

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: P310113

Luminaire Tested: **24FCZ2-45HE-UNV-L82765-RDP-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: P310113
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: 24FCZ2-45HE-UNV-L82765-RDP-CP187-W2A-U-3000K
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS WITH INSERT, 0.187" POLYCARB SHEET
Light Source: (336) 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: 2436.0 lumens
Efficiency: N/A
Efficacy: 72.5 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

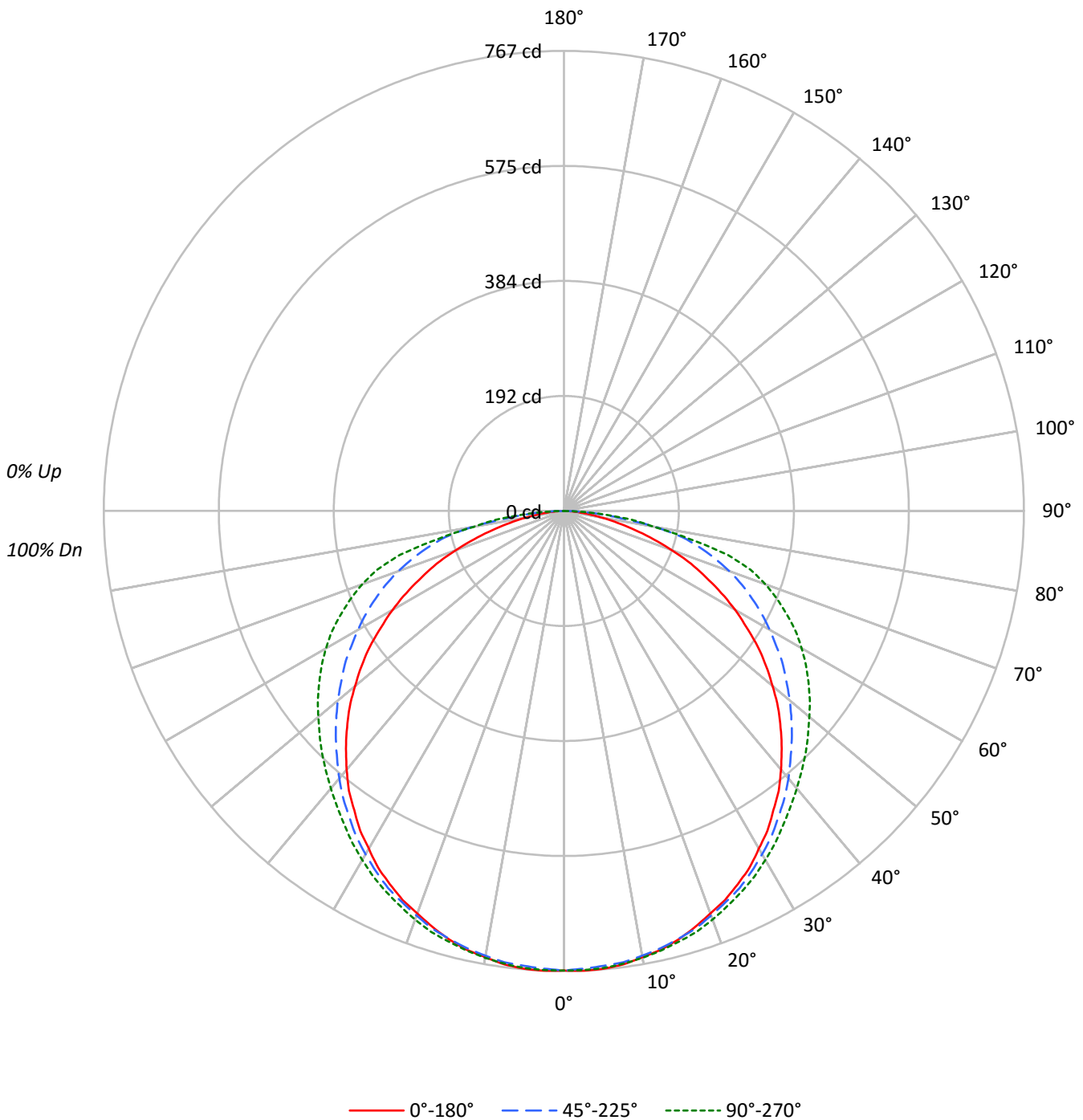
Input Watts (W): 33.6
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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				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°	1031	1031	1031
5°	1035	1028	1033
10°	1032	1029	1033
15°	1030	1028	1035
20°	1022	1028	1038
25°	1019	1030	1040
30°	1010	1027	1044
35°	1000	1024	1048
40°	989	1023	1061
45°	973	1023	1085
50°	951	1029	1118
55°	927	1046	1168
60°	888	1066	1232
65°	831	1104	1308
70°	756	1155	1407
75°	640	1219	1470
80°	505	1227	1189
85°	374	932	1045



