

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: P310209

Luminaire Tested: **24FCZ2-50HE-UNV-L82765-RDP-CP187-W2A-U-5700K**

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: P310209
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1808-918-19)
Test Lab: INNOVATION CENTER(G3)
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: FAIL-SAFE
Catalog Number: 24FCZ2-50HE-UNV-L82765-RDP-CP187-W2A-U-5700K
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS WITH INSERT, 0.187" POLYCARB SHEET
Light Source: (336) 5700K 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: 3015.0 lumens
Efficiency: N/A
Efficacy: 76.3 lumens/watt
Spacing Criteria (0/90/45): 1.26 / 1.3 / 1.41
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

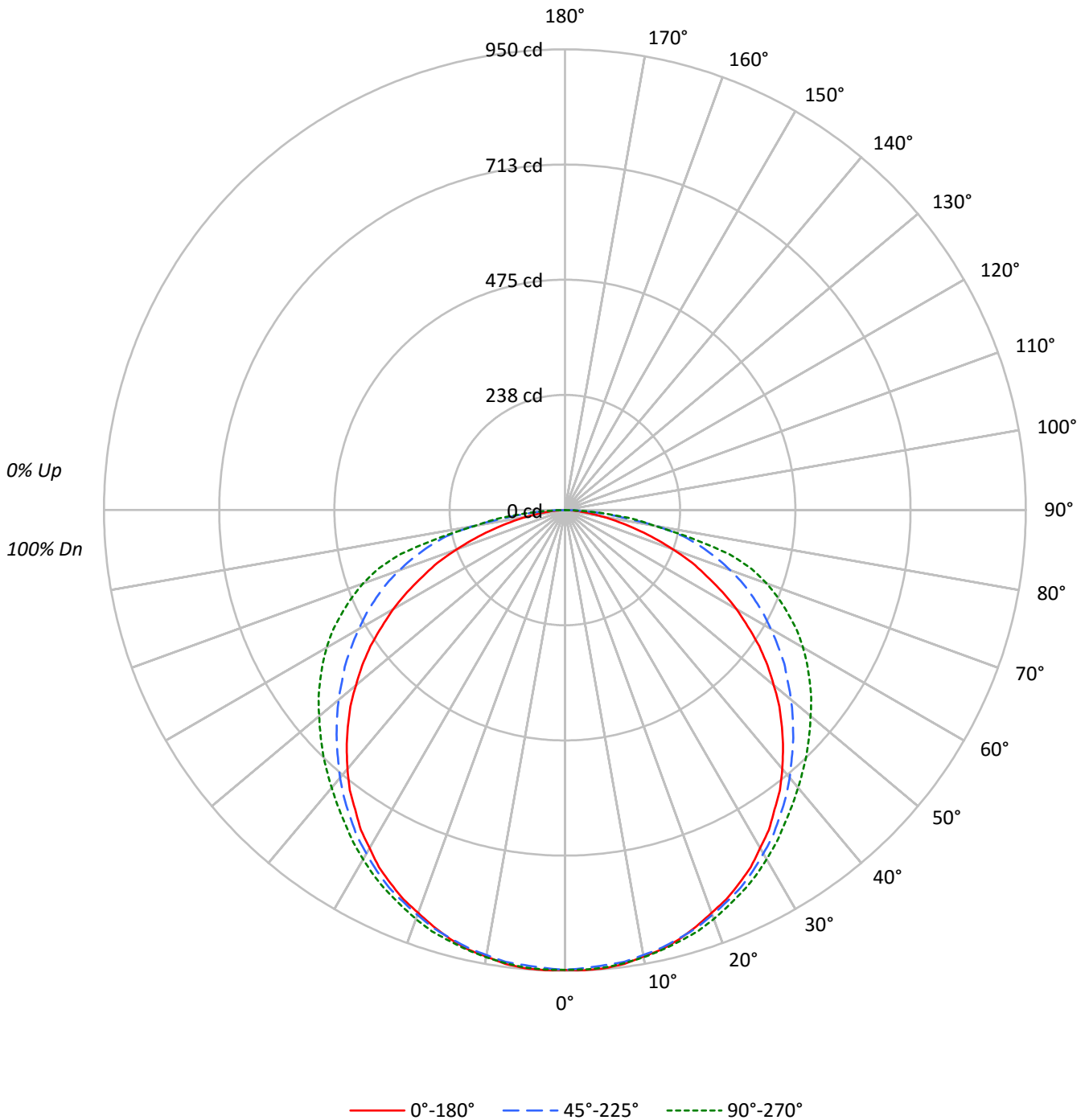
Input Watts (W): 39.5
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	100	96	92	96	93	89	92	89	87	88	86	84	82
2	97	89	81	75	95	87	80	74	83	77	72	80	75	71	77	73	69	67
3	88	77	68	62	86	76	67	61	72	66	60	70	64	59	67	62	58	56
4	81	68	59	52	78	67	58	51	64	57	51	62	55	50	59	54	49	47
5	74	60	51	44	72	59	51	44	57	49	43	55	48	43	53	47	42	40
6	68	54	45	38	66	53	45	38	51	44	38	50	43	37	48	42	37	35
7	63	49	40	34	61	48	40	34	47	39	33	45	38	33	44	38	33	31
8	59	45	36	30	57	44	36	30	43	35	30	41	34	29	40	34	29	27
9	55	41	33	27	53	40	32	27	39	32	27	38	31	26	37	31	26	24
10	51	38	30	24	50	37	29	24	36	29	24	35	29	24	34	28	24	22

