



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
Eaton Lighting Division
(formerly Cooper Lighting)

Brand: FAIL-SAFE

Report Number: BALLABS TEST NO. 8565.0

Luminaire Tested: **FWS 232-120-EB81**

Issue Date: 3/3/2020

This test was performed under the Supervised Manufacturer's Testing Program. The results of this test have not been influenced by sources from within Eaton or from external interests.



Test Information

Test Method: LM-79-08
Report Number: BALLABS TEST NO. 8565.0
Test Lab:
Issue Date: 3/3/2020
Manufacturer: EATON (FORMERLY COOPER LIGHTING)
Product Line: FAIL-SAFE
Catalog Number: FWS 232-120-EB81
Description: 2/32W T8 4'SURFACE MNT LUMINAIRE w/WHITE BODY REFL=93%
Light Source: -
F32T8/735/RS
Ballast/Driver: LM-32D120 WATTS=57

Luminaire Equipment:	<u>Sample No.</u>	<u>Condition</u>	<u>Description</u>
	a	good	reflector
	b	good	lens
	c	good	housing
	d	good	cord

Summary

Lumens per Lamp: 2850 (2 lamps)
Luminaire Lumens: 2958.4 lumens
Efficiency: 51.9%
Efficacy: 51.9 lumens/watt
Luminous Opening: Rectangular w/ Sides (W: 0.75' x L: 3.96' x H: 0.12')
IES Classification: Type V - Short - Cutoff
BUG Rating: B1 - U2 - G1

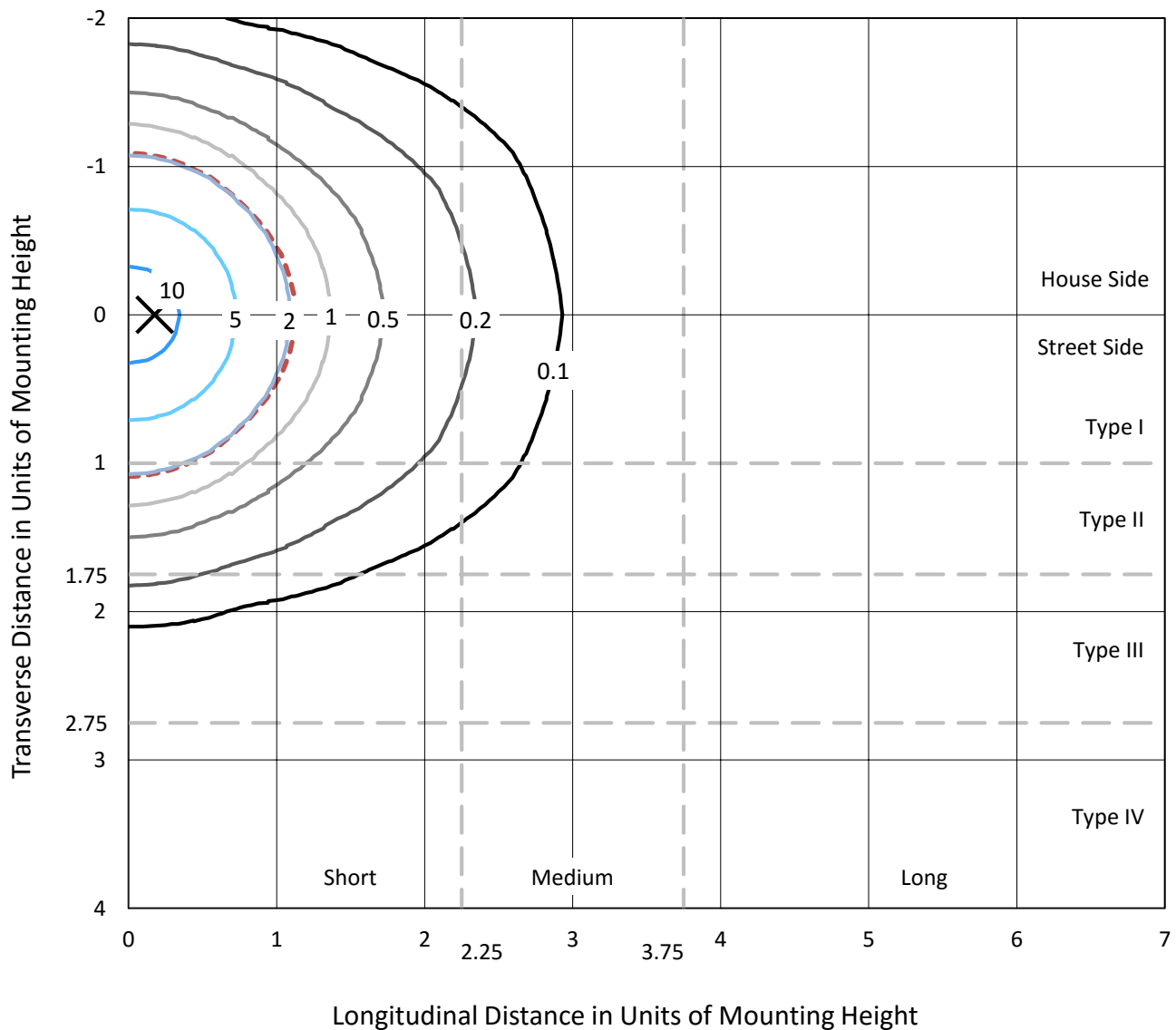
Input Watts (W): 57
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

