



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: 8039.0

Luminaire Tested: **FRS-440**

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: 8039.0
Test Lab:
Issue Date: 3/3/2020
Manufacturer: EATON (FORMERLY COOPER LIGHTING)
Product Line: FAIL-SAFE
Catalog Number: FRS-440
Description: FAIL-SAFE CEILING SURFACE MOUNT LUMINAIRE
WHITE REFLECTOR & WRAPAROUND PRISM LENS
Light Source: 4/40W 3200 LUMENS
WATTS=161
F40T12/WW/RS
Ballast/Driver: 446-L-SLH-TC-P

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: 3200 (4 lamps)
Luminaire Lumens: 7075.8 lumens
Efficiency: 55.3%
Efficacy: 43.9 lumens/watt
Luminous Opening: Rectangular w/ Sides (W: 1.31' x L: 3.95' x H: 0.14')
IES Classification: Type V - Short - Cutoff
BUG Rating: B3 - U3 - G2

Input Watts (W): 161
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

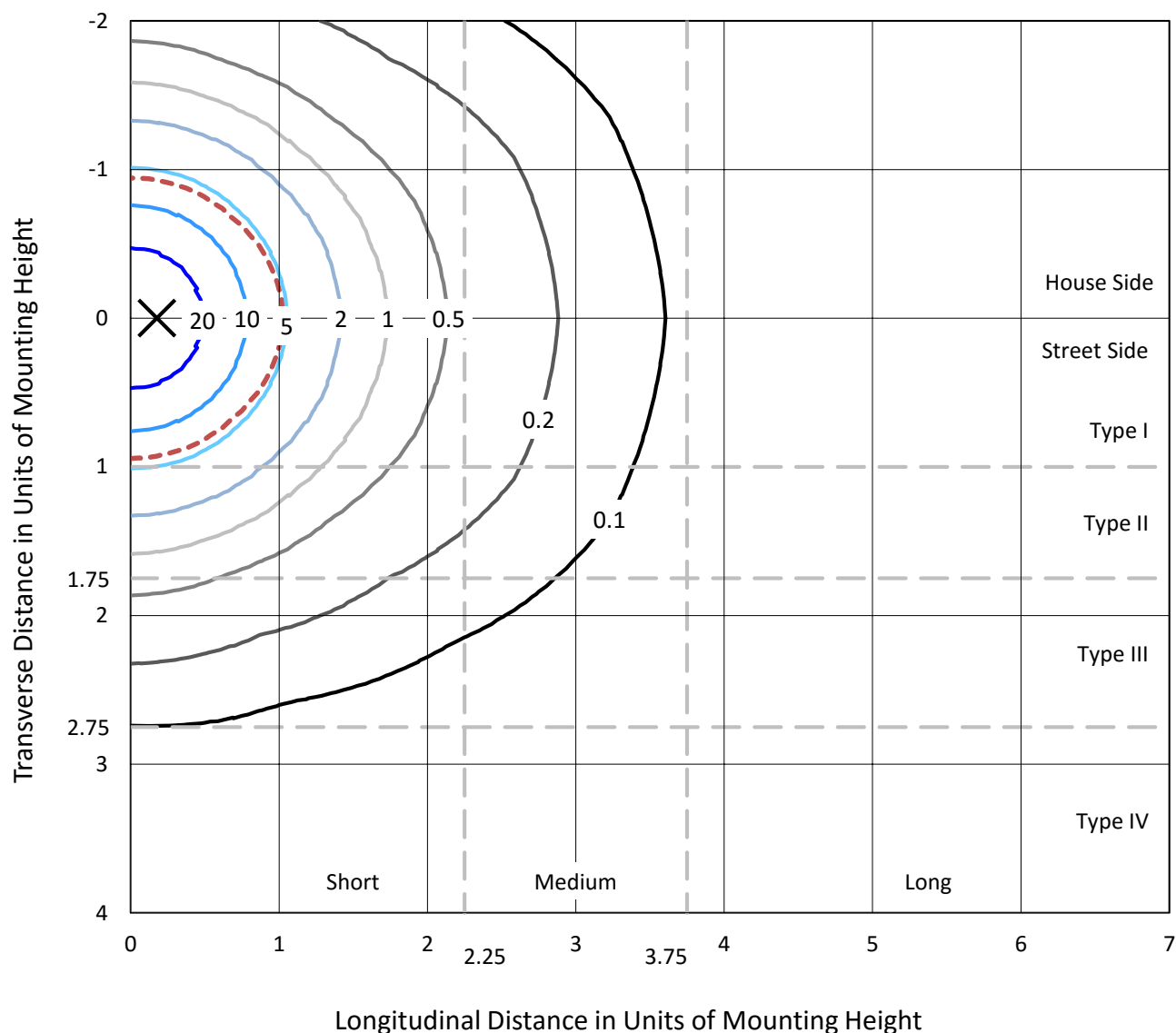


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Iso-Footcandle Lines of Horizontal Illumination

