

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: P310023

Luminaire Tested: **24FCZ2-40HE-UNV-L82765-RDP-CP187-W2A-U-3000K**

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: P310023
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1808-918-19)
Test Lab: INNOVATION CENTER(G3)
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: FAIL-SAFE
Catalog Number: 24FCZ2-40HE-UNV-L82765-RDP-CP187-W2A-U-3000K
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS WITH INSERT, 0.187" POLYCARB SHEET
Light Source: (336) 3000K 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: 2212.0 lumens
Efficiency: N/A
Efficacy: 73.2 lumens/watt
Spacing Criteria (0/90/45): 1.26 / 1.3 / 1.41
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

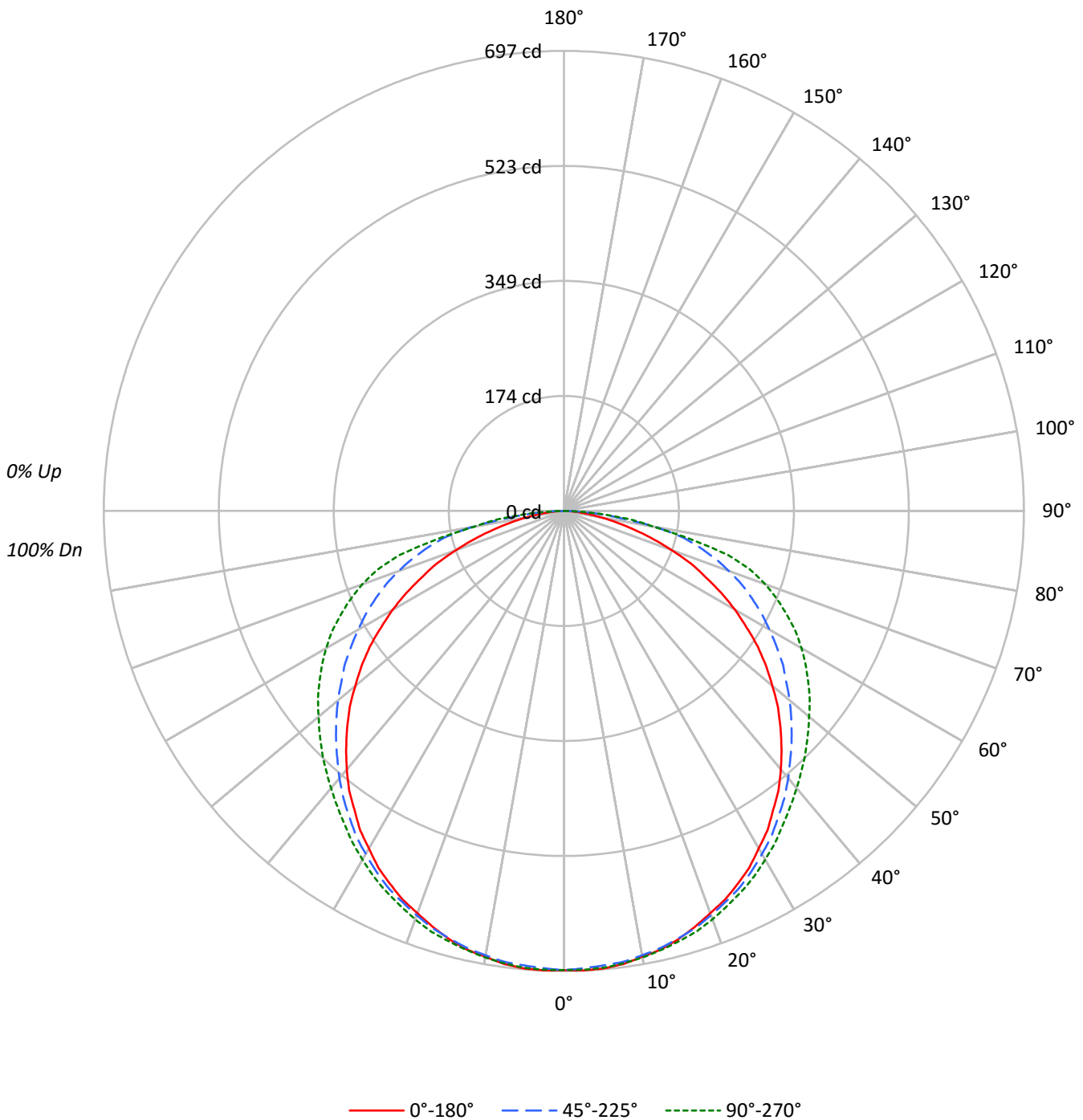
Input Watts (W): 30.2
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	100	96	92	96	93	89	92	89	87	88	86	84	82
2	97	89	81	75	95	87	80	74	83	77	72	80	75	71	77	73	69	67
3	88	77	68	62	86	76	68	61	72	66	60	70	64	59	67	62	58	56
4	81	68	59	52	78	67	58	51	64	57	51	62	55	50	59	54	49	47
5	74	60	51	44	72	59	51	44	57	49	43	55	48	43	53	47	42	40
6	68	54	45	38	66	53	45	38	51	44	38	50	43	37	48	42	37	35
7	63	49	40	34	61	48	40	34	47	39	33	45	38	33	44	38	33	31
8	59	45	36	30	57	44	36	30	43	35	30	41	34	29	40	34	29	27
9	55	41	33	27	53	40	32	27	39	32	27	38	31	26	37	31	26	24
10	51	38	30	24	50	37	29	24	36	29	24	35	29	24	34	28	24	22

