

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: P309487

Luminaire Tested: **24FCZ2-45-UNV-L82765-HRP-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: P309487
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-5000K
Description: 2'X4' TROFFER LED MODULE, HIGH EFFICIENCY RND PERF. LENS, 0.187"
POLYCARB SHEET
Light Source: (168) 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: 3028.0 lumens
Efficiency: N/A
Efficacy: 78.6 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

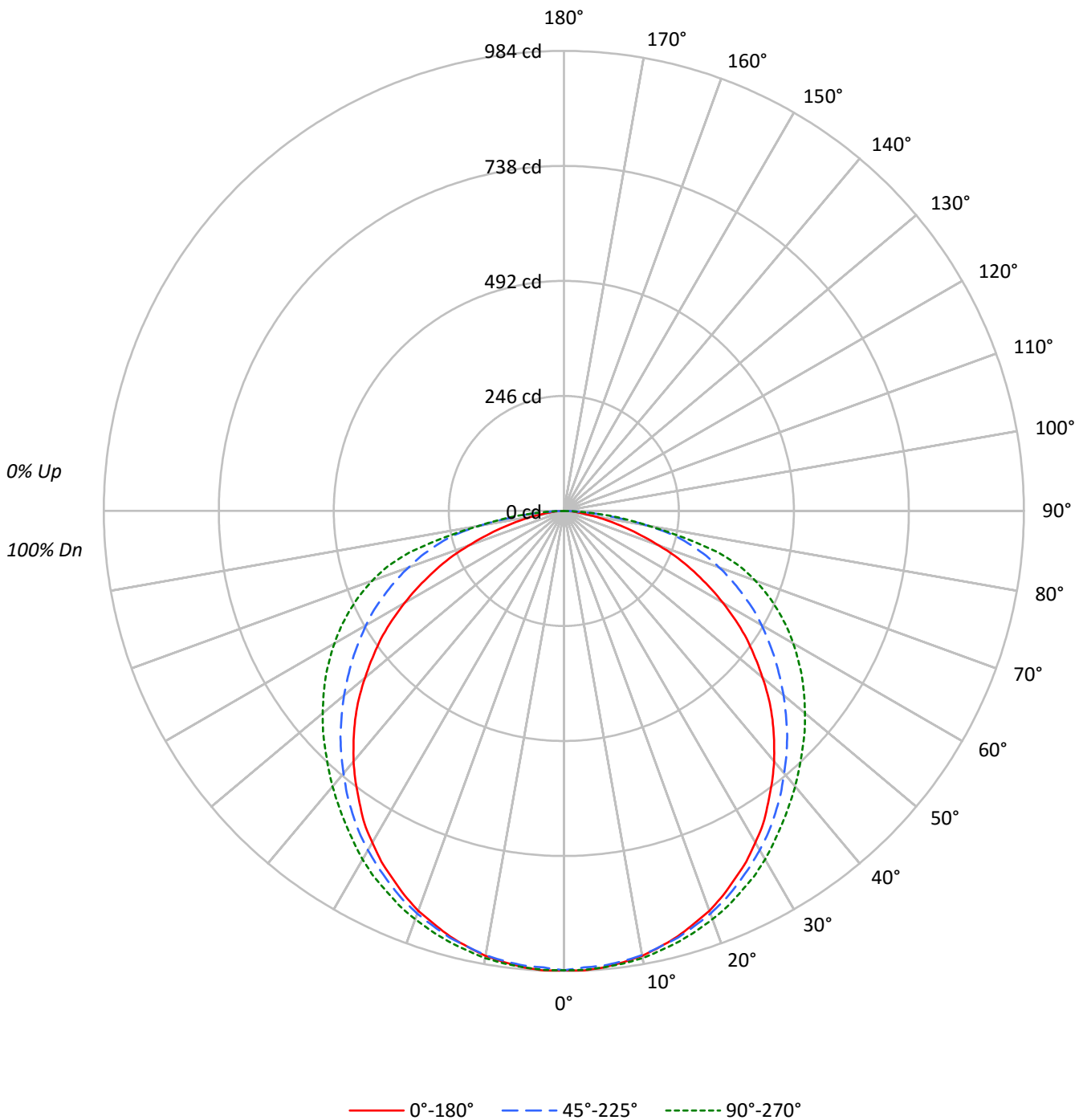
Input Watts (W): 38.5
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	101	96	93	96	93	90	92	90	87	89	86	84	82
2	98	89	82	76	95	87	80	75	83	78	73	80	75	71	77	73	70	67
3	89	78	69	62	86	76	68	62	73	66	61	70	64	59	68	63	58	56
4	81	68	59	52	79	67	59	52	65	57	51	62	56	50	60	54	50	48
5	74	61	52	45	72	60	51	45	58	50	44	56	49	44	54	48	43	41
6	69	55	46	39	67	54	45	39	52	44	38	50	43	38	49	42	38	36
7	63	50	41	34	62	49	40	34	47	39	34	46	39	34	44	38	33	31
8	59	45	36	30	57	44	36	30	43	36	30	42	35	30	41	34	30	28
9	55	41	33	27	54	41	33	27	40	32	27	39	32	27	38	31	27	25
10	52	38	30	25	50	38	30	25	37	30	25	36	29	24	35	29	24	23

