

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: FAIL-SAFE

Report Number: P312532

Luminaire Tested: **22FCZ2-34HE-UNV-L83050-HRP-CP187-W2A-U-4000K**

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 Cooper Lighting Solutions or from external interests.

Test Information

Test Method: LM-79-08
Report Number: P312532
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1808-918-22)
Test Lab: INNOVATION CENTER(G3)
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: FAIL-SAFE
Catalog Number: 22FCZ2-34HE-UNV-L83050-HRP-CP187-W2A-U-4000K
Description: 2'X2' TROFFER LED MODULE, HIGH EFFICIENCY RND PERF. LENS, 0.187"
POLYCARB SHEET
Light Source: (168) 4000K TUNABLE CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER
Luminaire Equipment:

<u>Sample No.</u>	<u>Condition</u>	<u>Description</u>
AS-5443-1	Good	WHITE TWIN R-EVOLVE FLOOD
AS-5443-2	Good	REFLECTOR
AS-5443-3	Good	DRIVER
AS-5443-4	Good	UPPER MODULE
AS-5443-5	Good	LENS
AS-5443-6	Good	DRIVER 2
AS-5443-7	Good	TRIM RING

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2448.0 lumens
Efficiency: N/A
Efficacy: 86.8 lumens/watt
Spacing Criteria (0/90/45): 1.23 / 1.29 / 1.38
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')
CIE Type: Direct

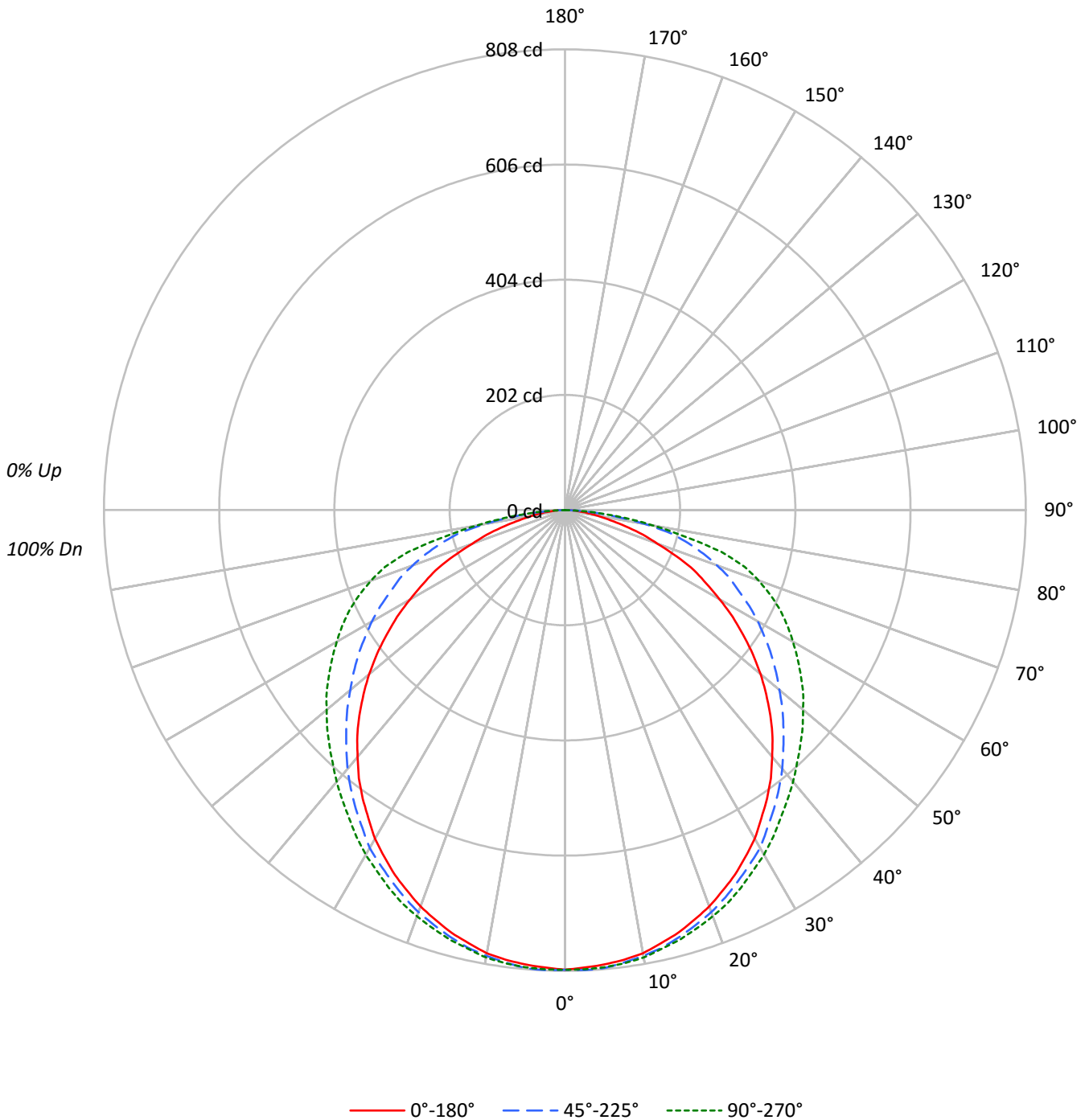
Input Watts (W): 28.2
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	0
RCR																		
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100
1	108	103	98	94	105	101	96	93	96	93	90	92	90	87	89	87	84	82
2	98	89	82	76	95	87	80	75	84	78	73	80	75	71	77	73	70	68
3	89	78	69	62	86	76	68	62	73	66	61	70	64	60	68	63	59	56
4	81	69	59	52	79	67	59	52	65	57	51	62	56	51	60	55	50	48
5	74	61	52	45	72	60	51	45	58	50	44	56	49	44	54	48	43	41
6	69	55	46	39	67	54	45	39	52	44	39	50	43	38	49	43	38	36
7	64	50	41	34	62	49	40	34	47	40	34	46	39	34	44	38	33	31
8	59	45	37	31	58	45	36	31	43	36	30	42	35	30	41	35	30	28
9	55	42	33	28	54	41	33	27	40	32	27	39	32	27	38	31	27	25
10	52	38	30	25	50	38	30	25	37	30	25	36	29	25	35	29	24	23

