

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: P309393

Luminaire Tested: **24FCZ2-40-UNV-L82765-HRP-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: P309393
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1808-918-20)
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-HRP-CP187-W2A-U-3000K
Description: 2'X4' TROFFER LED MODULE, HIGH EFFICIENCY RND PERF. LENS, 0.187"
POLYCARB SHEET
Light Source: (168) 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: 2480.0 lumens
Efficiency: N/A
Efficacy: 76.3 lumens/watt
Spacing Criteria (0/90/45): 1.24 / 1.3 / 1.4
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

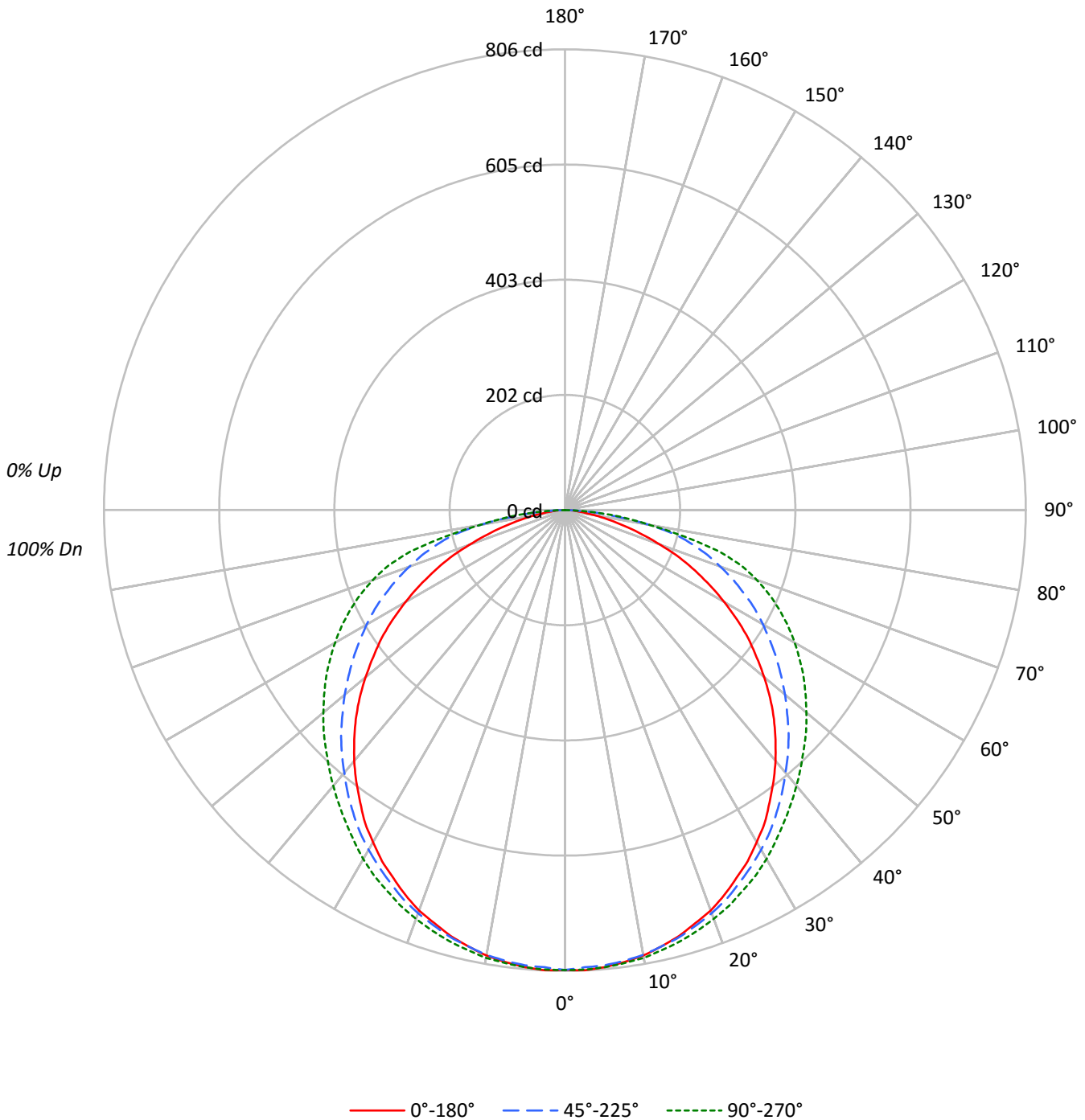
Input Watts (W): 32.5
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	101	96	93	96	93	90	92	90	87	89	86	84	82
2	98	89	82	76	95	87	80	75	83	78	73	80	75	71	77	73	70	67
3	89	78	69	62	86	76	68	62	73	66	61	70	64	59	68	63	58	56
4	81	68	59	52	79	67	59	52	65	57	51	62	56	50	60	54	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	38	50	43	38	49	42	38	36
7	63	50	41	34	62	49	40	34	47	39	34	46	39	34	44	38	33	31
8	59	45	36	30	57	44	36	30	43	36	30	42	35	30	41	34	30	28
9	55	41	33	27	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	24	35	29	24	23

