

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: P309531

Luminaire Tested: **24FCZ2-50HE-UNV-L82765-HRP-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: P309531
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: 24FCZ2-50HE-UNV-L82765-HRP-CP187-W2A-U-4500K
Description: 2'X4' TROFFER LED MODULE, HIGH EFFICIENCY RND PERF. LENS, 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: 3314.0 lumens
Efficiency: N/A
Efficacy: 84.8 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

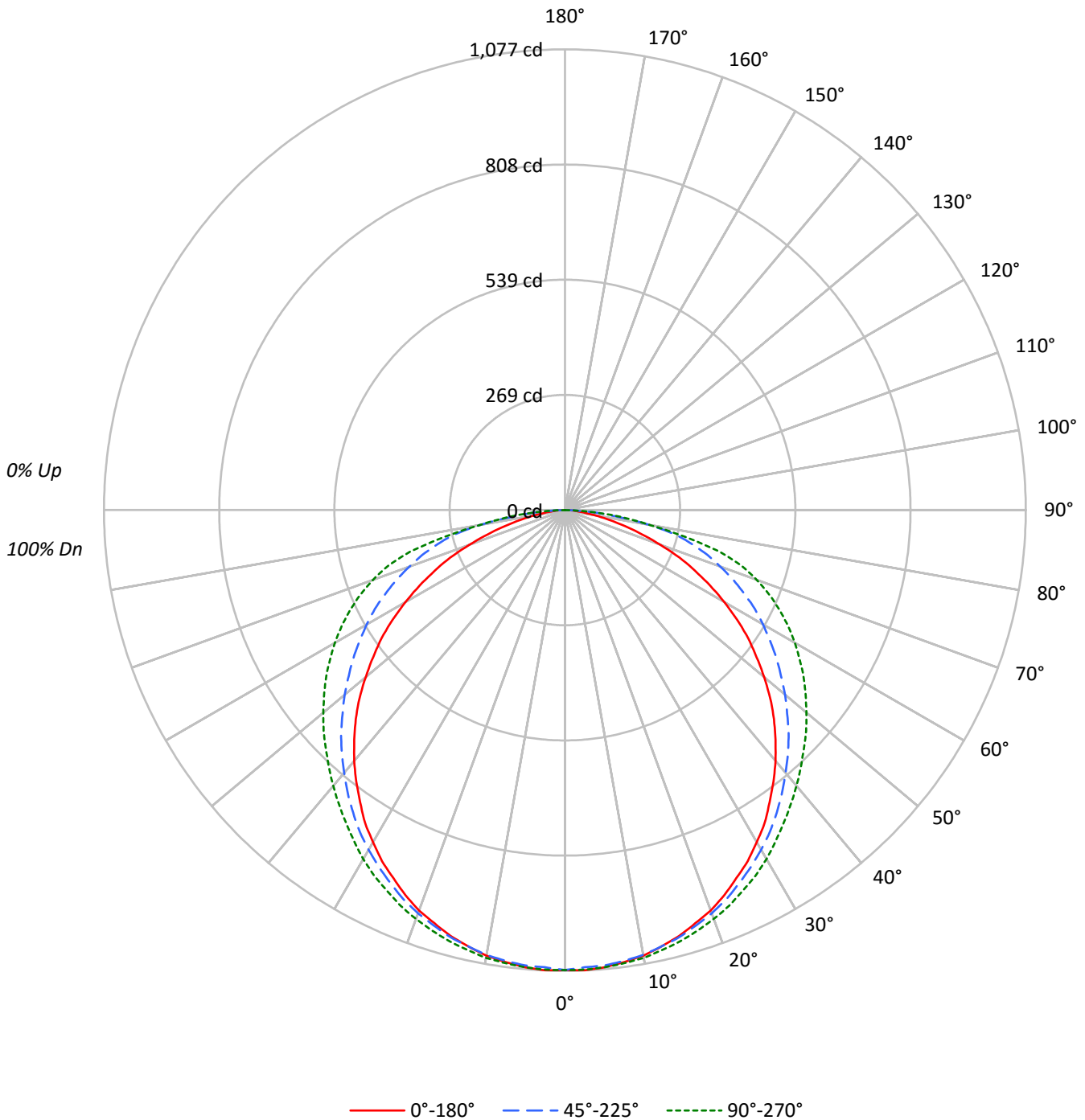
Input Watts (W): 39.1
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	1447	1447	1447
5°	1449	1443	1449
10°	1444	1442	1452
15°	1436	1440	1453
20°	1426	1436	1456
25°	1409	1430	1458
30°	1393	1425	1464
35°	1370	1418	1465
40°	1345	1408	1479
45°	1315	1407	1502
50°	1272	1406	1542
55°	1227	1416	1598
60°	1157	1437	1669
65°	1069	1471	1762
70°	933	1523	1878
75°	757	1601	1940
80°	559	1570	1570
85°	428	1156	1306



