

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: P309484

Luminaire Tested: **24FCZ2-45-UNV-L82765-HRP-CP187-W2A-U-3500K**

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: P309484
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-3500K
Description: 2'X4' TROFFER LED MODULE, HIGH EFFICIENCY RND PERF. LENS, 0.187"
POLYCARB SHEET
Light Source: (168) 3500K 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: 2872.0 lumens
Efficiency: N/A
Efficacy: 76.0 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

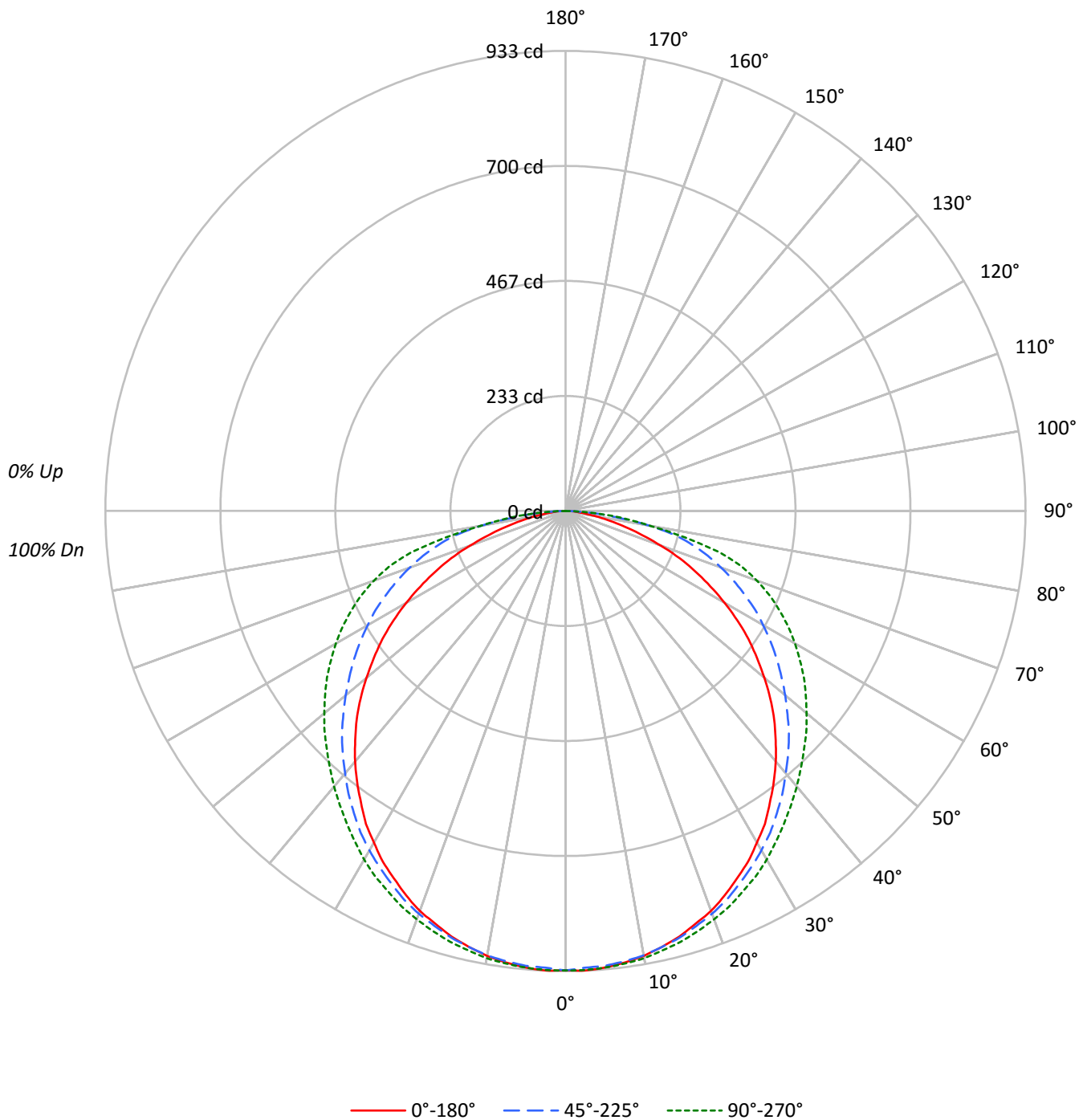
Input Watts (W): 37.8
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	1254	1254	1254
5°	1255	1250	1255
10°	1252	1250	1258
15°	1244	1248	1260
20°	1236	1245	1262
25°	1221	1239	1264
30°	1207	1235	1268
35°	1187	1228	1270
40°	1166	1221	1282
45°	1139	1220	1302
50°	1102	1218	1336
55°	1063	1227	1385
60°	1003	1246	1446
65°	926	1275	1527
70°	809	1320	1627
75°	656	1387	1681
80°	484	1360	1360
85°	371	1002	1132



