

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: P309392

Luminaire Tested: **24FCZ2-40-UNV-L82765-HRP-CP187-W2A-U-2700K**

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: P309392
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-2700K
Description: 2'X4' TROFFER LED MODULE, HIGH EFFICIENCY RND PERF. LENS, 0.187"
POLYCARB SHEET
Light Source: (168) 2700K 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: 2410.0 lumens
Efficiency: N/A
Efficacy: 73.7 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

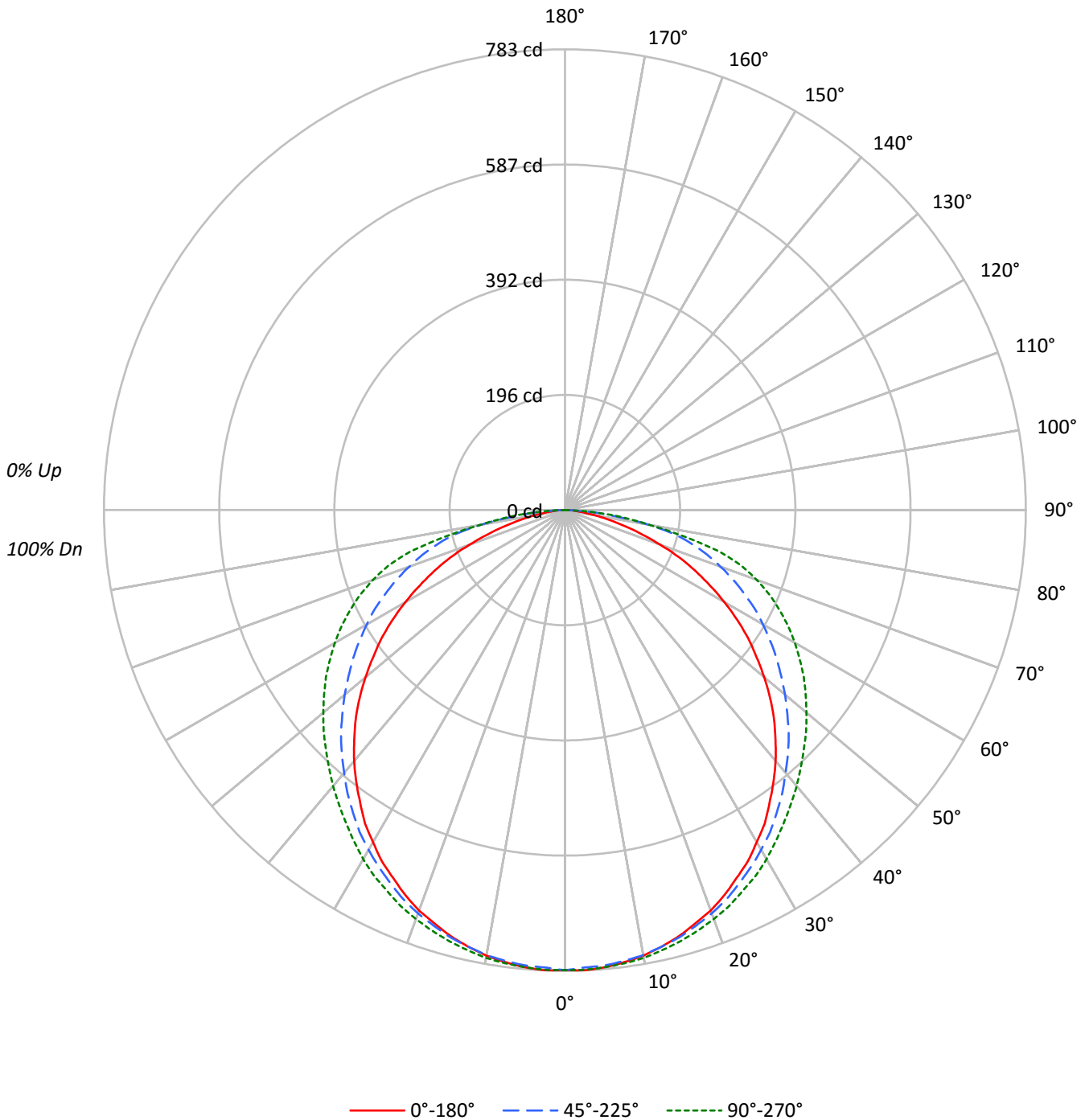
Input Watts (W): 32.7
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	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°	1052	1052	1052
5°	1053	1049	1053
10°	1050	1049	1056
15°	1044	1047	1057
20°	1037	1045	1059
25°	1025	1040	1060
30°	1013	1036	1064
35°	996	1031	1066
40°	978	1024	1076
45°	956	1023	1092
50°	925	1022	1121
55°	892	1030	1162
60°	842	1045	1214
65°	777	1070	1282
70°	679	1107	1365
75°	551	1164	1411
80°	407	1141	1141
85°	312	841	949