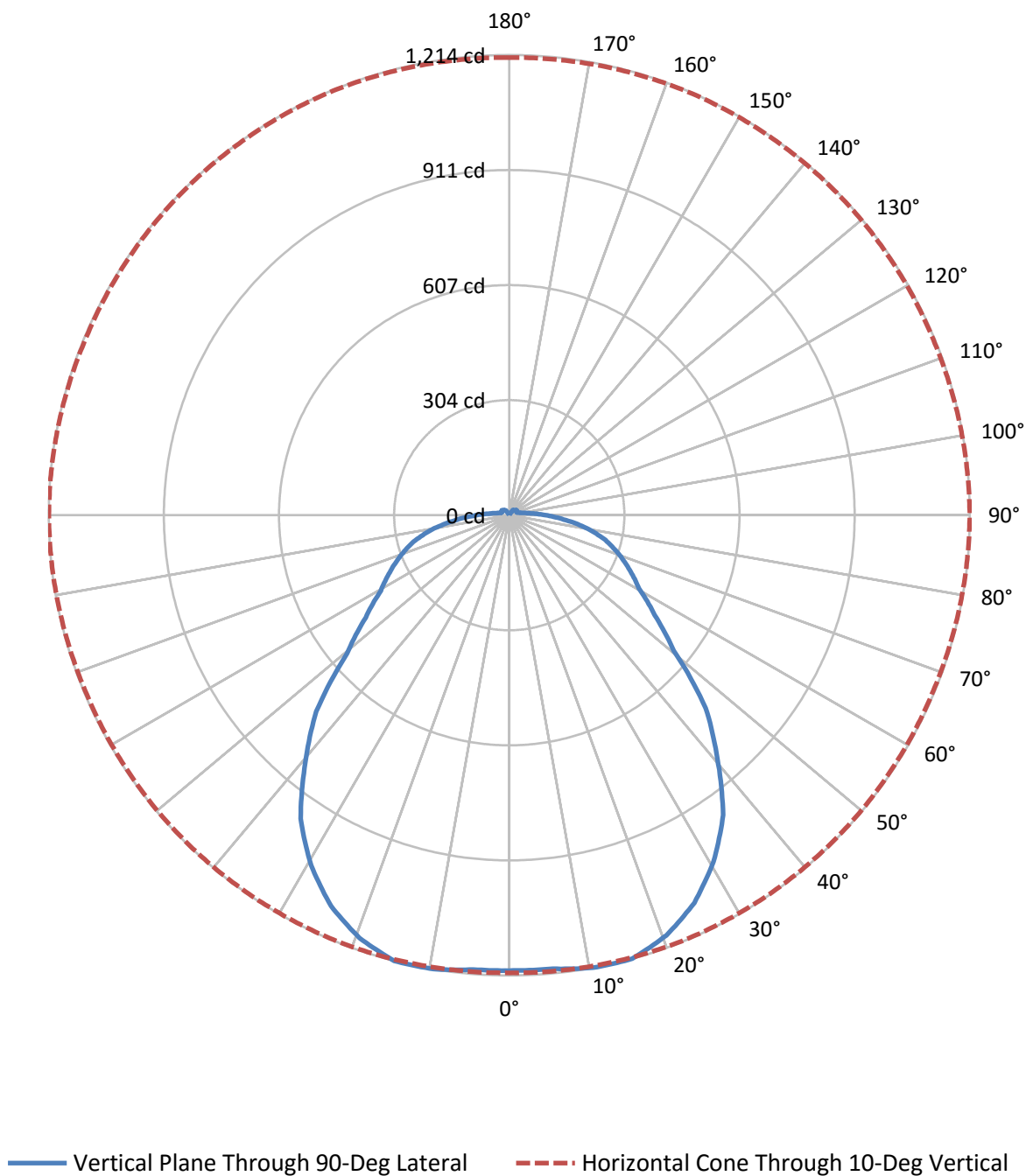
✕ Max cd
- - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 12 fc
Type V - Short - Cutoff

