

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: P311933

Luminaire Tested: **14FCZ2-35-UNV-L83050-HRP-CP187-W2A-U-4500K**

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: P311933
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1808-918-18)
Test Lab: INNOVATION CENTER(G3)
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: FAIL-SAFE
Catalog Number: 14FCZ2-35-UNV-L83050-HRP-CP187-W2A-U-4500K
Description: 1'X4' TROFFER LED MODULE, HIGH EFFICIENCY RND PERF. LENS, 0.187"
POLYCARB SHEET
Light Source: (168) 4500K 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: 2535.0 lumens
Efficiency: N/A
Efficacy: 82.0 lumens/watt
Spacing Criteria (0/90/45): 1.24 / 1.29 / 1.39
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

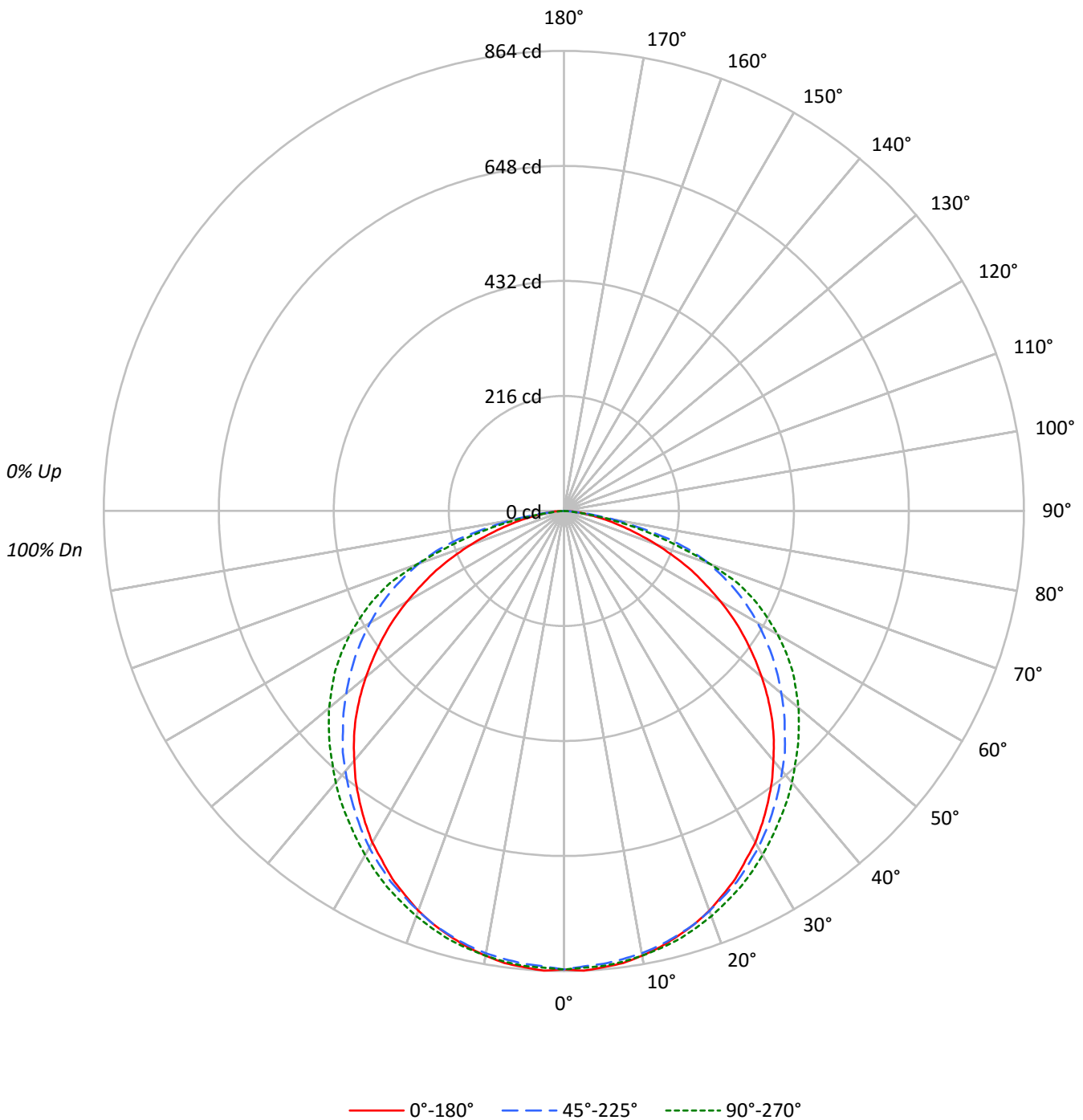
Input Watts (W): 30.9
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	109	104	100	96	106	102	98	94	97	94	91	93	91	88	90	88	86	84
2	99	90	83	78	96	88	82	77	85	79	75	82	77	73	78	75	71	69
3	90	79	71	64	87	77	70	64	74	68	62	72	66	61	69	64	60	58
4	82	70	61	54	80	68	60	54	66	59	53	64	57	52	61	56	51	49
5	75	62	53	46	73	61	53	46	59	51	46	57	50	45	55	49	45	42
6	69	56	47	40	68	55	46	40	53	45	40	51	45	39	50	44	39	37
7	64	51	42	36	63	50	41	35	48	41	35	47	40	35	45	39	35	33
8	60	46	38	32	58	45	37	32	44	37	31	43	36	31	42	36	31	29
9	56	42	34	28	54	42	34	28	41	33	28	39	33	28	38	32	28	26
10	52	39	31	26	51	38	31	26	37	30	26	37	30	25	36	30	25	24

