

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: P310116

Luminaire Tested: **24FCZ2-45HE-UNV-L82765-RDP-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: P310116
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-4500K
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS WITH INSERT, 0.187" POLYCARB SHEET
Light Source: (336) 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: 2620.9 lumens
Efficiency: N/A
Efficacy: 76.2 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

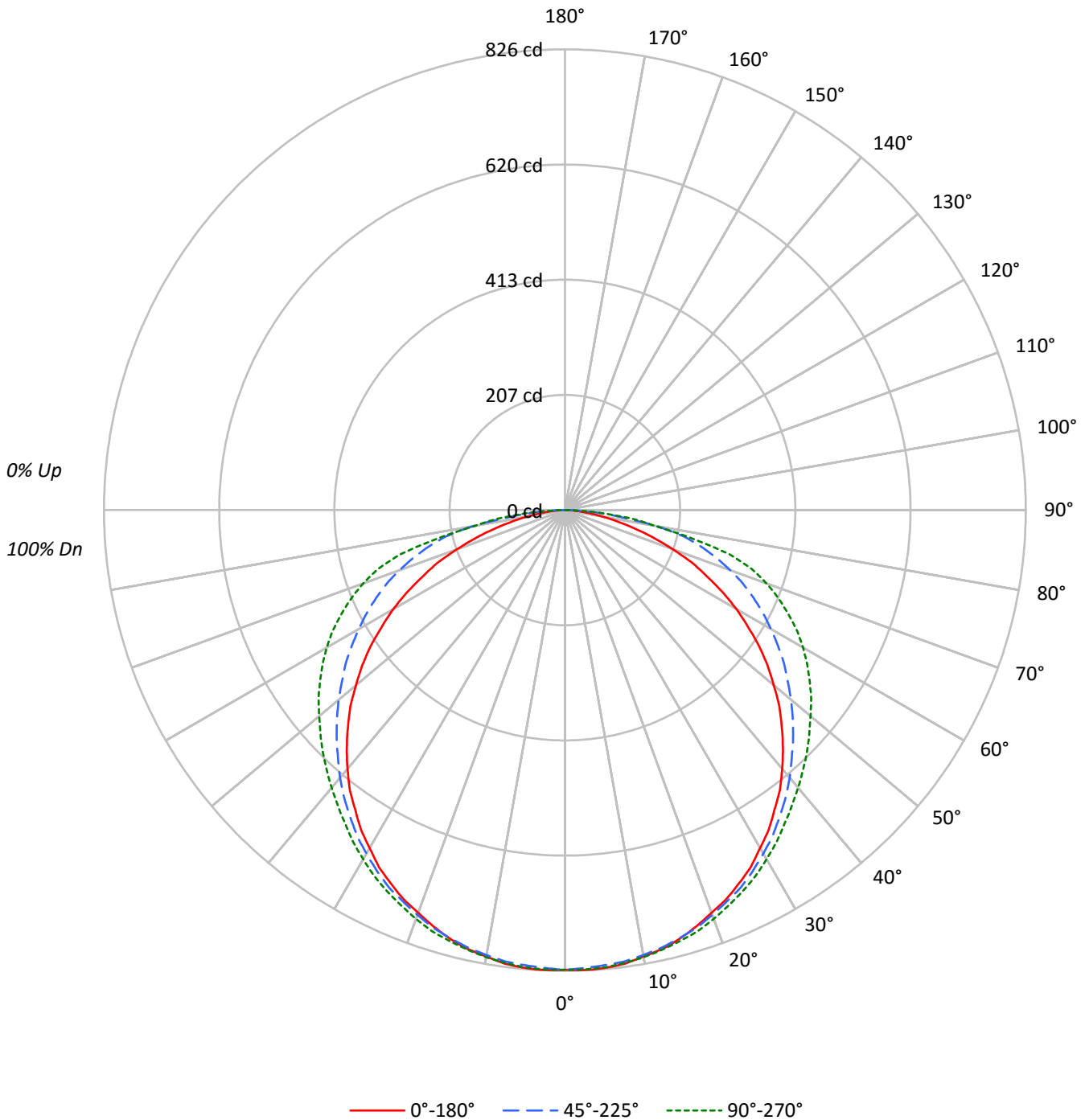
Input Watts (W): 34.4
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	1109	1109	1109
5°	1113	1106	1111
10°	1110	1107	1112
15°	1108	1106	1114
20°	1100	1106	1117
25°	1096	1108	1119
30°	1087	1105	1123
35°	1076	1102	1127
40°	1064	1101	1142
45°	1046	1101	1168
50°	1023	1108	1203
55°	997	1125	1256
60°	955	1147	1326
65°	894	1188	1407
70°	813	1243	1514
75°	689	1311	1581
80°	544	1320	1279
85°	401	1003	1124



