

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: P309396

Luminaire Tested: **24FCZ2-40-UNV-L82765-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: P309396  
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-4500K  
Description: 2'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**

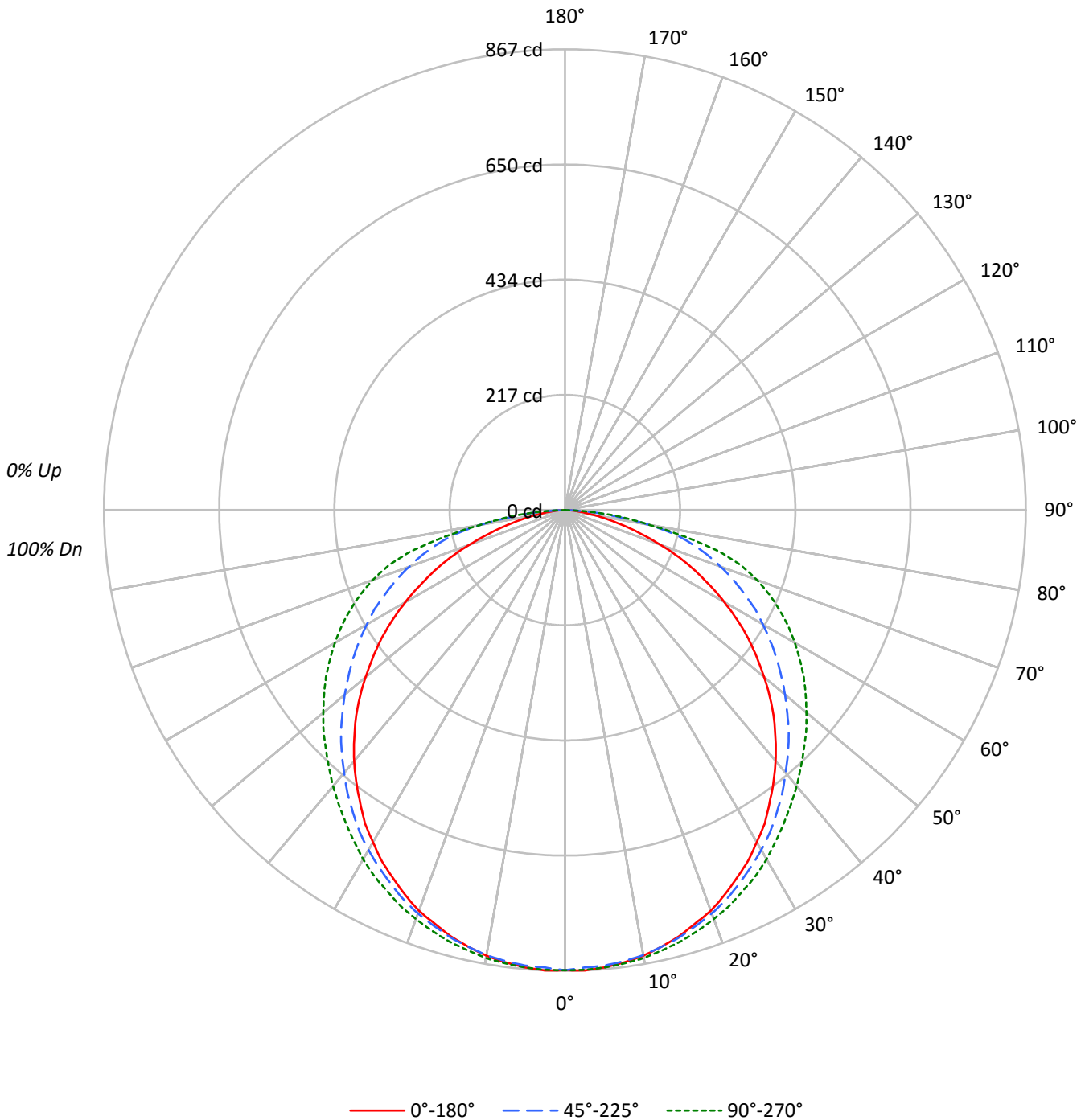
Lumens per Lamp: N/A  
Luminaire Lumens: 2669.0 lumens  
Efficiency: N/A  
Efficacy: 80.2 lumens/watt  
Spacing Criteria (0/90/45): 1.24 / 1.3 / 1.4  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 33.3  
Input Voltage (V): NR  
Input Current (Ain): NR  
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°	1165	1165	1165
5°	1167	1162	1167
10°	1163	1162	1169
15°	1156	1159	1170
20°	1149	1157	1173
25°	1135	1151	1174
30°	1121	1148	1179
35°	1103	1142	1180
40°	1083	1134	1191
45°	1059	1133	1210
50°	1024	1132	1242
55°	988	1140	1287
60°	932	1158	1344
65°	861	1185	1419
70°	752	1226	1512
75°	610	1290	1563
80°	450	1264	1264
85°	344	931	1053



