

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: P417759

Luminaire Tested: **VHB-1824-W-UNV-L940-CD-U-LEVEL2**

Issue Date: 11/17/2020

Test Information

Test Method: LM-79-08
Report Number: P417759
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-L940-CD-U-LEVEL2
Description: VHB LED HIGH BAY LUMINAIRE WITH WIDE DISTRIBUTION LENS
Light Source: 4000K CCT, 90 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 20269.8 lumens
Efficiency: N/A
Efficacy: 128.0 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

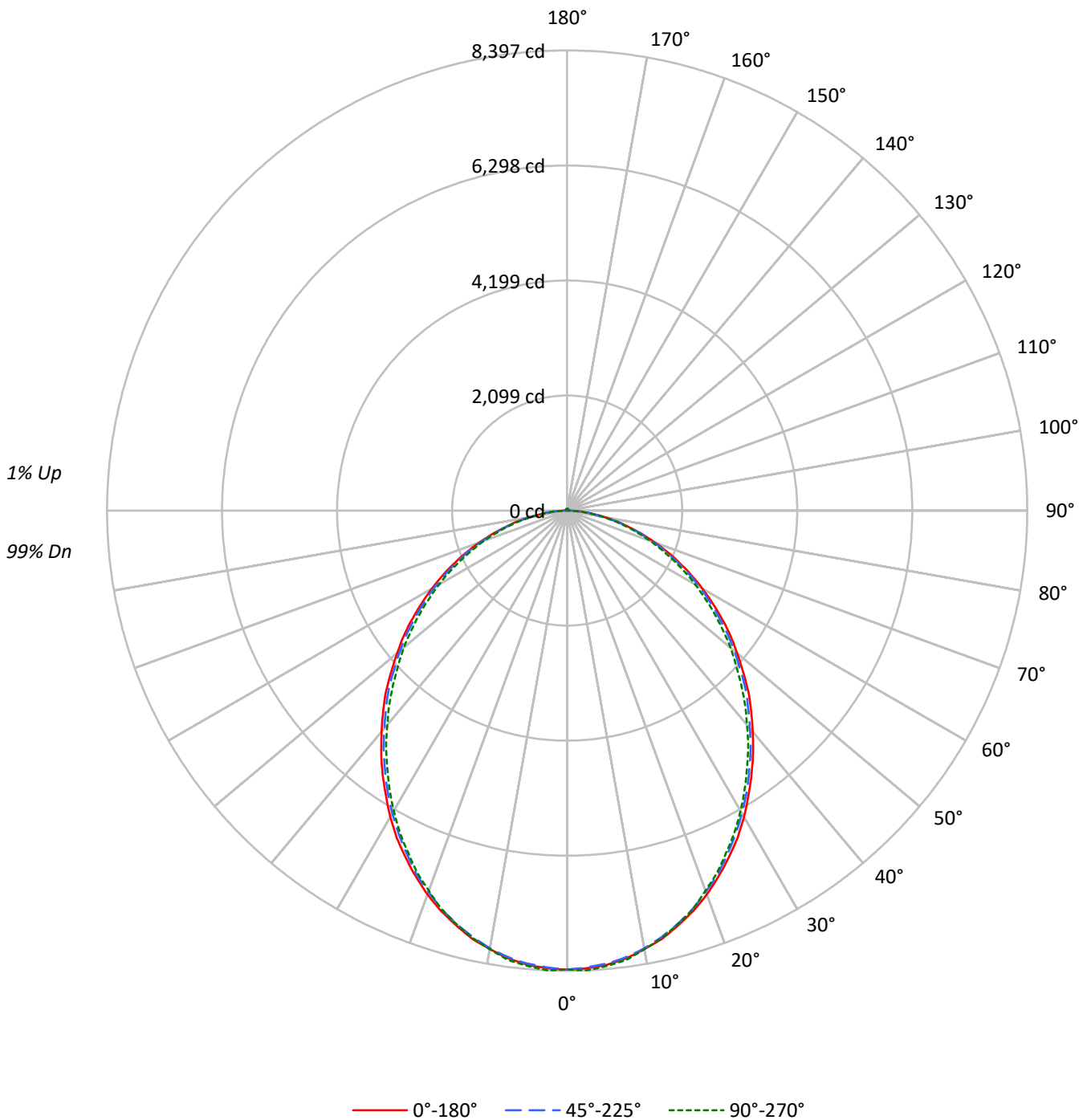
Input Watts (W): 158.3
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



