

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: P313584

Luminaire Tested: **24FCZ2-45HE-UNV-L83050-RDP-CP187-W2A-U-5000K**

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: P313584
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-L83050-RDP-CP187-W2A-U-5000K
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS WITH INSERT, 0.187" POLYCARB SHEET
Light Source: (336) 5000K 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: 2735.0 lumens
Efficiency: N/A
Efficacy: 77.0 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

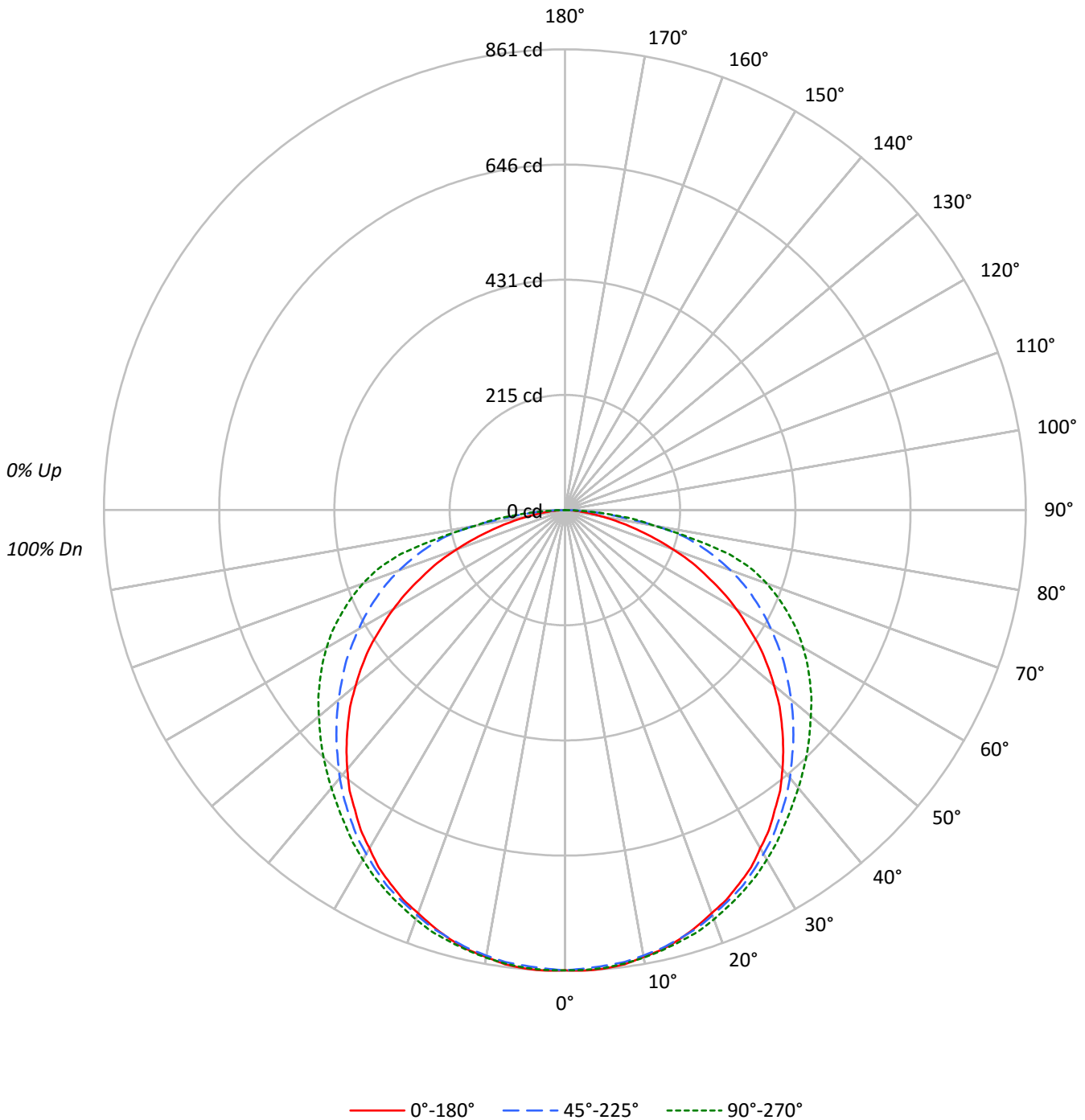
Input Watts (W): 35.5
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	50	30	10	0	
RCR																						
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100				100
1	108	103	98	94	105	100	96	92	96	93	89	92	89	87	88	86	84	82				82
2	97	89	81	75	95	87	80	74	83	77	72	80	75	71	77	73	69	67				67
3	88	77	68	62	86	76	67	61	72	66	60	70	64	59	67	62	58	56				56
4	81	68	59	52	78	67	58	51	64	57	51	62	55	50	59	54	49	47				47
5	74	60	51	44	72	59	51	44	57	49	43	55	48	43	53	47	42	40				40
6	68	54	45	38	66	53	45	38	51	44	38	50	43	37	48	42	37	35				35
7	63	49	40	34	61	48	40	34	47	39	33	45	38	33	44	38	33	31				31
8	59	45	36	30	57	44	36	30	43	35	30	41	34	29	40	34	29	27				27
9	55	41	33	27	53	40	32	27	39	32	27	38	31	26	37	31	26	24				24
10	51	38	30	24	50	37	29	24	36	29	24	35	29	24	34	28	24	22				22