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	72.7	3.0
10°-20°	209.1	8.6
20°-30°	319.8	13.1
30°-40°	391.0	16.0
40°-50°	416.7	17.1
50°-60°	398.4	16.4
60°-70°	337.5	13.9
70°-80°	226.8	9.3
80°-90°	64.0	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°	601.6	24.7
0°-40°	992.6	40.7
0°-60°	1807.7	74.2
0°-90°	2436.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2436.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	766	766	766	766	766	
5°	766	765	761	765	765	73
15°	740	740	738	744	743	208
25°	686	689	694	700	701	316
35°	609	614	624	636	638	381
45°	511	520	538	561	570	394
55°	395	410	446	481	498	352
65°	261	288	347	393	411	259
75°	123	168	234	274	283	132
85°	24	50	60	65	68	30
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	766.1	766.1	766.1	766.1	766.1
2.5°	767.3	767.3	763.6	766.1	766.1
5°	766.1	764.8	761.2	764.8	764.8
7.5°	762.4	761.2	758.8	762.4	761.2
10°	755.2	755.2	752.8	756.4	756.4
12.5°	749.1	747.9	746.7	751.6	750.3
15°	739.5	739.5	738.3	744.3	743.1
17.5°	727.4	728.6	729.8	734.6	735.8
20°	714.1	716.5	717.7	725.0	725.0
22.5°	702.0	703.2	705.6	712.9	712.9
25°	686.3	688.7	693.6	699.6	700.8
27.5°	670.6	671.8	677.8	686.3	687.5
30°	650.1	653.7	660.9	670.6	671.8
32.5°	631.9	635.6	644.0	653.7	656.1
35°	609.0	613.8	623.5	635.6	638.0
37.5°	588.4	592.1	604.1	617.4	621.1
40°	563.1	570.3	582.4	598.1	604.1
42.5°	537.7	544.9	559.4	580.0	587.2
45°	511.1	519.6	537.7	560.6	570.3
47.5°	484.5	494.2	514.7	541.3	552.2
50°	454.3	466.4	491.8	522.0	534.1
52.5°	425.3	439.8	467.6	501.4	517.1
55°	395.1	409.6	445.9	480.9	497.8
57.5°	361.3	380.6	420.5	460.4	478.5
60°	329.9	348.0	396.3	439.8	457.9
62.5°	296.0	320.2	372.2	418.1	436.2
65°	261.0	287.6	346.8	392.7	410.8
67.5°	229.6	258.6	321.4	367.3	385.4
70°	192.1	228.4	293.6	339.5	357.7
72.5°	157.1	197.0	264.6	309.3	326.2
75°	123.2	168.0	234.4	274.3	282.7
77.5°	91.8	139.0	203.0	219.9	213.9
80°	65.2	111.2	158.3	149.8	153.5
82.5°	42.3	84.6	97.9	111.2	114.8
85°	24.2	49.5	60.4	65.2	67.7
87.5°	10.9	18.1	24.2	24.2	23.0
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)