

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: P310072

Luminaire Tested: **24FCZ2-40-UNV-L82765-RDP-CP187-W2A-U-5000K**

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: P310072
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: 24FCZ2-40-UNV-L82765-RDP-CP187-W2A-U-5000K
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS WITH INSERT, 0.187" POLYCARB SHEET
Light Source: (168) 5000K 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: 2398.0 lumens
Efficiency: N/A
Efficacy: 71.6 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

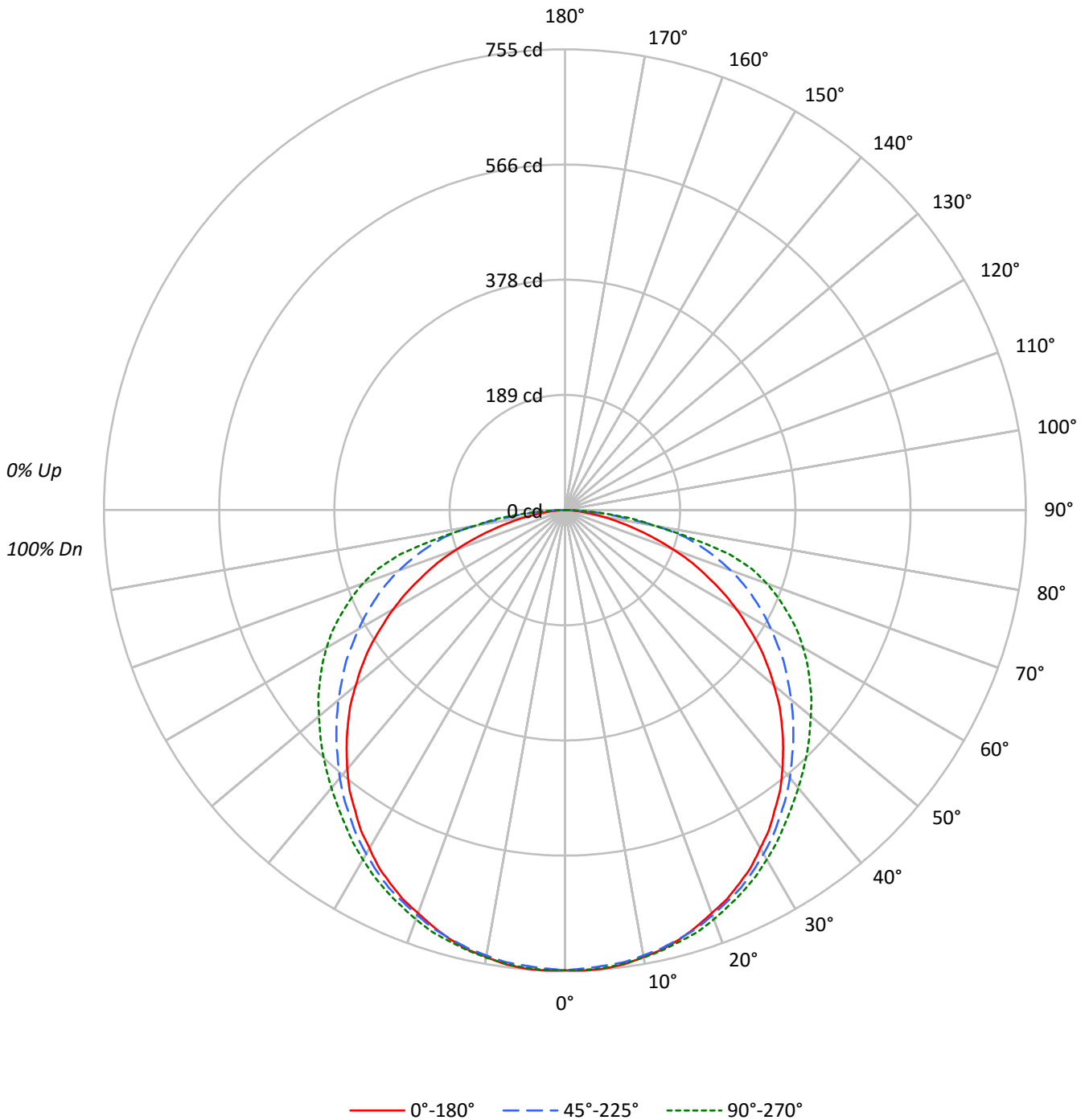
Input Watts (W): 33.5
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	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	67	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°	1015	1015	1015
5°	1019	1012	1017
10°	1016	1012	1017
15°	1014	1012	1019
20°	1007	1012	1022
25°	1003	1014	1024
30°	994	1011	1027
35°	985	1008	1032
40°	974	1007	1045
45°	957	1007	1068
50°	936	1013	1100
55°	912	1030	1149
60°	874	1050	1213
65°	818	1087	1287
70°	744	1137	1385
75°	631	1200	1447
80°	497	1207	1171
85°	367	919	1028