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	78.2	3.0
10°-20°	225.0	8.6
20°-30°	344.1	13.1
30°-40°	420.6	16.0
40°-50°	448.3	17.1
50°-60°	428.7	16.4
60°-70°	363.1	13.9
70°-80°	244.0	9.3
80°-90°	68.8	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°	647.3	24.7
0°-40°	1067.9	40.7
0°-60°	1944.9	74.2
0°-90°	2620.9	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2620.9	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	824	824	824	824	824	
5°	824	823	819	823	823	78
15°	796	796	794	801	800	224
25°	738	741	746	753	754	340
35°	655	660	671	684	686	410
45°	550	559	578	603	614	424
55°	425	441	480	517	536	379
65°	281	309	373	422	442	279
75°	133	181	252	295	304	142
85°	26	53	65	70	73	32
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	824.2	824.2	824.2	824.2	824.2
2.5°	825.5	825.5	821.6	824.2	824.2
5°	824.2	822.9	819.0	822.9	822.9
7.5°	820.3	819.0	816.4	820.3	819.0
10°	812.5	812.5	809.9	813.8	813.8
12.5°	806.0	804.7	803.4	808.6	807.3
15°	795.6	795.6	794.3	800.8	799.5
17.5°	782.6	783.9	785.2	790.4	791.7
20°	768.3	770.9	772.2	780.0	780.0
22.5°	755.3	756.6	759.2	767.0	767.0
25°	738.4	741.0	746.2	752.7	754.0
27.5°	721.5	722.8	729.3	738.4	739.7
30°	699.4	703.3	711.1	721.5	722.8
32.5°	679.9	683.8	692.9	703.3	705.9
35°	655.2	660.4	670.8	683.8	686.4
37.5°	633.1	637.0	650.0	664.3	668.2
40°	605.8	613.6	626.6	643.5	650.0
42.5°	578.5	586.3	601.9	624.0	631.8
45°	549.9	559.0	578.5	603.2	613.6
47.5°	521.3	531.7	553.8	582.4	594.1
50°	488.8	501.8	529.1	561.6	574.6
52.5°	457.6	473.2	503.1	539.5	556.4
55°	425.1	440.7	479.7	517.4	535.6
57.5°	388.7	409.5	452.4	495.3	514.8
60°	354.9	374.4	426.4	473.2	492.7
62.5°	318.5	344.5	400.4	449.8	469.3
65°	280.8	309.4	373.1	422.5	442.0
67.5°	247.0	278.2	345.8	395.2	414.7
70°	206.7	245.7	315.9	365.3	384.8
72.5°	169.0	211.9	284.7	332.8	351.0
75°	132.6	180.7	252.2	295.1	304.2
77.5°	98.8	149.5	218.4	236.6	230.1
80°	70.2	119.6	170.3	161.2	165.1
82.5°	45.5	91.0	105.3	119.6	123.5
85°	26.0	53.3	65.0	70.2	72.8
87.5°	11.7	19.5	26.0	26.0	24.7
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)