

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: P309483

Luminaire Tested: **24FCZ2-45-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: P309483
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: 24FCZ2-45-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: 2777.0 lumens
Efficiency: N/A
Efficacy: 74.5 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

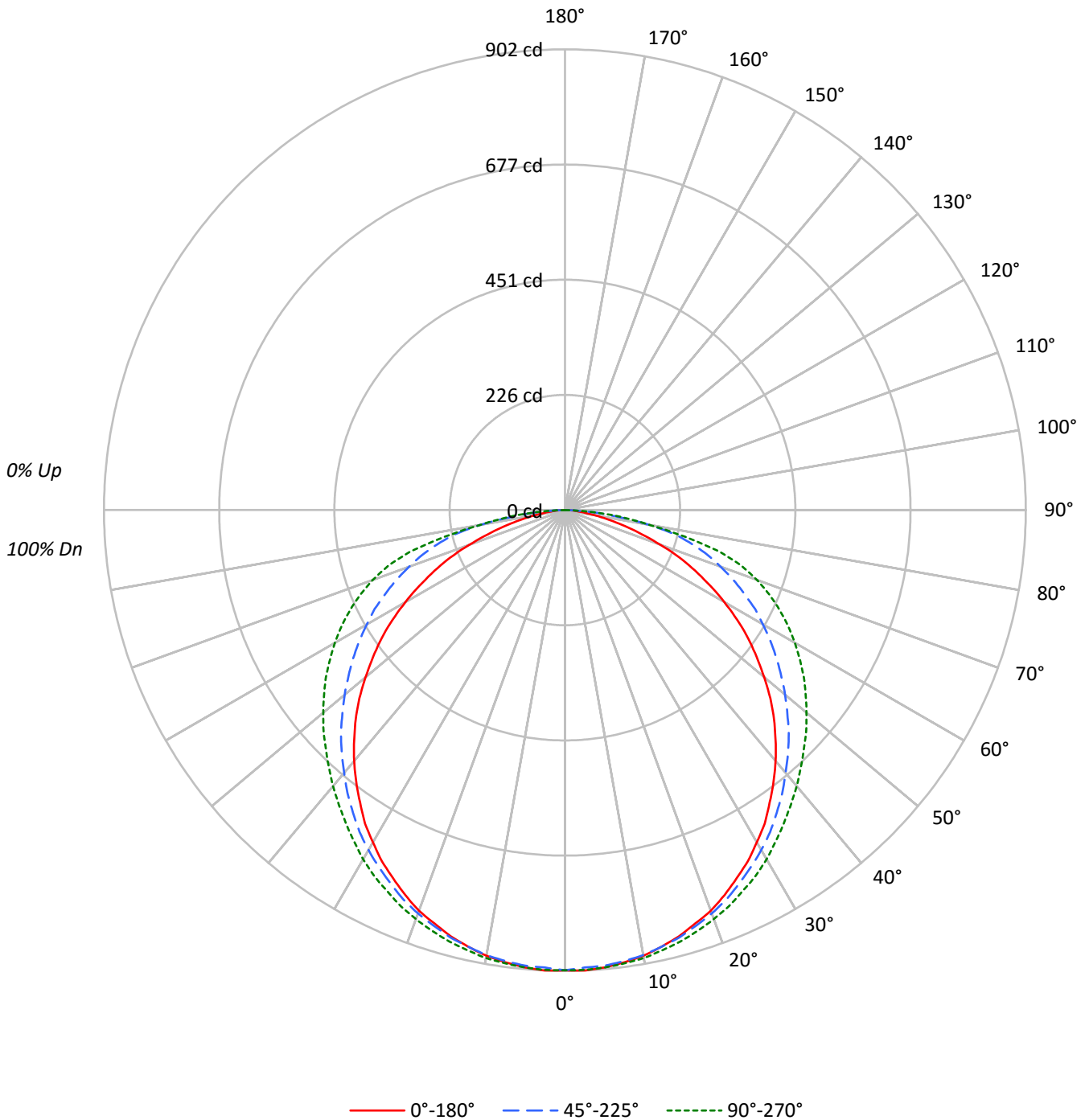
Input Watts (W): 37.3
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	1212	1212	1212
5°	1214	1209	1214
10°	1210	1209	1217
15°	1203	1206	1218
20°	1195	1203	1220
25°	1181	1198	1222
30°	1167	1194	1226
35°	1148	1188	1228
40°	1127	1180	1239
45°	1102	1179	1259
50°	1066	1178	1292
55°	1028	1186	1339
60°	970	1204	1399
65°	896	1232	1477
70°	782	1276	1573
75°	635	1342	1626
80°	469	1315	1315
85°	360	969	1095



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	85.4	3.1
10°-20°	245.1	8.8
20°-30°	373.1	13.4
30°-40°	453.1	16.3
40°-50°	478.7	17.2
50°-60°	451.7	16.3
60°-70°	375.6	13.5
70°-80°	247.1	8.9
80°-90°	67.4	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°	703.6	25.3
0°-40°	1156.7	41.7
0°-60°	2087.0	75.2
0°-90°	2777.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2777.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	901	901	901	901	901	
5°	899	899	895	899	899	85
15°	864	865	866	874	874	244
25°	795	800	807	821	823	367
35°	699	707	723	742	748	437
45°	579	591	620	650	662	446
55°	438	457	506	553	571	390
65°	281	314	387	444	464	278
75°	122	178	258	306	313	132
85°	23	51	63	70	71	28
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	901.0	901.0	901.0	901.0	901.0
2.5°	902.2	901.0	896.3	901.0	901.0
5°	898.7	898.7	895.2	898.7	898.7
7.5°	892.9	892.9	890.5	895.2	895.2
10°	885.9	885.9	884.7	890.5	890.5
12.5°	875.4	876.6	875.4	882.4	882.4
15°	863.8	865.0	866.1	874.3	874.3
17.5°	848.7	851.0	853.3	862.6	863.8
20°	834.7	835.9	840.5	851.0	852.2
22.5°	816.1	819.6	825.4	835.9	839.4
25°	795.2	799.9	806.8	820.8	823.1
27.5°	775.4	778.9	788.2	803.3	808.0
30°	751.0	756.8	768.5	783.6	789.4
32.5°	727.8	733.6	747.5	763.8	768.5
35°	698.7	706.8	723.1	741.7	747.5
37.5°	670.8	678.9	698.7	719.6	726.6
40°	641.7	651.0	672.0	696.4	705.7
42.5°	610.4	623.1	646.4	673.1	683.6
45°	579.0	590.6	619.7	649.9	661.5
47.5°	545.3	559.2	590.6	626.6	640.6
50°	509.2	526.6	562.7	602.2	617.3
52.5°	473.2	492.9	533.6	577.8	594.1
55°	438.3	456.9	505.7	553.4	570.8
57.5°	399.9	423.2	476.7	527.8	545.3
60°	360.4	386.0	447.6	501.1	519.7
62.5°	320.9	349.9	419.7	473.2	492.9
65°	281.3	313.9	387.1	444.1	463.9
67.5°	243.0	279.0	356.9	413.9	433.6
70°	198.8	244.1	324.4	380.2	399.9
72.5°	158.1	210.4	293.0	345.3	362.7
75°	122.1	177.9	258.1	305.8	312.7
77.5°	89.5	145.3	222.1	238.3	239.5
80°	60.5	116.3	169.7	167.4	169.7
82.5°	39.5	87.2	107.0	119.7	120.9
85°	23.3	51.2	62.8	69.8	70.9
87.5°	11.6	17.4	22.1	23.3	25.6
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)