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	1083	1083	1083
5°	1084	1080	1084
10°	1081	1079	1087
15°	1075	1077	1088
20°	1067	1075	1090
25°	1054	1070	1091
30°	1042	1066	1095
35°	1025	1061	1097
40°	1007	1054	1107
45°	984	1053	1124
50°	952	1052	1154
55°	918	1059	1196
60°	866	1076	1249
65°	800	1101	1319
70°	698	1140	1405
75°	567	1198	1452
80°	418	1175	1175
85°	321	866	977



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	76.2	3.1
10°-20°	218.9	8.8
20°-30°	333.2	13.4
30°-40°	404.6	16.3
40°-50°	427.5	17.2
50°-60°	403.4	16.3
60°-70°	335.4	13.5
70°-80°	220.7	8.9
80°-90°	60.2	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°	628.3	25.3
0°-40°	1033.0	41.7
0°-60°	1863.8	75.2
0°-90°	2480.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2480.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	805	805	805	805	805	
5°	803	803	799	803	803	76
15°	771	772	774	781	781	218
25°	710	714	720	733	735	328
35°	624	631	646	662	668	391
45°	517	527	553	580	591	398
55°	391	408	452	494	510	349
65°	251	280	346	397	414	248
75°	109	159	230	273	279	117
85°	21	46	56	62	63	25
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	804.6	804.6	804.6	804.6	804.6
2.5°	805.7	804.6	800.5	804.6	804.6
5°	802.6	802.6	799.4	802.6	802.6
7.5°	797.4	797.4	795.3	799.4	799.4
10°	791.1	791.1	790.1	795.3	795.3
12.5°	781.8	782.8	781.8	788.0	788.0
15°	771.4	772.5	773.5	780.8	780.8
17.5°	757.9	760.0	762.1	770.4	771.4
20°	745.5	746.5	750.6	760.0	761.0
22.5°	728.8	732.0	737.2	746.5	749.6
25°	710.2	714.3	720.5	733.0	735.1
27.5°	692.5	695.6	703.9	717.4	721.6
30°	670.7	675.9	686.3	699.8	705.0
32.5°	649.9	655.1	667.6	682.1	686.3
35°	624.0	631.3	645.8	662.4	667.6
37.5°	599.1	606.3	624.0	642.7	648.9
40°	573.1	581.4	600.1	621.9	630.2
42.5°	545.1	556.5	577.3	601.1	610.5
45°	517.0	527.4	553.4	580.4	590.8
47.5°	486.9	499.4	527.4	559.6	572.1
50°	454.8	470.3	502.5	537.8	551.3
52.5°	422.6	440.2	476.6	516.0	530.5
55°	391.4	408.0	451.6	494.2	509.8
57.5°	357.2	377.9	425.7	471.4	486.9
60°	321.9	344.7	399.7	447.5	464.1
62.5°	286.6	312.5	374.8	422.6	440.2
65°	251.3	280.3	345.7	396.6	414.3
67.5°	217.0	249.2	318.7	369.6	387.3
70°	177.5	218.0	289.7	339.5	357.2
72.5°	141.2	187.9	261.6	308.4	323.9
75°	109.0	158.9	230.5	273.1	279.3
77.5°	79.9	129.8	198.3	212.8	213.9
80°	54.0	103.8	151.6	149.5	151.6
82.5°	35.3	77.9	95.5	106.9	108.0
85°	20.8	45.7	56.1	62.3	63.3
87.5°	10.4	15.6	19.7	20.8	22.8
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)