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Luminous Intensity Polar Plot



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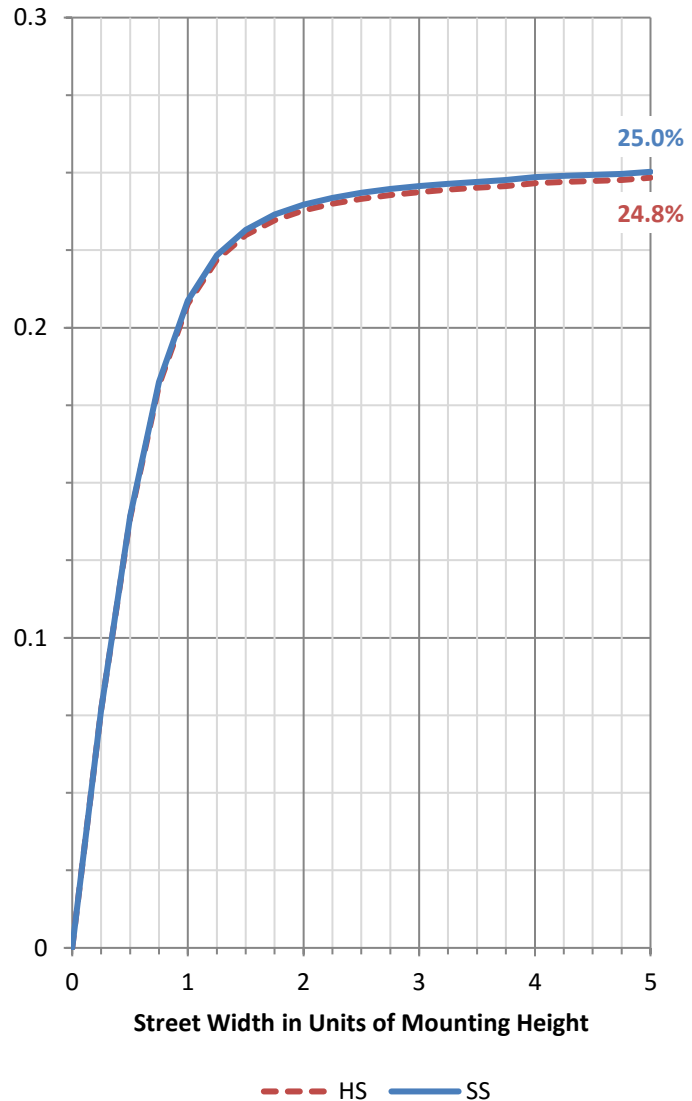
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	1440.6	38.6	1479.2
	% Lamp	25.3	0.7	26.0
Street Side	Lumens	1440.6	38.6	1479.2
	% Lamp	25.3	0.7	26.0
Total	Lumens	2881.1	77.3	2958.4
	% Lamp	50.5	1.4	51.9

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture	% Lamp
0°-10°	115.1	3.9	2.0
10°-20°	338.9	11.5	5.9
20°-30°	512.0	17.3	9.0
30°-40°	592.1	20.0	10.4
40°-50°	528.5	17.9	9.3
50°-60°	336.6	11.4	5.9
60°-70°	215.0	7.3	3.8
70°-80°	150.8	5.1	2.6
80°-90°	92.2	3.1	1.6
90°-100°	37.8	1.3	0.7
100°-110°	16.8	0.6	0.3
110°-120°	10.5	0.4	0.2
120°-130°	7.0	0.2	0.1
130°-140°	4.2	0.1	0.1
140°-150°	1.0	0.0	0.0
150°-160°	0.0	0.0	0.0
160°-170°	0.0	0.0	0.0
170°-180°	0.0	0.0	0.0
0°-90°	2881.1	97.4	50.5
0°-180°	2958.4	100.0	51.9