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	88.3	3.1
10°-20°	253.5	8.8
20°-30°	385.9	13.4
30°-40°	468.6	16.3
40°-50°	495.1	17.2
50°-60°	467.1	16.3
60°-70°	388.4	13.5
70°-80°	255.5	8.9
80°-90°	69.6	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°	727.7	25.3
0°-40°	1196.2	41.7
0°-60°	2158.4	75.2
0°-90°	2872.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2872.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	932	932	932	932	932	
5°	929	929	926	929	929	88
15°	893	894	896	904	904	252
25°	822	827	834	849	851	379
35°	723	731	748	767	773	452
45°	599	611	641	672	684	461
55°	453	472	523	572	590	404
65°	291	325	400	459	480	288
75°	126	184	267	316	323	136
85°	24	53	65	72	73	29
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	931.8	931.8	931.8	931.8	931.8
2.5°	933.0	931.8	927.0	931.8	931.8
5°	929.4	929.4	925.8	929.4	929.4
7.5°	923.4	923.4	921.0	925.8	925.8
10°	916.2	916.2	915.0	921.0	921.0
12.5°	905.4	906.6	905.4	912.6	912.6
15°	893.3	894.5	895.8	904.2	904.2
17.5°	877.7	880.1	882.5	892.1	893.3
20°	863.3	864.5	869.3	880.1	881.3
22.5°	844.1	847.7	853.7	864.5	868.1
25°	822.4	827.2	834.4	848.9	851.3
27.5°	802.0	805.6	815.2	830.8	835.6
30°	776.7	782.7	794.8	810.4	816.4
32.5°	752.7	758.7	773.1	789.9	794.8
35°	722.6	731.0	747.9	767.1	773.1
37.5°	693.8	702.2	722.6	744.3	751.5
40°	663.7	673.3	695.0	720.2	729.8
42.5°	631.2	644.5	668.5	696.2	707.0
45°	598.8	610.8	640.9	672.1	684.1
47.5°	563.9	578.3	610.8	648.1	662.5
50°	526.6	544.7	581.9	622.8	638.4
52.5°	489.4	509.8	551.9	597.6	614.4
55°	453.3	472.5	523.0	572.3	590.4
57.5°	413.6	437.7	493.0	545.9	563.9
60°	372.7	399.2	462.9	518.2	537.5
62.5°	331.8	361.9	434.0	489.4	509.8
65°	291.0	324.6	400.4	459.3	479.7
67.5°	251.3	288.6	369.1	428.0	448.5
70°	205.6	252.5	335.5	393.2	413.6
72.5°	163.5	217.6	303.0	357.1	375.1
75°	126.2	184.0	266.9	316.2	323.4
77.5°	92.6	150.3	229.6	246.5	247.7
80°	62.5	120.2	175.5	173.1	175.5
82.5°	40.9	90.2	110.6	123.8	125.0
85°	24.0	52.9	64.9	72.1	73.3
87.5°	12.0	18.0	22.8	24.0	26.5
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)