

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: P309490

Luminaire Tested: **24FCZ2-45-UNV-L82765-HRP-CP187-W2A-U-6500K**

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: P309490
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-6500K
Description: 2'X4' TROFFER LED MODULE, HIGH EFFICIENCY RND PERF. LENS, 0.187"
POLYCARB SHEET
Light Source: (168) 6500K 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: 3074.0 lumens
Efficiency: N/A
Efficacy: 78.2 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

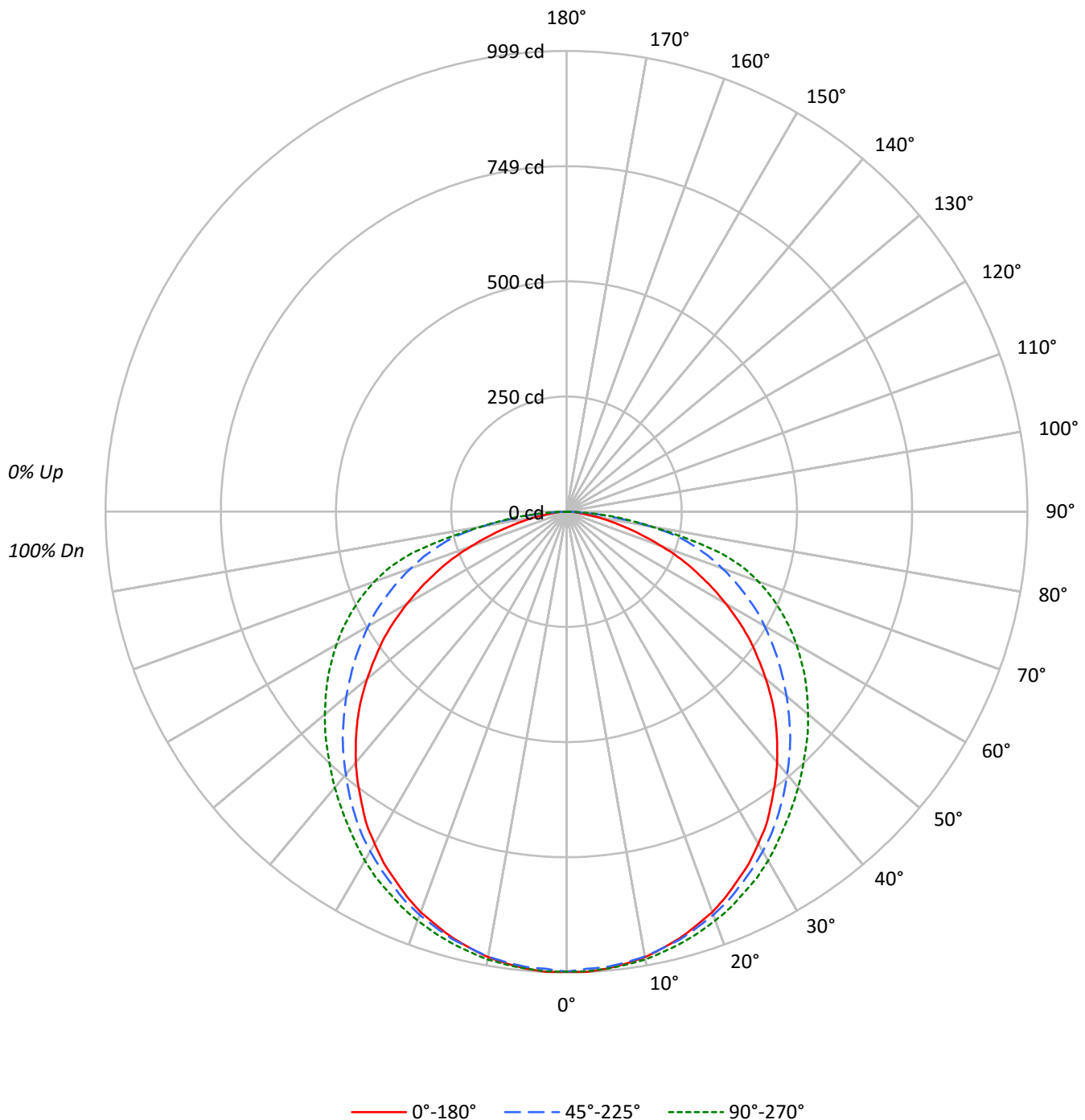
Input Watts (W): 39.3
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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				0
RW	70	50	30	10	70	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		100
1	108	103	98	94	105	101	96	93	96	93	90		92	90	87		82
2	98	89	82	76	95	87	80	75	83	78	73		80	75	71		67
3	89	78	69	62	86	76	68	62	73	66	61		70	64	59		56
4	81	68	59	52	79	67	59	52	65	57	51		62	56	50		48
5	74	61	52	45	72	60	51	45	58	50	44		56	49	44		41
6	69	55	46	39	67	54	45	39	52	44	38		50	43	38		36
7	63	50	41	34	62	49	40	34	47	39	34		46	39	34		31
8	59	45	36	30	57	44	36	30	43	36	30		42	35	30		28
9	55	41	33	27	54	41	33	27	40	32	27		39	32	27		25
10	52	38	30	25	50	38	30	25	37	30	25		36	29	24		23