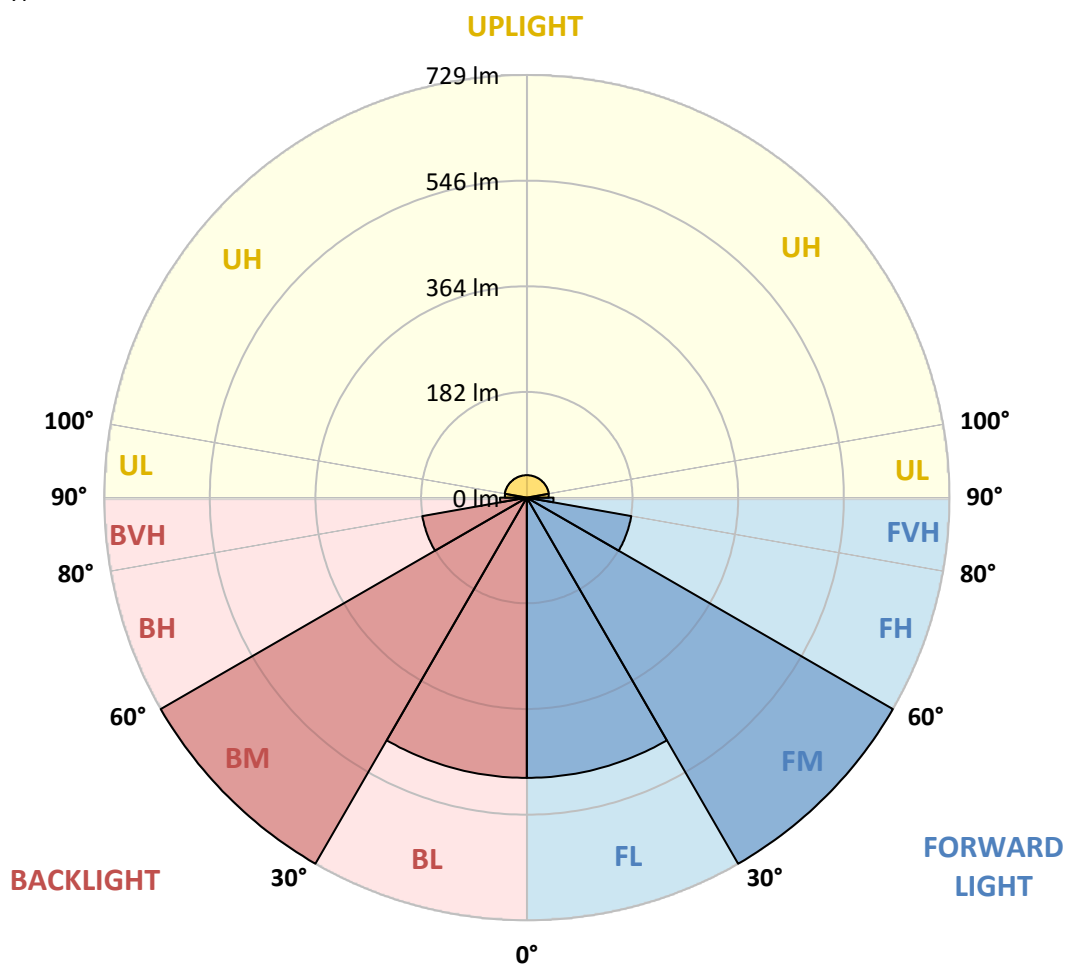


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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Lamp	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	483.0	8.5			
FM	(30°-60°)	728.6	12.8			
FH	(60°-80°)	182.9	3.2			G0/660
FVH	(80°-90°)	46.1	0.8			G1/100
BL	(0°-30°)	483.0	8.5	B1/500		
BM	(30°-60°)	728.6	12.8	B1/1000		
BH	(60°-80°)	182.9	3.2	B1/500		G0/660
BVH	(80°-90°)	46.1	0.8			G1/100
UL	(90°-100°)	37.8	0.7		U2/50	
UH	(100°-180°)	38.6	0.7		U2/50	
Trapped Light		2741.6	48.1			

BUG Rating: B1-U2-G1
Type V Short





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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1201	1201	1201	1201	1201
5°	1202	1205	1204	1202	1202
10°	1207	1212	1212	1210	1214
15°	1193	1199	1205	1212	1214
20°	1153	1158	1168	1178	1183
25°	1091	1101	1115	1128	1133
30°	1014	1026	1044	1056	1061
35°	931	944	959	966	971
40°	817	832	832	835	845
45°	706	705	686	706	726
50°	504	480	477	529	562
55°	324	308	338	423	465
60°	199	194	247	348	393
65°	118	122	190	308	349
70°	65	72	152	272	306
75°	41	48	133	237	262
80°	28	35	118	192	207
85°	15	25	98	137	144
90°	1	11	68	87	90
95°	0	6	45	51	53
100°	0	5	31	33	33
105°	0	0	23	25	25
110°	0	0	16	21	21
115°	0	0	13	21	21
120°	0	0	0	21	23
125°	0	0	0	20	23
130°	0	0	0	18	21
135°	0	0	0	16	18
140°	0	0	0	0	16
145°	0	0	0	0	16
150°	0	0	0	0	0
155°	0	0	0	0	0
160°	0	0	0	0	0
165°	0	0	0	0	0
170°	0	0	0	0	0
175°	0	0	0	0	0
180°	0	0	0	0	0

(END OF REPORT)