TEST NUMBER: P417759

CATALOG NUMBER: VHB-1824-W-UNV-L940-CD-U-LEVEL2

Luminous Intensity Polar Plot





TEST NUMBER: P417759

CATALOG NUMBER: VHB-1824-W-UNV-L940-CD-U-LEVEL2

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	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°	51523	51523	51523
5°	51368	51238	51498
10°	50750	50651	50763
15°	49881	49713	49740
20°	48794	48442	48311
25°	47377	46954	46675
30°	45841	45317	44950
35°	44068	43498	42975
40°	42286	41634	40990
45°	40690	40048	39048
50°	38715	38120	37231
55°	37006	36203	35218
60°	35093	34314	33198
65°	33027	32228	31077
70°	30603	30035	28990
75°	27881	27503	26550
80°	24926	24515	23654
85°	21143	21143	20621



TEST NUMBER: P417759

CATALOG NUMBER: VHB-1824-W-UNV-L940-CD-U-LEVEL2

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	787.6	3.9
10°-20°	2200.0	10.9
20°-30°	3187.6	15.7
30°-40°	3625.6	17.9
40°-50°	3535.4	17.4
50°-60°	3018.3	14.9
60°-70°	2191.2	10.8
70°-80°	1223.5	6.0
80°-90°	343.5	1.7
90°-100°	24.4	0.1
100°-110°	24.1	0.1
110°-120°	23.7	0.1
120°-130°	22.7	0.1
130°-140°	21.5	0.1
140°-150°	18.5	0.1
150°-160°	13.0	0.1
160°-170°	7.1	0.0
170°-180°	2.1	0.0
0°-30°	6175.1	30.5
0°-40°	9800.7	48.4
0°-60°	16354.4	80.7
0°-90°	20112.6	99.2
90°-120°	72.2	0.4
90°-150°	135.0	0.7
90°-180°	157.0	0.8
0°-180°	20269.8	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	8377	8377	8377	8377	8377	
5°	8320	8301	8299	8327	8341	788
15°	7833	7820	7807	7806	7811	2207
25°	6981	6957	6919	6893	6878	3214
35°	5869	5850	5793	5739	5723	3670
45°	4678	4634	4604	4518	4489	3599
55°	3451	3436	3376	3305	3284	3087
65°	2269	2252	2214	2163	2135	2250
75°	1173	1180	1157	1129	1117	1254
85°	300	306	300	291	292	328
90°	21	23	27	33	31	25
95°	10	16	23	27	28	9
105°	18	18	22	27	30	19
115°	21	21	23	26	28	21
125°	22	24	24	27	27	20
135°	25	27	28	28	28	20
145°	24	28	31	33	33	15
155°	23	25	30	31	31	11
165°	19	22	25	28	28	6
175°	21	21	22	23	24	2
180°	21	21	21	21	21	