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	74.1	3.1
10°-20°	212.7	8.8
20°-30°	323.8	13.4
30°-40°	393.2	16.3
40°-50°	415.4	17.2
50°-60°	392.0	16.3
60°-70°	325.9	13.5
70°-80°	214.4	8.9
80°-90°	58.4	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°	610.6	25.3
0°-40°	1003.8	41.7
0°-60°	1811.2	75.2
0°-90°	2410.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2410.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	782	782	782	782	782	
5°	780	780	777	780	780	74
15°	750	751	752	759	759	211
25°	690	694	700	712	714	318
35°	606	613	628	644	649	380
45°	502	512	538	564	574	387
55°	380	396	439	480	495	339
65°	244	272	336	385	403	241
75°	106	154	224	265	271	114
85°	20	44	54	60	62	25
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	781.9	781.9	781.9	781.9	781.9
2.5°	782.9	781.9	777.9	781.9	781.9
5°	779.9	779.9	776.9	779.9	779.9
7.5°	774.9	774.9	772.8	776.9	776.9
10°	768.8	768.8	767.8	772.8	772.8
12.5°	759.7	760.7	759.7	765.8	765.8
15°	749.6	750.6	751.7	758.7	758.7
17.5°	736.5	738.5	740.6	748.6	749.6
20°	724.4	725.4	729.5	738.5	739.6
22.5°	708.3	711.3	716.3	725.4	728.5
25°	690.1	694.1	700.2	712.3	714.3
27.5°	673.0	676.0	684.1	697.2	701.2
30°	651.8	656.8	666.9	680.0	685.1
32.5°	631.6	636.6	648.7	662.9	666.9
35°	606.4	613.4	627.6	643.7	648.7
37.5°	582.2	589.2	606.4	624.5	630.6
40°	556.9	565.0	583.2	604.4	612.4
42.5°	529.7	540.8	561.0	584.2	593.3
45°	502.5	512.5	537.8	564.0	574.1
47.5°	473.2	485.3	512.5	543.8	555.9
50°	441.9	457.0	488.3	522.6	535.7
52.5°	410.6	427.8	463.1	501.4	515.6
55°	380.4	396.5	438.9	480.3	495.4
57.5°	347.1	367.3	413.7	458.1	473.2
60°	312.8	335.0	388.4	434.9	451.0
62.5°	278.5	303.7	364.2	410.6	427.8
65°	244.2	272.4	336.0	385.4	402.6
67.5°	210.9	242.1	309.7	359.2	376.3
70°	172.5	211.9	281.5	329.9	347.1
72.5°	137.2	182.6	254.3	299.7	314.8
75°	105.9	154.4	224.0	265.4	271.4
77.5°	77.7	126.1	192.7	206.8	207.8
80°	52.5	100.9	147.3	145.3	147.3
82.5°	34.3	75.7	92.8	103.9	104.9
85°	20.2	44.4	54.5	60.5	61.5
87.5°	10.1	15.1	19.2	20.2	22.2
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)