✕ Max cd

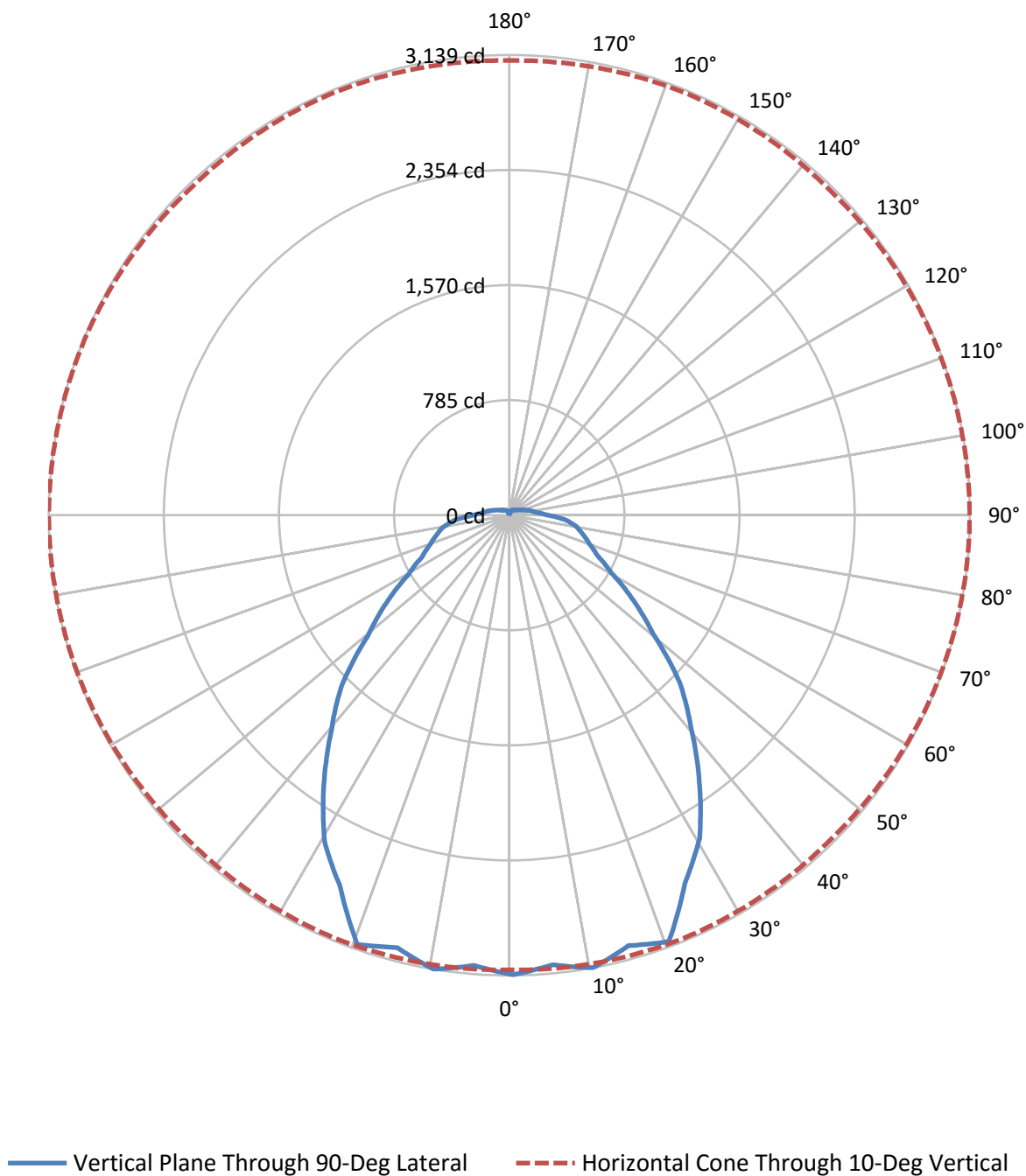
--- 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 31.3 fc
Type V - Short - Cutoff

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Luminous Intensity Polar Plot