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	1322	1322	1322
5°	1323	1318	1323
10°	1320	1318	1327
15°	1312	1316	1328
20°	1303	1312	1330
25°	1287	1306	1332
30°	1272	1302	1337
35°	1251	1295	1339
40°	1229	1287	1352
45°	1201	1286	1372
50°	1162	1284	1409
55°	1121	1293	1460
60°	1058	1313	1525
65°	977	1344	1610
70°	853	1391	1716
75°	692	1463	1773
80°	511	1434	1434
85°	392	1057	1193



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	93.1	3.1
10°-20°	267.3	8.8
20°-30°	406.9	13.4
30°-40°	494.0	16.3
40°-50°	521.9	17.2
50°-60°	492.5	16.3
60°-70°	409.5	13.5
70°-80°	269.4	8.9
80°-90°	73.5	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°	767.2	25.3
0°-40°	1261.2	41.7
0°-60°	2275.6	75.2
0°-90°	3028.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3028.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	982	982	982	982	982	
5°	980	980	976	980	980	93
15°	942	943	944	953	953	266
25°	867	872	880	895	898	400
35°	762	771	788	809	815	477
45°	631	644	676	709	721	486
55°	478	498	551	603	622	426
65°	307	342	422	484	506	303
75°	133	194	281	333	341	143
85°	25	56	68	76	77	31
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	982.4	982.4	982.4	982.4	982.4
2.5°	983.7	982.4	977.4	982.4	982.4
5°	979.9	979.9	976.1	979.9	979.9
7.5°	973.6	973.6	971.0	976.1	976.1
10°	966.0	966.0	964.7	971.0	971.0
12.5°	954.5	955.8	954.5	962.2	962.2
15°	941.9	943.1	944.4	953.3	953.3
17.5°	925.4	927.9	930.5	940.6	941.9
20°	910.2	911.4	916.5	927.9	929.2
22.5°	889.9	893.7	900.0	911.4	915.3
25°	867.1	872.2	879.8	895.0	897.5
27.5°	845.5	849.3	859.5	876.0	881.0
30°	818.9	825.2	837.9	854.4	860.7
32.5°	793.6	799.9	815.1	832.9	837.9
35°	761.9	770.7	788.5	808.8	815.1
37.5°	731.4	740.3	761.9	784.7	792.3
40°	699.7	709.9	732.7	759.3	769.5
42.5°	665.5	679.5	704.8	734.0	745.4
45°	631.3	644.0	675.7	708.6	721.3
47.5°	594.5	609.7	644.0	683.3	698.5
50°	555.2	574.3	613.5	656.6	673.1
52.5°	515.9	537.5	581.9	630.0	647.8
55°	477.9	498.2	551.4	603.4	622.4
57.5°	436.1	461.4	519.7	575.5	594.5
60°	393.0	420.9	488.0	546.4	566.6
62.5°	349.9	381.6	457.6	515.9	537.5
65°	306.8	342.3	422.1	484.2	505.8
67.5°	264.9	304.2	389.2	451.3	472.8
70°	216.8	266.2	353.7	414.5	436.1
72.5°	172.4	229.4	319.5	376.5	395.5
75°	133.1	194.0	281.4	333.4	341.0
77.5°	97.6	158.5	242.1	259.9	261.1
80°	65.9	126.8	185.1	182.5	185.1
82.5°	43.1	95.1	116.6	130.6	131.8
85°	25.4	55.8	68.5	76.1	77.3
87.5°	12.7	19.0	24.1	25.4	27.9
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)