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	71.5	3.0
10°-20°	205.9	8.6
20°-30°	314.8	13.1
30°-40°	384.9	16.0
40°-50°	410.2	17.1
50°-60°	392.2	16.4
60°-70°	332.2	13.9
70°-80°	223.3	9.3
80°-90°	63.0	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°	592.2	24.7
0°-40°	977.1	40.7
0°-60°	1779.5	74.2
0°-90°	2398.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2398.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	754	754	754	754	754	
5°	754	753	749	753	753	72
15°	728	728	727	733	732	205
25°	676	678	683	689	690	311
35°	600	604	614	626	628	376
45°	503	512	529	552	561	388
55°	389	403	439	473	490	346
65°	257	283	341	387	404	255
75°	121	165	231	270	278	130
85°	24	49	60	64	67	29
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	754.1	754.1	754.1	754.1	754.1
2.5°	755.3	755.3	751.7	754.1	754.1
5°	754.1	752.9	749.3	752.9	752.9
7.5°	750.5	749.3	747.0	750.5	749.3
10°	743.4	743.4	741.0	744.6	744.6
12.5°	737.5	736.3	735.1	739.8	738.6
15°	727.9	727.9	726.7	732.7	731.5
17.5°	716.0	717.2	718.4	723.2	724.4
20°	703.0	705.3	706.5	713.7	713.7
22.5°	691.1	692.3	694.6	701.8	701.8
25°	675.6	678.0	682.7	688.7	689.9
27.5°	660.1	661.3	667.3	675.6	676.8
30°	639.9	643.5	650.6	660.1	661.3
32.5°	622.1	625.6	634.0	643.5	645.9
35°	599.5	604.2	613.7	625.6	628.0
37.5°	579.3	582.8	594.7	607.8	611.4
40°	554.3	561.4	573.3	588.8	594.7
42.5°	529.3	536.4	550.7	570.9	578.1
45°	503.1	511.5	529.3	551.9	561.4
47.5°	477.0	486.5	506.7	532.9	543.6
50°	447.2	459.1	484.1	513.8	525.7
52.5°	418.7	433.0	460.3	493.6	509.1
55°	388.9	403.2	438.9	473.4	490.0
57.5°	355.6	374.7	413.9	453.2	471.0
60°	324.7	342.6	390.1	433.0	450.8
62.5°	291.4	315.2	366.3	411.5	429.4
65°	256.9	283.1	341.4	386.6	404.4
67.5°	226.0	254.5	316.4	361.6	379.4
70°	189.1	224.8	289.0	334.2	352.1
72.5°	154.6	193.9	260.5	304.5	321.1
75°	121.3	165.3	230.8	270.0	278.3
77.5°	90.4	136.8	199.8	216.5	210.5
80°	64.2	109.4	155.8	147.5	151.1
82.5°	41.6	83.3	96.3	109.4	113.0
85°	23.8	48.8	59.5	64.2	66.6
87.5°	10.7	17.8	23.8	23.8	22.6
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)