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	936	936	936
5°	939	934	938
10°	937	934	938
15°	935	934	940
20°	928	933	943
25°	925	935	945
30°	917	932	948
35°	908	930	952
40°	898	929	964
45°	883	929	985
50°	863	935	1015
55°	842	950	1060
60°	806	968	1119
65°	755	1003	1188
70°	686	1049	1278
75°	582	1107	1334
80°	459	1113	1079
85°	338	848	948



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	66.0	3.0
10°-20°	189.9	8.6
20°-30°	290.4	13.1
30°-40°	355.0	16.0
40°-50°	378.4	17.1
50°-60°	361.8	16.4
60°-70°	306.5	13.9
70°-80°	206.0	9.3
80°-90°	58.1	2.6
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°	546.3	24.7
0°-40°	901.3	40.7
0°-60°	1641.5	74.2
0°-90°	2212.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2212.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	696	696	696	696	696	
5°	696	694	691	694	694	66
15°	672	672	670	676	675	189
25°	623	625	630	635	636	287
35°	553	557	566	577	579	346
45°	464	472	488	509	518	358
55°	359	372	405	437	452	320
65°	237	261	315	357	373	235
75°	112	152	213	249	257	120
85°	22	45	55	59	61	27
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	695.6	695.6	695.6	695.6	695.6
2.5°	696.7	696.7	693.4	695.6	695.6
5°	695.6	694.5	691.2	694.5	694.5
7.5°	692.3	691.2	689.0	692.3	691.2
10°	685.7	685.7	683.5	686.8	686.8
12.5°	680.3	679.2	678.1	682.4	681.3
15°	671.5	671.5	670.4	675.9	674.8
17.5°	660.5	661.6	662.7	667.1	668.2
20°	648.4	650.6	651.7	658.3	658.3
22.5°	637.5	638.6	640.8	647.3	647.3
25°	623.2	625.4	629.8	635.3	636.4
27.5°	608.9	610.0	615.5	623.2	624.3
30°	590.3	593.6	600.2	608.9	610.0
32.5°	573.8	577.1	584.8	593.6	595.8
35°	553.0	557.4	566.1	577.1	579.3
37.5°	534.3	537.6	548.6	560.7	563.9
40°	511.3	517.9	528.8	543.1	548.6
42.5°	488.2	494.8	508.0	526.6	533.2
45°	464.1	471.8	488.2	509.1	517.9
47.5°	440.0	448.7	467.4	491.5	501.4
50°	412.5	423.5	446.6	474.0	485.0
52.5°	386.2	399.4	424.6	455.3	469.6
55°	358.8	371.9	404.9	436.7	452.0
57.5°	328.1	345.6	381.8	418.0	434.5
60°	299.5	316.0	359.9	399.4	415.8
62.5°	268.8	290.8	337.9	379.6	396.1
65°	237.0	261.1	314.9	356.6	373.0
67.5°	208.5	234.8	291.8	333.5	350.0
70°	174.5	207.4	266.6	308.3	324.8
72.5°	142.6	178.8	240.3	280.9	296.2
75°	111.9	152.5	212.9	249.1	256.7
77.5°	83.4	126.2	184.3	199.7	194.2
80°	59.2	100.9	143.7	136.1	139.3
82.5°	38.4	76.8	88.9	100.9	104.2
85°	21.9	45.0	54.9	59.2	61.4
87.5°	9.9	16.5	21.9	21.9	20.8
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)