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	1157	1157	1157
5°	1162	1154	1160
10°	1158	1155	1160
15°	1156	1155	1162
20°	1148	1154	1166
25°	1144	1156	1168
30°	1134	1153	1172
35°	1123	1150	1177
40°	1110	1149	1191
45°	1092	1149	1218
50°	1068	1156	1255
55°	1041	1174	1311
60°	996	1197	1383
65°	933	1239	1468
70°	849	1297	1580
75°	719	1368	1650
80°	568	1377	1335
85°	418	1047	1173



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	81.6	3.0
10°-20°	234.8	8.6
20°-30°	359.1	13.1
30°-40°	439.0	16.0
40°-50°	467.8	17.1
50°-60°	447.3	16.4
60°-70°	378.9	13.9
70°-80°	254.7	9.3
80°-90°	71.8	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°	675.5	24.7
0°-40°	1114.4	40.7
0°-60°	2029.6	74.2
0°-90°	2735.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2735.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	860	860	860	860	860	
5°	860	859	855	859	859	82
15°	830	830	829	836	834	234
25°	770	773	779	786	787	355
35°	684	689	700	714	716	428
45°	574	583	604	630	640	443
55°	444	460	501	540	559	395
65°	293	323	389	441	461	291
75°	138	189	263	308	317	148
85°	27	56	68	73	76	34
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	860.1	860.1	860.1	860.1	860.1
2.5°	861.4	861.4	857.4	860.1	860.1
5°	860.1	858.7	854.7	858.7	858.7
7.5°	856.0	854.7	851.9	856.0	854.7
10°	847.9	847.9	845.2	849.2	849.2
12.5°	841.1	839.7	838.4	843.8	842.4
15°	830.2	830.2	828.9	835.7	834.3
17.5°	816.7	818.0	819.4	824.8	826.2
20°	801.7	804.5	805.8	814.0	814.0
22.5°	788.2	789.5	792.2	800.4	800.4
25°	770.5	773.3	778.7	785.5	786.8
27.5°	752.9	754.3	761.0	770.5	771.9
30°	729.8	733.9	742.1	752.9	754.3
32.5°	709.5	713.6	723.1	733.9	736.6
35°	683.7	689.1	700.0	713.6	716.3
37.5°	660.7	664.7	678.3	693.2	697.3
40°	632.2	640.3	653.9	671.5	678.3
42.5°	603.7	611.8	628.1	651.2	659.3
45°	573.8	583.3	603.7	629.5	640.3
47.5°	544.0	554.8	577.9	607.8	620.0
50°	510.1	523.6	552.1	586.0	599.6
52.5°	477.5	493.8	525.0	563.0	580.6
55°	443.6	459.9	500.6	539.9	558.9
57.5°	405.6	427.3	472.1	516.9	537.2
60°	370.3	390.7	445.0	493.8	514.1
62.5°	332.4	359.5	417.8	469.4	489.7
65°	293.0	322.9	389.3	440.9	461.2
67.5°	257.8	290.3	360.9	412.4	432.8
70°	215.7	256.4	329.7	381.2	401.6
72.5°	176.4	221.1	297.1	347.3	366.3
75°	138.4	188.6	263.2	307.9	317.4
77.5°	103.1	156.0	227.9	246.9	240.1
80°	73.3	124.8	177.7	168.2	172.3
82.5°	47.5	95.0	109.9	124.8	128.9
85°	27.1	55.6	67.8	73.3	76.0
87.5°	12.2	20.3	27.1	27.1	25.8
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)