

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: P309493

Luminaire Tested: **24FCZ2-45-UNV-L82765-HRP-CP250-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: P309493
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-CP250-W2A-U-3500K
Description: 2'X4' TROFFER LED MODULE, HIGH EFFICIENCY RND PERF. LENS, 0.250"
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: 2849.0 lumens
Efficiency: N/A
Efficacy: 75.4 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

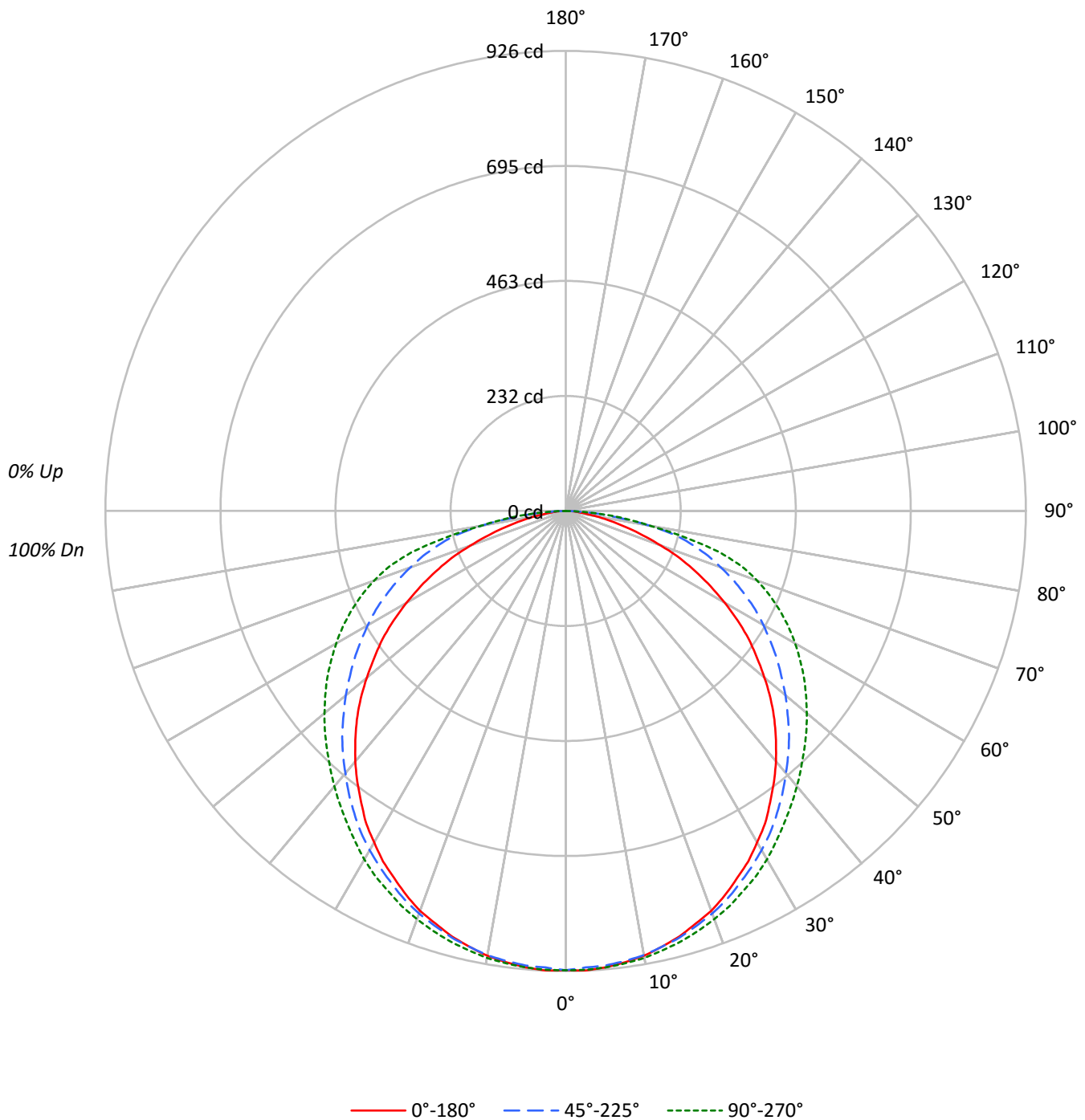
Input Watts (W): 37.8
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	50	30	10	50	30	10
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°	1244	1244	1244
5°	1245	1240	1245
10°	1242	1240	1248
15°	1234	1238	1249
20°	1226	1235	1252
25°	1211	1229	1254
30°	1197	1225	1258
35°	1177	1219	1260
40°	1156	1211	1272
45°	1130	1210	1291
50°	1093	1208	1326
55°	1055	1217	1374
60°	995	1236	1435
65°	919	1265	1515
70°	803	1309	1614
75°	651	1377	1668
80°	480	1349	1349
85°	369	994	1124