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	82.0	3.1
10°-20°	235.6	8.8
20°-30°	358.6	13.4
30°-40°	435.5	16.3
40°-50°	460.1	17.2
50°-60°	434.1	16.3
60°-70°	361.0	13.5
70°-80°	237.5	8.9
80°-90°	64.7	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°	676.2	25.3
0°-40°	1111.7	41.7
0°-60°	2005.9	75.2
0°-90°	2669.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2669.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	866	866	866	866	866	
5°	864	864	860	864	864	82
15°	830	831	832	840	840	234
25°	764	769	776	789	791	353
35°	672	679	695	713	718	420
45°	556	568	596	625	636	429
55°	421	439	486	532	549	375
65°	270	302	372	427	446	267
75°	117	171	248	294	301	126
85°	22	49	60	67	68	27
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	866.0	866.0	866.0	866.0	866.0
2.5°	867.1	866.0	861.5	866.0	866.0
5°	863.7	863.7	860.4	863.7	863.7
7.5°	858.1	858.1	855.9	860.4	860.4
10°	851.4	851.4	850.3	855.9	855.9
12.5°	841.4	842.5	841.4	848.1	848.1
15°	830.2	831.3	832.4	840.3	840.3
17.5°	815.7	817.9	820.1	829.1	830.2
20°	802.3	803.4	807.9	817.9	819.0
22.5°	784.4	787.7	793.3	803.4	806.7
25°	764.3	768.7	775.5	788.9	791.1
27.5°	745.3	748.6	757.6	772.1	776.6
30°	721.8	727.4	738.6	753.1	758.7
32.5°	699.5	705.1	718.5	734.1	738.6
35°	671.5	679.4	695.0	712.9	718.5
37.5°	644.7	652.5	671.5	691.6	698.4
40°	616.8	625.7	645.8	669.3	678.2
42.5°	586.6	598.9	621.3	647.0	657.0
45°	556.4	567.6	595.6	624.6	635.8
47.5°	524.0	537.5	567.6	602.3	615.7
50°	489.4	506.2	540.8	578.8	593.3
52.5°	454.8	473.8	512.9	555.3	571.0
55°	421.2	439.1	486.1	531.9	548.6
57.5°	384.4	406.7	458.1	507.3	524.0
60°	346.4	371.0	430.2	481.6	499.5
62.5°	308.4	336.3	403.4	454.8	473.8
65°	270.4	301.7	372.1	426.8	445.8
67.5°	233.5	268.2	343.0	397.8	416.8
70°	191.1	234.6	311.7	365.4	384.4
72.5°	152.0	202.2	281.6	331.9	348.6
75°	117.3	171.0	248.1	293.9	300.6
77.5°	86.0	139.7	213.4	229.1	230.2
80°	58.1	111.7	163.1	160.9	163.1
82.5°	38.0	83.8	102.8	115.1	116.2
85°	22.3	49.2	60.3	67.0	68.2
87.5°	11.2	16.8	21.2	22.3	24.6
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)