

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: P309486

Luminaire Tested: **24FCZ2-45-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: P309486
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-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: 2988.0 lumens
Efficiency: N/A
Efficacy: 78.0 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

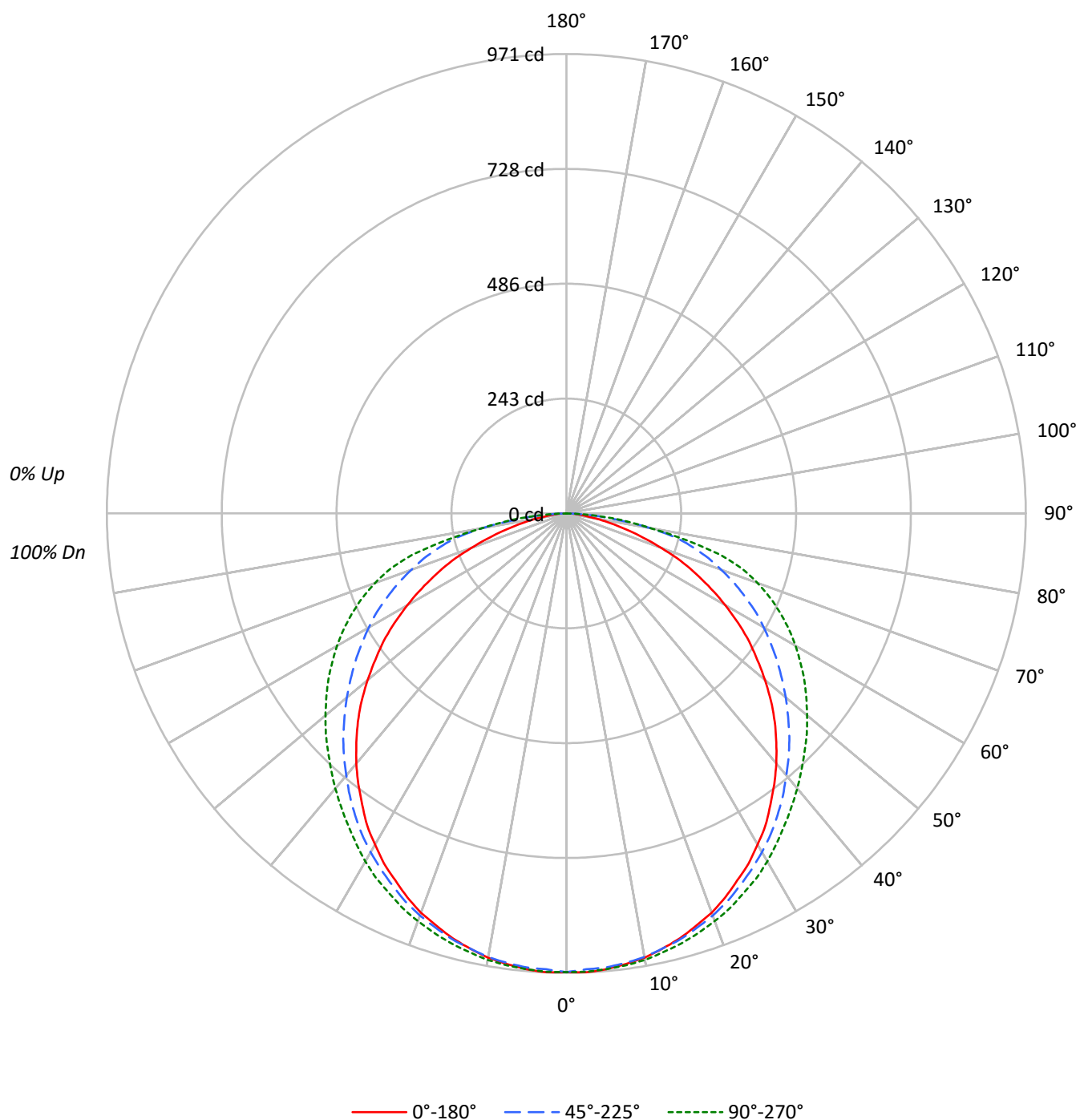
Input Watts (W): 38.3
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	1304	1304	1304
5°	1306	1301	1306
10°	1302	1301	1309
15°	1295	1298	1310
20°	1286	1295	1313
25°	1270	1289	1315
30°	1255	1285	1320
35°	1235	1278	1321
40°	1213	1270	1334
45°	1185	1269	1354
50°	1147	1267	1390
55°	1106	1276	1441
60°	1044	1296	1505
65°	964	1326	1589
70°	841	1373	1693
75°	683	1444	1749
80°	504	1415	1415
85°	386	1042	1178



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	91.8	3.1
10°-20°	263.7	8.8
20°-30°	401.5	13.4
30°-40°	487.5	16.3
40°-50°	515.0	17.2
50°-60°	486.0	16.3
60°-70°	404.1	13.5
70°-80°	265.8	8.9
80°-90°	72.5	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°	757.0	25.3
0°-40°	1244.5	41.7
0°-60°	2245.6	75.2
0°-90°	2988.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2988.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	970	970	970	970	970	
5°	967	967	963	967	967	92
15°	929	931	932	941	941	262
25°	856	861	868	883	886	395
35°	752	761	778	798	804	471
45°	623	636	667	699	712	480
55°	472	492	544	595	614	420
65°	303	338	417	478	499	299
75°	131	191	278	329	336	141
85°	25	55	68	75	76	31
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	969.5	969.5	969.5	969.5	969.5
2.5°	970.7	969.5	964.5	969.5	969.5
5°	967.0	967.0	963.2	967.0	967.0
7.5°	960.7	960.7	958.2	963.2	963.2
10°	953.2	953.2	951.9	958.2	958.2
12.5°	941.9	943.2	941.9	949.4	949.4
15°	929.4	930.7	931.9	940.7	940.7
17.5°	913.2	915.7	918.2	928.2	929.4
20°	898.2	899.4	904.4	915.7	916.9
22.5°	878.1	881.9	888.1	899.4	903.2
25°	855.6	860.6	868.1	883.1	885.6
27.5°	834.4	838.1	848.1	864.4	869.4
30°	808.1	814.3	826.9	843.1	849.4
32.5°	783.1	789.3	804.3	821.9	826.9
35°	751.8	760.6	778.1	798.1	804.3
37.5°	721.8	730.5	751.8	774.3	781.8
40°	690.5	700.5	723.0	749.3	759.3
42.5°	656.7	670.5	695.5	724.3	735.5
45°	623.0	635.5	666.7	699.3	711.8
47.5°	586.7	601.7	635.5	674.2	689.3
50°	547.9	566.7	605.4	648.0	664.2
52.5°	509.1	530.4	574.2	621.7	639.2
55°	471.6	491.6	544.1	595.4	614.2
57.5°	430.3	455.3	512.9	567.9	586.7
60°	387.8	415.3	481.6	539.1	559.2
62.5°	345.3	376.5	451.6	509.1	530.4
65°	302.7	337.7	416.6	477.8	499.1
67.5°	261.4	300.2	384.0	445.3	466.6
70°	213.9	262.7	349.0	409.0	430.3
72.5°	170.1	226.4	315.2	371.5	390.3
75°	131.3	191.4	277.7	329.0	336.5
77.5°	96.3	156.4	238.9	256.4	257.7
80°	65.0	125.1	182.6	180.1	182.6
82.5°	42.5	93.8	115.1	128.8	130.1
85°	25.0	55.0	67.5	75.1	76.3
87.5°	12.5	18.8	23.8	25.0	27.5
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)