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	87.6	3.1
10°-20°	251.5	8.8
20°-30°	382.8	13.4
30°-40°	464.8	16.3
40°-50°	491.1	17.2
50°-60°	463.4	16.3
60°-70°	385.3	13.5
70°-80°	253.5	8.9
80°-90°	69.1	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°	721.8	25.3
0°-40°	1186.7	41.7
0°-60°	2141.1	75.2
0°-90°	2849.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2849.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	924	924	924	924	924	
5°	922	922	918	922	922	88
15°	886	887	889	897	897	250
25°	816	821	828	842	844	376
35°	717	725	742	761	767	449
45°	594	606	636	667	679	457
55°	450	469	519	568	586	401
65°	289	322	397	456	476	285
75°	125	182	265	314	321	135
85°	24	52	64	72	73	29
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	924.4	924.4	924.4	924.4	924.4
2.5°	925.6	924.4	919.6	924.4	924.4
5°	922.0	922.0	918.4	922.0	922.0
7.5°	916.0	916.0	913.6	918.4	918.4
10°	908.9	908.9	907.7	913.6	913.6
12.5°	898.1	899.3	898.1	905.3	905.3
15°	886.2	887.4	888.6	896.9	896.9
17.5°	870.7	873.1	875.5	885.0	886.2
20°	856.4	857.6	862.3	873.1	874.3
22.5°	837.3	840.9	846.8	857.6	861.1
25°	815.8	820.6	827.7	842.1	844.4
27.5°	795.5	799.1	808.7	824.2	828.9
30°	770.5	776.5	788.4	803.9	809.9
32.5°	746.6	752.6	766.9	783.6	788.4
35°	716.8	725.2	741.9	761.0	766.9
37.5°	688.2	696.6	716.8	738.3	745.5
40°	658.4	667.9	689.4	714.4	724.0
42.5°	626.2	639.3	663.2	690.6	701.3
45°	594.0	605.9	635.7	666.7	678.7
47.5°	559.4	573.7	605.9	642.9	657.2
50°	522.4	540.3	577.3	617.8	633.3
52.5°	485.4	505.7	547.5	592.8	609.5
55°	449.7	468.7	518.8	567.7	585.6
57.5°	410.3	434.2	489.0	541.5	559.4
60°	369.7	396.0	459.2	514.1	533.1
62.5°	329.2	359.0	430.6	485.4	505.7
65°	288.6	322.0	397.2	455.6	475.9
67.5°	249.3	286.3	366.2	424.6	444.9
70°	204.0	250.5	332.8	390.0	410.3
72.5°	162.2	215.9	300.6	354.2	372.1
75°	125.2	182.5	264.8	313.7	320.8
77.5°	91.8	149.1	227.8	244.5	245.7
80°	62.0	119.3	174.1	171.8	174.1
82.5°	40.6	89.5	109.7	122.9	124.0
85°	23.9	52.5	64.4	71.6	72.8
87.5°	11.9	17.9	22.7	23.9	26.2
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)