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	1342	1342	1342
5°	1344	1338	1344
10°	1340	1338	1347
15°	1332	1336	1348
20°	1323	1332	1351
25°	1307	1326	1353
30°	1292	1322	1358
35°	1270	1315	1359
40°	1248	1306	1372
45°	1220	1305	1393
50°	1180	1304	1430
55°	1138	1313	1482
60°	1073	1333	1548
65°	991	1364	1635
70°	866	1413	1742
75°	702	1485	1800
80°	518	1456	1456
85°	397	1073	1212



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	94.5	3.1
10°-20°	271.3	8.8
20°-30°	413.0	13.4
30°-40°	501.5	16.3
40°-50°	529.9	17.2
50°-60°	500.0	16.3
60°-70°	415.7	13.5
70°-80°	273.5	8.9
80°-90°	74.6	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°	778.8	25.3
0°-40°	1280.4	41.7
0°-60°	2310.2	75.2
0°-90°	3074.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3074.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	997	997	997	997	997	
5°	995	995	991	995	995	94
15°	956	958	959	968	968	270
25°	880	885	893	909	911	406
35°	773	782	800	821	828	484
45°	641	654	686	719	732	494
55°	485	506	560	613	632	432
65°	311	348	428	492	514	308
75°	135	197	286	338	346	146
85°	26	57	70	77	78	32
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	997.4	997.4	997.4	997.4	997.4
2.5°	998.6	997.4	992.2	997.4	997.4
5°	994.8	994.8	990.9	994.8	994.8
7.5°	988.4	988.4	985.8	990.9	990.9
10°	980.6	980.6	979.3	985.8	985.8
12.5°	969.0	970.3	969.0	976.8	976.8
15°	956.2	957.5	958.8	967.8	967.8
17.5°	939.5	942.0	944.6	954.9	956.2
20°	924.0	925.3	930.4	942.0	943.3
22.5°	903.4	907.3	913.7	925.3	929.2
25°	880.3	885.4	893.1	908.6	911.1
27.5°	858.4	862.2	872.5	889.3	894.4
30°	831.3	837.8	850.7	867.4	873.8
32.5°	805.6	812.0	827.5	845.5	850.7
35°	773.4	782.4	800.5	821.1	827.5
37.5°	742.6	751.6	773.4	796.6	804.3
40°	710.4	720.7	743.8	770.9	781.2
42.5°	675.6	689.8	715.5	745.1	756.7
45°	640.9	653.8	685.9	719.4	732.3
47.5°	603.6	619.0	653.8	693.6	709.1
50°	563.7	583.0	622.9	666.6	683.4
52.5°	523.8	545.7	590.7	639.6	657.6
55°	485.2	505.8	559.8	612.6	631.9
57.5°	442.7	468.4	527.6	584.3	603.6
60°	398.9	427.3	495.5	554.7	575.3
62.5°	355.2	387.4	464.6	523.8	545.7
65°	311.4	347.5	428.5	491.6	513.5
67.5°	269.0	308.9	395.1	458.1	480.0
70°	220.1	270.3	359.1	420.8	442.7
72.5°	175.0	232.9	324.3	382.2	401.5
75°	135.1	196.9	285.7	338.5	346.2
77.5°	99.1	160.9	245.8	263.8	265.1
80°	66.9	128.7	187.9	185.3	187.9
82.5°	43.8	96.5	118.4	132.6	133.8
85°	25.7	56.6	69.5	77.2	78.5
87.5°	12.9	19.3	24.5	25.7	28.3
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)