	282	317
90°	20	22	26	32	30	24
95°	9	15	22	26	28	9
105°	17	17	21	26	28	18
115°	20	20	22	26	28	20
125°	21	23	23	26	26	20
135°	24	26	28	28	28	19
145°	23	28	30	32	32	15
155°	22	24	28	30	30	10
165°	18	21	24	28	28	5
175°	20	20	21	22	23	2
180°	20	20	20	20	20	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	8094.3	8094.3	8094.3	8094.3	8094.3
2.5°	8078.0	8056.6	8060.6	8087.2	8113.7
5°	8039.2	8020.9	8018.8	8046.4	8059.6
7.5°	7963.8	7944.4	7943.4	7975.0	7990.3
10°	7851.7	7846.6	7836.4	7857.8	7853.7
12.5°	7734.4	7705.9	7700.8	7718.1	7719.1
15°	7569.3	7556.0	7543.8	7542.8	7547.9
17.5°	7400.1	7371.5	7364.4	7360.3	7370.5
20°	7203.3	7171.7	7151.3	7147.2	7131.9
22.5°	6980.0	6960.7	6941.3	6907.7	6910.7
25°	6745.6	6722.1	6685.4	6661.0	6645.7
27.5°	6506.0	6469.3	6430.6	6408.1	6394.9
30°	6236.9	6214.5	6165.5	6123.7	6115.6
32.5°	5951.4	5936.2	5887.2	5850.5	5826.1
35°	5671.1	5652.7	5597.7	5545.7	5530.4
37.5°	5385.7	5363.2	5316.3	5270.5	5245.0
40°	5089.0	5072.7	5010.5	4955.5	4933.0
42.5°	4802.5	4781.1	4725.1	4657.8	4644.5
45°	4520.2	4477.3	4448.8	4366.2	4337.7
47.5°	4207.2	4196.0	4134.8	4068.6	4036.9
50°	3909.5	3902.4	3849.4	3775.0	3759.7
52.5°	3636.3	3607.8	3558.8	3491.6	3456.9
55°	3334.6	3320.3	3262.2	3193.9	3173.5
57.5°	3038.9	3038.9	2976.7	2918.6	2884.0
60°	2756.5	2739.2	2695.4	2639.3	2607.7
62.5°	2472.1	2457.8	2420.1	2364.1	2335.5
65°	2192.8	2176.5	2139.8	2089.8	2063.3
67.5°	1925.7	1906.3	1882.9	1817.6	1800.3
70°	1644.3	1640.3	1613.8	1568.9	1557.7
72.5°	1391.5	1387.4	1356.9	1317.1	1304.9
75°	1133.6	1139.7	1118.3	1090.8	1079.6
77.5°	909.3	903.2	882.8	866.5	847.1
80°	680.0	677.9	668.7	646.3	645.3
82.5°	470.0	478.1	471.0	454.7	448.5
85°	289.5	295.6	289.5	281.4	282.4
87.5°	129.5	131.5	124.4	112.1	104.0
90°	20.4	22.4	26.5	31.6	29.6
92.5°	7.1	15.3	22.4	26.5	27.5
95°	9.2	15.3	22.4	26.5	27.5
97.5°	13.3	15.3	22.4	26.5	28.5
100°	15.3	16.3	22.4	26.5	28.5
102.5°	16.3	16.3	22.4	26.5	28.5
105°	17.3	17.3	21.4	26.5	28.5
107.5°	18.3	17.3	21.4	26.5	28.5
110°	18.3	18.3	21.4	26.5	27.5



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**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°
112.5°	19.4	19.4	22.4	25.5	27.5
115°	20.4	20.4	22.4	25.5	27.5
117.5°	20.4	21.4	22.4	26.5	27.5
120°	21.4	22.4	22.4	26.5	26.5
122.5°	21.4	23.4	23.4	26.5	26.5
125°	21.4	23.4	23.4	26.5	26.5
127.5°	22.4	24.5	23.4	26.5	26.5
130°	23.4	24.5	25.5	26.5	26.5
132.5°	23.4	25.5	26.5	27.5	26.5
135°	24.5	26.5	27.5	27.5	27.5
137.5°	25.5	26.5	28.5	28.5	28.5
140°	25.5	27.5	28.5	29.6	29.6
142.5°	23.4	27.5	28.5	30.6	30.6
145°	23.4	27.5	29.6	31.6	31.6
147.5°	22.4	26.5	28.5	31.6	31.6
150°	22.4	25.5	28.5	30.6	30.6
152.5°	23.4	24.5	28.5	29.6	30.6
155°	22.4	24.5	28.5	29.6	29.6
157.5°	21.4	23.4	27.5	29.6	30.6
160°	20.4	23.4	26.5	29.6	29.6
162.5°	19.4	22.4	25.5	28.5	29.6
165°	18.3	21.4	24.5	27.5	27.5
167.5°	18.3	21.4	23.4	25.5	26.5
170°	19.4	20.4	22.4	23.4	24.5
172.5°	20.4	20.4	22.4	22.4	22.4
175°	20.4	20.4	21.4	22.4	23.4
177.5°	21.4	20.4	20.4	22.4	22.4
180°	20.4	20.4	20.4	20.4	20.4

(END OF REPORT)