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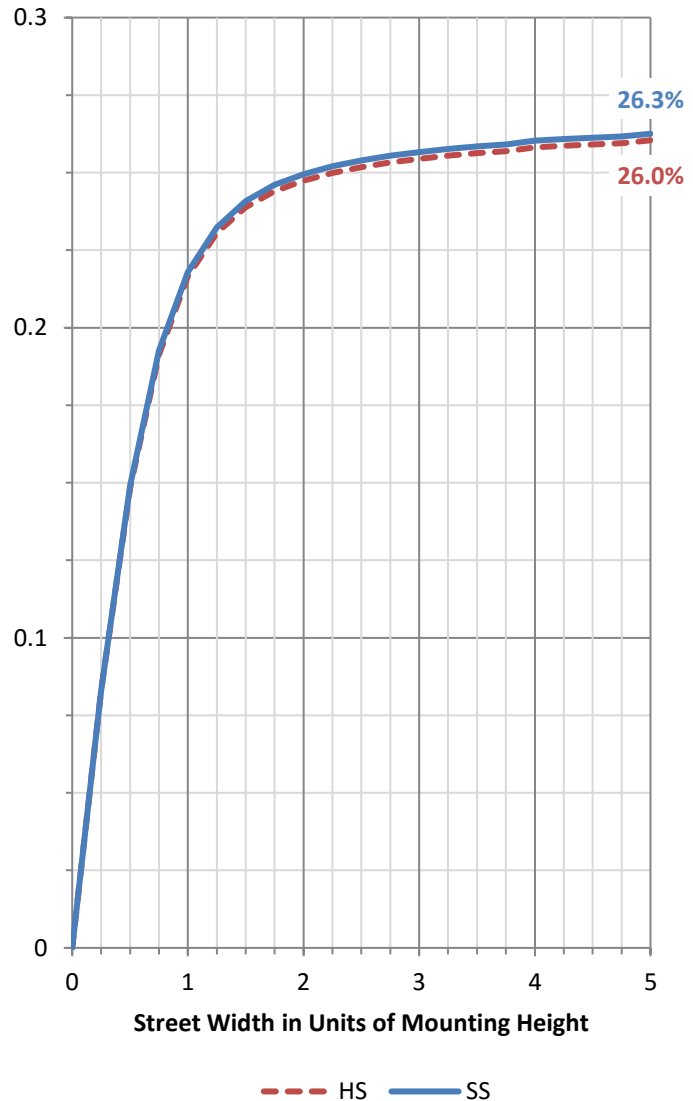
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	3393.9	144.0	3537.9
	% Lamp	26.5	1.1	27.6
Street Side	Lumens	3393.9	144.0	3537.9
	% Lamp	26.5	1.1	27.6
Total	Lumens	6787.8	288.0	7075.8
	% Lamp	53.0	2.3	55.3

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture	% Lamp
0°-10°	295.9	4.2	2.3
10°-20°	866.5	12.2	6.8
20°-30°	1272.5	18.0	9.9
30°-40°	1354.2	19.1	10.6
40°-50°	1162.1	16.4	9.1
50°-60°	782.7	11.1	6.1
60°-70°	476.1	6.7	3.7
70°-80°	357.5	5.1	2.8
80°-90°	220.4	3.1	1.7
90°-100°	96.2	1.4	0.8
100°-110°	62.5	0.9	0.5
110°-120°	42.2	0.6	0.3
120°-130°	30.5	0.4	0.2
130°-140°	23.1	0.3	0.2
140°-150°	18.1	0.3	0.1
150°-160°	11.7	0.2	0.1
160°-170°	3.6	0.1	0.0
170°-180°	0.1	0.0	0.0
0°-90°	6787.8	95.9	53.0
0°-180°	7075.8	100.0	55.3