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	101.9	3.1
10°-20°	292.5	8.8
20°-30°	445.3	13.4
30°-40°	540.7	16.3
40°-50°	571.2	17.2
50°-60°	539.0	16.3
60°-70°	448.2	13.5
70°-80°	294.9	8.9
80°-90°	80.4	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°	839.6	25.3
0°-40°	1380.3	41.7
0°-60°	2490.6	75.2
0°-90°	3314.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3314.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1075	1075	1075	1075	1075	
5°	1072	1072	1068	1072	1072	102
15°	1031	1032	1034	1043	1043	291
25°	949	954	963	980	982	438
35°	834	844	863	885	892	522
45°	691	705	740	776	789	532
55°	523	545	604	660	681	466
65°	336	375	462	530	554	332
75°	146	212	308	365	373	157
85°	28	61	75	83	85	34
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1075.2	1075.2	1075.2	1075.2	1075.2
2.5°	1076.6	1075.2	1069.7	1075.2	1075.2
5°	1072.5	1072.5	1068.3	1072.5	1072.5
7.5°	1065.5	1065.5	1062.7	1068.3	1068.3
10°	1057.2	1057.2	1055.8	1062.7	1062.7
12.5°	1044.7	1046.1	1044.7	1053.0	1053.0
15°	1030.8	1032.2	1033.6	1043.3	1043.3
17.5°	1012.8	1015.6	1018.3	1029.4	1030.8
20°	996.1	997.5	1003.1	1015.6	1017.0
22.5°	974.0	978.1	985.0	997.5	1001.7
25°	949.0	954.5	962.9	979.5	982.3
27.5°	925.4	929.6	940.7	958.7	964.2
30°	896.3	903.2	917.1	935.1	942.0
32.5°	868.5	875.4	892.1	911.5	917.1
35°	833.8	843.5	863.0	885.2	892.1
37.5°	800.5	810.2	833.8	858.8	867.1
40°	765.8	776.9	801.9	831.0	842.1
42.5°	728.4	743.6	771.4	803.3	815.8
45°	690.9	704.8	739.5	775.6	789.4
47.5°	650.7	667.3	704.8	747.8	764.5
50°	607.7	628.5	671.5	718.7	736.7
52.5°	564.7	588.3	636.8	689.5	709.0
55°	523.0	545.2	603.5	660.4	681.2
57.5°	477.3	505.0	568.8	629.9	650.7
60°	430.1	460.6	534.1	598.0	620.2
62.5°	382.9	417.6	500.8	564.7	588.3
65°	335.7	374.6	462.0	530.0	553.6
67.5°	290.0	333.0	425.9	493.9	517.5
70°	237.2	291.4	387.1	453.7	477.3
72.5°	188.7	251.1	349.6	412.1	432.9
75°	145.7	212.3	308.0	364.9	373.2
77.5°	106.8	173.4	265.0	284.4	285.8
80°	72.1	138.7	202.6	199.8	202.6
82.5°	47.2	104.1	127.6	142.9	144.3
85°	27.7	61.0	74.9	83.2	84.6
87.5°	13.9	20.8	26.4	27.7	30.5
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)