TEST NUMBER: P417759

CATALOG NUMBER: VHB-1824-W-UNV-L940-CD-U-LEVEL2

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	8376.6	8376.6	8376.6	8376.6	8376.6
2.5°	8359.8	8337.6	8341.8	8369.3	8396.7
5°	8319.7	8300.7	8298.6	8327.1	8340.8
7.5°	8241.6	8221.6	8220.5	8253.2	8269.0
10°	8125.6	8120.3	8109.7	8131.9	8127.7
12.5°	8004.2	7974.7	7969.4	7987.4	7988.4
15°	7833.3	7819.6	7806.9	7805.9	7811.2
17.5°	7658.2	7628.7	7621.3	7617.1	7627.6
20°	7454.6	7421.9	7400.8	7396.6	7380.7
22.5°	7223.5	7203.5	7183.4	7148.6	7151.8
25°	6980.9	6956.6	6918.6	6893.3	6877.5
27.5°	6733.0	6695.0	6654.9	6631.7	6618.0
30°	6454.4	6431.2	6380.6	6337.3	6328.9
32.5°	6159.1	6143.2	6092.6	6054.6	6029.3
35°	5868.9	5849.9	5793.0	5739.2	5723.3
37.5°	5573.5	5550.3	5501.8	5454.3	5427.9
40°	5266.5	5249.6	5185.3	5128.3	5105.1
42.5°	4970.1	4947.9	4889.9	4820.3	4806.5
45°	4677.8	4633.5	4604.0	4518.5	4489.0
47.5°	4354.0	4342.4	4279.1	4210.5	4177.8
50°	4045.9	4038.5	3983.7	3906.6	3890.8
52.5°	3763.2	3733.6	3683.0	3613.4	3577.5
55°	3450.9	3436.1	3376.0	3305.3	3284.2
57.5°	3144.9	3144.9	3080.6	3020.4	2984.6
60°	2852.7	2834.8	2789.4	2731.4	2698.7
62.5°	2558.4	2543.6	2504.6	2446.5	2417.0
65°	2269.3	2252.4	2214.4	2162.7	2135.3
67.5°	1992.9	1972.8	1948.6	1881.1	1863.1
70°	1701.7	1697.5	1670.1	1623.6	1612.0
72.5°	1440.1	1435.8	1404.2	1363.1	1350.4
75°	1173.2	1179.5	1157.3	1128.8	1117.2
77.5°	941.1	934.7	913.6	896.7	876.7
80°	703.7	701.6	692.1	668.9	667.8
82.5°	486.4	494.8	487.4	470.5	464.2
85°	299.6	305.9	299.6	291.2	292.2
87.5°	134.0	136.1	128.7	116.0	107.6
90°	21.1	23.2	27.4	32.7	30.6
92.5°	7.4	15.8	23.2	27.4	28.5
95°	9.5	15.8	23.2	27.4	28.5
97.5°	13.7	15.8	23.2	27.4	29.5
100°	15.8	16.9	23.2	27.4	29.5
102.5°	16.9	16.9	23.2	27.4	29.5
105°	17.9	17.9	22.2	27.4	29.5
107.5°	19.0	17.9	22.2	27.4	29.5
110°	19.0	19.0	22.2	27.4	28.5



TEST NUMBER: P417759

CATALOG NUMBER: VHB-1824-W-UNV-L940-CD-U-LEVEL2

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	20.0	20.0	23.2	26.4	28.5
115°	21.1	21.1	23.2	26.4	28.5
117.5°	21.1	22.2	23.2	27.4	28.5
120°	22.2	23.2	23.2	27.4	27.4
122.5°	22.2	24.3	24.3	27.4	27.4
125°	22.2	24.3	24.3	27.4	27.4
127.5°	23.2	25.3	24.3	27.4	27.4
130°	24.3	25.3	26.4	27.4	27.4
132.5°	24.3	26.4	27.4	28.5	27.4
135°	25.3	27.4	28.5	28.5	28.5
137.5°	26.4	27.4	29.5	29.5	29.5
140°	26.4	28.5	29.5	30.6	30.6
142.5°	24.3	28.5	29.5	31.6	31.6
145°	24.3	28.5	30.6	32.7	32.7
147.5°	23.2	27.4	29.5	32.7	32.7
150°	23.2	26.4	29.5	31.6	31.6
152.5°	24.3	25.3	29.5	30.6	31.6
155°	23.2	25.3	29.5	30.6	30.6
157.5°	22.2	24.3	28.5	30.6	31.6
160°	21.1	24.3	27.4	30.6	30.6
162.5°	20.0	23.2	26.4	29.5	30.6
165°	19.0	22.2	25.3	28.5	28.5
167.5°	19.0	22.2	24.3	26.4	27.4
170°	20.0	21.1	23.2	24.3	25.3
172.5°	21.1	21.1	23.2	23.2	23.2
175°	21.1	21.1	22.2	23.2	24.3
177.5°	22.2	21.1	21.1	23.2	23.2
180°	21.1	21.1	21.1	21.1	21.1

(END OF REPORT)