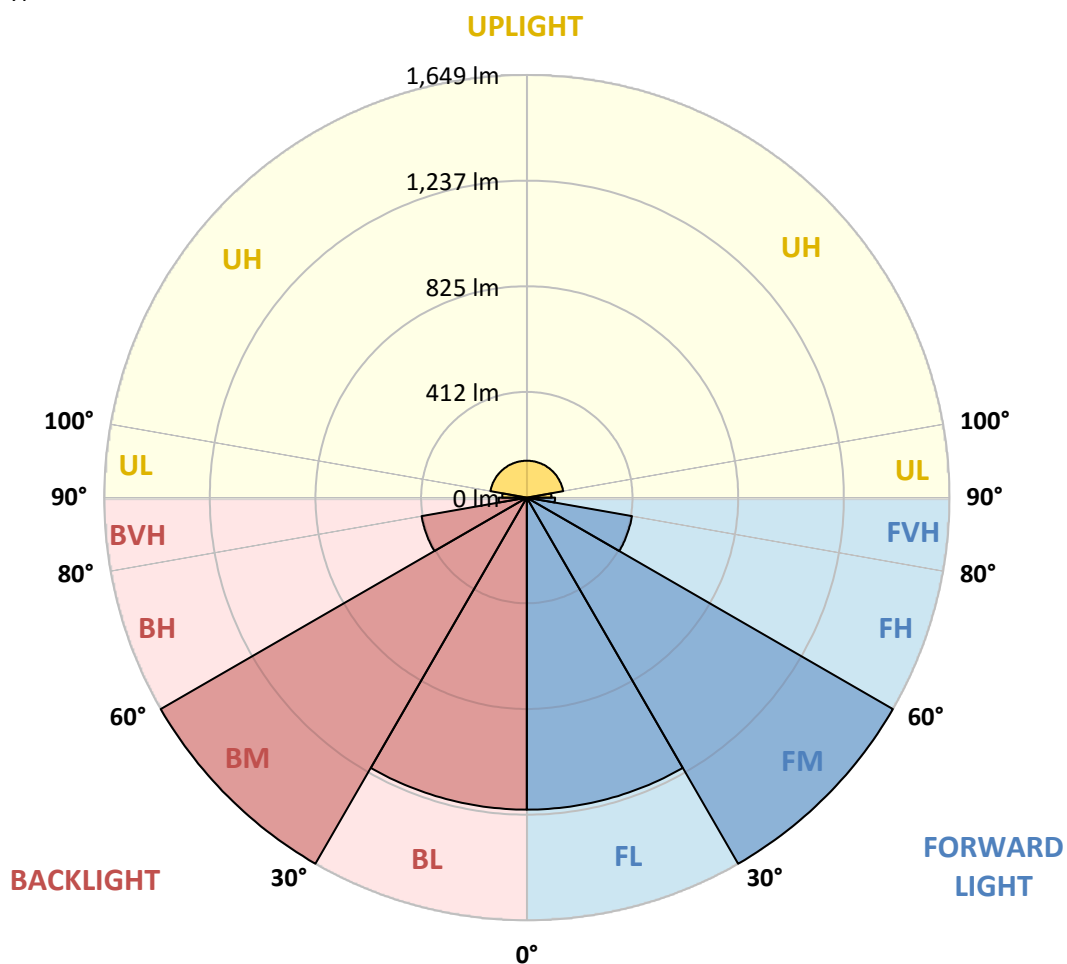


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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Lamp	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	1217.4	9.5			
FM	(30°-60°)	1649.5	12.9			
FH	(60°-80°)	416.8	3.3			G0/660
FVH	(80°-90°)	110.2	0.9			G2/225
BL	(0°-30°)	1217.4	9.5	B3/2500		
BM	(30°-60°)	1649.5	12.9	B2/2500		
BH	(60°-80°)	416.8	3.3	B1/500		G0/660
BVH	(80°-90°)	110.2	0.9			G2/225
UL	(90°-100°)	96.2	0.8		U3/500	
UH	(100°-180°)	144.0	1.1		U3/500	
Trapped Light		5724.2	44.7			

BUG Rating: B3-U3-G2
Type V Short





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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3134	3134	3134	3134	3134
5°	3069	3068	3072	3083	3080
10°	3101	3120	3113	3133	3139
15°	3004	3006	3030	3030	3046
20°	3021	3040	3072	3101	3105
25°	2678	2707	2727	2765	2781
30°	2460	2484	2523	2546	2557
35°	2132	2144	2146	2198	2231
40°	1774	1770	1798	1856	1907
45°	1457	1486	1505	1585	1630
50°	1075	1091	1122	1235	1269
55°	797	783	822	959	1028
60°	535	507	572	706	799
65°	361	339	411	582	658
70°	247	263	351	531	578
75°	187	212	322	472	517
80°	136	160	271	408	462
85°	82	91	183	311	380
90°	0	26	100	213	252
95°	0	12	71	157	187
100°	0	12	60	129	155
105°	0	15	51	106	128
110°	0	17	42	84	102
115°	0	19	37	70	84
120°	0	20	34	60	71
125°	0	22	31	52	60
130°	0	22	30	45	53
135°	0	22	31	42	48
140°	0	22	31	40	44
145°	0	24	33	41	44
150°	0	23	28	35	37
155°	0	24	28	33	33
160°	0	24	27	30	28
165°	0	5	11	14	18
170°	0	2	4	6	9
175°	0	0	0	0	0
180°	0	0	0	0	0

(END OF REPORT)