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	2317	2317	2317
5°	2323	2306	2317
10°	2317	2305	2317
15°	2303	2298	2321
20°	2287	2290	2319
25°	2263	2282	2320
30°	2234	2269	2318
35°	2194	2252	2323
40°	2151	2240	2341
45°	2105	2233	2366
50°	2033	2233	2409
55°	1945	2244	2461
60°	1828	2261	2492
65°	1685	2284	2507
70°	1467	2290	2308
75°	1210	2130	1865
80°	951	1531	1247
85°	738	590	296



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	81.5	3.2
10°-20°	233.9	9.2
20°-30°	355.2	14.0
30°-40°	430.3	17.0
40°-50°	453.5	17.9
50°-60°	423.4	16.7
60°-70°	338.3	13.3
70°-80°	186.2	7.3
80°-90°	32.9	1.3
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°	670.5	26.5
0°-40°	1100.9	43.4
0°-60°	1977.7	78.0
0°-90°	2535.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2535.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	861	861	861	861	861	
5°	860	858	854	859	858	82
15°	827	827	825	833	833	233
25°	762	764	768	780	781	351
35°	668	674	686	703	707	418
45°	553	564	587	613	622	426
55°	414	435	478	512	524	370
65°	265	298	359	388	394	261
75°	116	167	205	184	179	125
85°	24	30	19	12	10	29
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	860.9	860.9	860.9	860.9	860.9
2.5°	864.1	861.7	856.1	860.9	858.5
5°	860.1	857.7	853.7	859.3	857.7
7.5°	856.1	852.9	848.9	855.3	853.7
10°	848.1	845.8	843.4	848.9	848.1
12.5°	838.6	837.8	835.4	841.8	841.0
15°	826.6	826.6	825.0	833.0	833.0
17.5°	813.9	813.1	813.9	822.6	821.8
20°	798.7	798.7	799.5	809.9	809.9
22.5°	780.4	781.2	783.6	796.3	795.5
25°	762.1	763.6	768.4	779.6	781.2
27.5°	739.7	743.7	749.3	762.9	764.4
30°	719.0	721.4	730.2	742.9	746.1
32.5°	694.3	699.1	708.6	723.0	727.0
35°	668.0	674.4	685.5	703.1	707.1
37.5°	641.7	647.3	662.4	680.7	687.9
40°	612.2	621.8	637.7	658.4	666.4
42.5°	583.5	593.1	614.6	636.1	643.3
45°	553.2	563.6	586.7	613.0	621.8
47.5°	519.7	531.7	561.2	589.1	598.6
50°	485.5	500.6	533.3	564.4	575.5
52.5°	449.6	468.7	506.2	538.9	549.2
55°	414.5	435.2	478.3	511.8	524.5
57.5°	378.6	401.0	449.6	487.8	495.0
60°	339.6	366.7	420.1	453.6	463.1
62.5°	301.3	332.4	389.8	421.7	429.7
65°	264.6	298.1	358.7	388.2	393.8
67.5°	224.8	264.6	324.4	351.5	353.1
70°	186.5	232.8	291.0	303.7	293.3
72.5°	149.1	198.5	251.9	241.5	232.8
75°	116.4	166.6	204.9	184.1	179.4
77.5°	86.1	136.3	146.7	135.5	126.7
80°	61.4	107.6	98.8	84.5	80.5
82.5°	42.2	67.8	54.2	42.2	36.7
85°	23.9	30.3	19.1	12.0	9.6
87.5°	10.4	7.2	4.0	3.2	3.2
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)