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	2169	2169	2169
5°	2161	2177	2173
10°	2156	2169	2177
15°	2138	2160	2172
20°	2118	2149	2171
25°	2095	2132	2169
30°	2068	2126	2169
35°	2029	2100	2166
40°	1985	2083	2186
45°	1939	2063	2221
50°	1875	2056	2282
55°	1789	2072	2369
60°	1687	2103	2485
65°	1593	2143	2655
70°	1361	2235	2843
75°	1140	2328	2954
80°	933	2250	2466
85°	812	1667	1812



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	76.4	3.1
10°-20°	218.5	8.9
20°-30°	331.2	13.5
30°-40°	399.9	16.3
40°-50°	420.2	17.2
50°-60°	395.4	16.2
60°-70°	329.7	13.5
70°-80°	218.4	8.9
80°-90°	58.2	2.4
90°-100°	0.0	0.0
100°-110°	0.0	0.0
110°-120°	0.0	0.0
120°-130°	0.0	0.0
130°-140°	0.0	0.0
140°-150°	0.0	0.0
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	626.1	25.6
0°-40°	1026.1	41.9
0°-60°	1841.7	75.2
0°-90°	2448.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2448.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	806	806	806	806	806	
5°	800	802	806	806	805	76
15°	768	771	775	778	780	216
25°	706	710	718	727	730	325
35°	618	624	639	653	659	386
45°	510	517	542	570	584	392
55°	381	398	442	486	505	341
65°	250	272	337	392	417	243
75°	110	153	224	270	284	119
85°	26	40	54	59	59	30
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	806.1	806.1	806.1	806.1	806.1
2.5°	803.0	804.6	807.6	807.6	806.1
5°	799.9	801.5	806.1	806.1	804.6
7.5°	795.3	796.8	799.9	803.0	801.5
10°	789.1	790.7	793.7	796.8	796.8
12.5°	778.3	779.8	786.0	787.6	787.6
15°	767.5	770.6	775.2	778.3	779.8
17.5°	753.6	756.7	762.9	769.0	769.0
20°	739.7	742.8	750.5	756.7	758.2
22.5°	722.7	727.3	735.1	742.8	745.9
25°	705.7	710.4	718.1	727.3	730.4
27.5°	685.6	690.3	701.1	711.9	713.4
30°	665.6	670.2	684.1	693.4	698.0
32.5°	640.9	647.0	660.9	674.8	679.5
35°	617.7	623.9	639.3	653.2	659.4
37.5°	593.0	599.2	616.2	633.1	640.9
40°	565.2	572.9	593.0	611.5	622.3
42.5°	538.9	546.7	566.7	591.4	602.3
45°	509.6	517.3	542.0	569.8	583.7
47.5°	478.7	488.0	517.3	551.3	565.2
50°	447.8	458.6	491.1	529.7	545.1
52.5°	415.4	429.3	466.4	508.1	526.6
55°	381.4	398.4	441.7	486.4	505.0
57.5°	349.0	364.4	415.4	463.3	483.4
60°	313.5	333.6	390.7	440.1	461.7
62.5°	279.5	301.1	364.4	416.9	440.1
65°	250.2	271.8	336.6	392.2	416.9
67.5°	211.6	240.9	313.5	366.0	390.7
70°	173.0	213.1	284.1	338.2	361.4
72.5°	143.6	182.2	254.8	308.9	330.5
75°	109.6	152.9	223.9	270.2	284.1
77.5°	81.8	126.6	191.5	214.7	216.2
80°	60.2	97.3	145.2	152.9	159.1
82.5°	41.7	67.9	94.2	103.5	106.6
85°	26.3	40.2	54.0	58.7	58.7
87.5°	13.9	15.4	18.5	18.5	18.5
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)