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	1276	1276	1276
5°	1281	1272	1279
10°	1277	1273	1279
15°	1275	1273	1281
20°	1265	1272	1285
25°	1261	1274	1288
30°	1250	1271	1292
35°	1238	1268	1297
40°	1224	1266	1313
45°	1204	1266	1343
50°	1177	1274	1384
55°	1147	1294	1445
60°	1099	1320	1525
65°	1028	1366	1619
70°	935	1430	1742
75°	793	1508	1819
80°	626	1518	1471
85°	462	1155	1292



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	89.9	3.0
10°-20°	258.8	8.6
20°-30°	395.8	13.1
30°-40°	483.9	16.0
40°-50°	515.7	17.1
50°-60°	493.1	16.4
60°-70°	417.7	13.9
70°-80°	280.7	9.3
80°-90°	79.2	2.6
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°	744.6	24.7
0°-40°	1228.5	40.7
0°-60°	2237.3	74.2
0°-90°	3015.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3015.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	948	948	948	948	948	
5°	948	947	942	947	947	90
15°	915	915	914	921	920	258
25°	849	852	858	866	867	392
35°	754	760	772	787	790	472
45°	633	643	666	694	706	488
55°	489	507	552	595	616	436
65°	323	356	429	486	508	321
75°	152	208	290	340	350	163
85°	30	61	75	81	84	37
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	948.1	948.1	948.1	948.1	948.1
2.5°	949.6	949.6	945.1	948.1	948.1
5°	948.1	946.6	942.1	946.6	946.6
7.5°	943.6	942.1	939.2	943.6	942.1
10°	934.7	934.7	931.7	936.2	936.2
12.5°	927.2	925.7	924.2	930.2	928.7
15°	915.2	915.2	913.7	921.2	919.7
17.5°	900.3	901.8	903.3	909.2	910.7
20°	883.8	886.8	888.3	897.3	897.3
22.5°	868.9	870.4	873.4	882.3	882.3
25°	849.4	852.4	858.4	865.9	867.4
27.5°	830.0	831.5	839.0	849.4	850.9
30°	804.6	809.1	818.0	830.0	831.5
32.5°	782.1	786.6	797.1	809.1	812.0
35°	753.7	759.7	771.7	786.6	789.6
37.5°	728.3	732.8	747.7	764.2	768.7
40°	696.9	705.9	720.8	740.3	747.7
42.5°	665.5	674.5	692.4	717.8	726.8
45°	632.6	643.1	665.5	693.9	705.9
47.5°	599.7	611.6	637.1	670.0	683.4
50°	562.3	577.3	608.7	646.0	661.0
52.5°	526.4	544.4	578.7	620.6	640.1
55°	489.0	507.0	551.8	595.2	616.1
57.5°	447.1	471.1	520.4	569.8	592.2
60°	408.3	430.7	490.5	544.4	566.8
62.5°	366.4	396.3	460.6	517.4	539.9
65°	323.0	355.9	429.2	486.0	508.5
67.5°	284.1	320.0	397.8	454.6	477.1
70°	237.8	282.6	363.4	420.2	442.7
72.5°	194.4	243.8	327.5	382.8	403.8
75°	152.5	207.9	290.1	339.5	349.9
77.5°	113.7	172.0	251.2	272.2	264.7
80°	80.8	137.6	195.9	185.4	189.9
82.5°	52.3	104.7	121.1	137.6	142.1
85°	29.9	61.3	74.8	80.8	83.7
87.5°	13.5	22.4	29.9	29.9	28.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)