

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: P310341

Luminaire Tested: **24FCZ2-60HE-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: P310341
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: 24FCZ2-60HE-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: 3526.0 lumens
Efficiency: N/A
Efficacy: 72.7 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

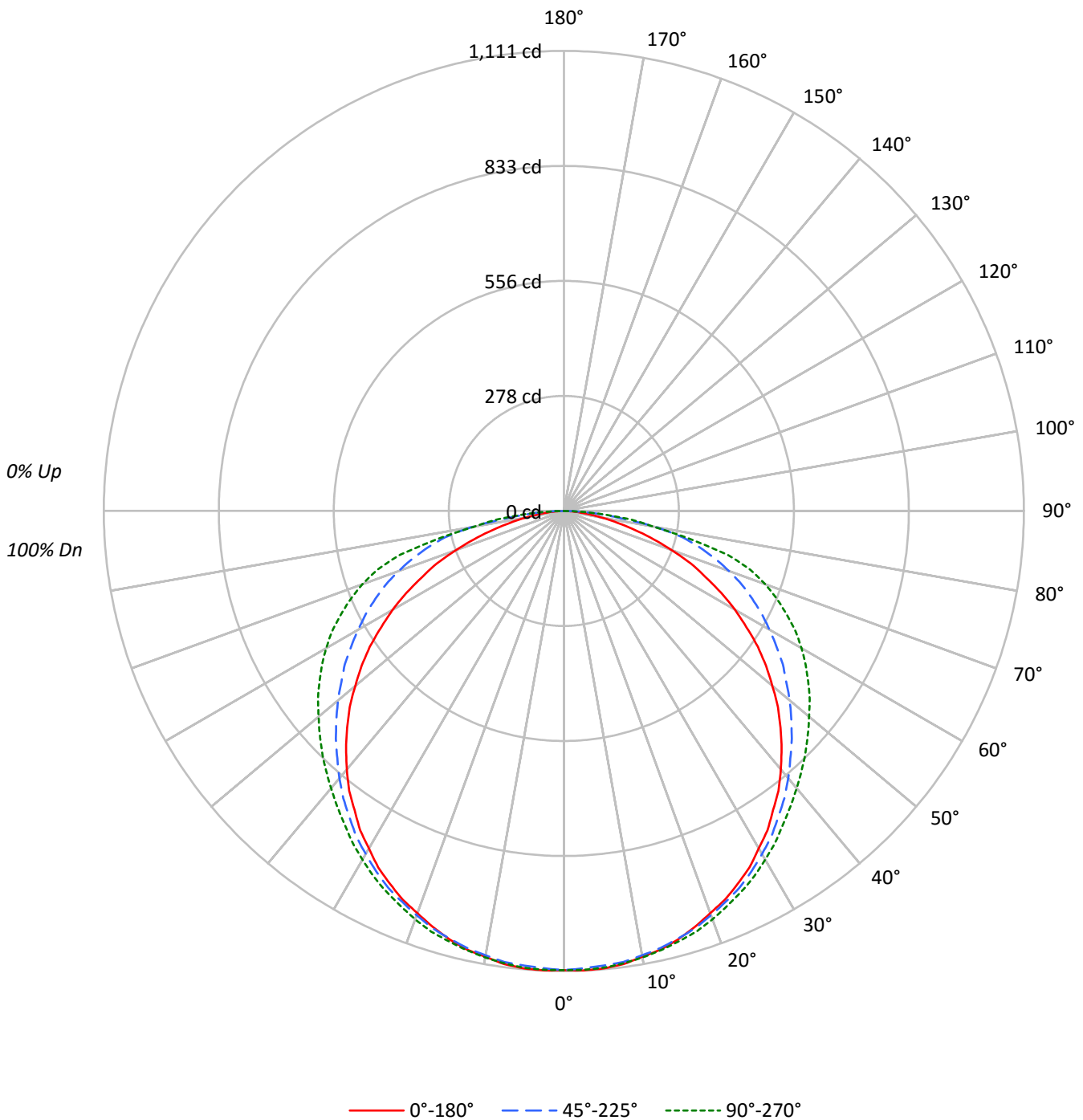
Input Watts (W): 48.5
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	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	68	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°	1492	1492	1492
5°	1498	1488	1495
10°	1493	1489	1496
15°	1491	1489	1498
20°	1480	1488	1503
25°	1475	1490	1506
30°	1462	1486	1511
35°	1448	1482	1517
40°	1431	1481	1536
45°	1408	1481	1571
50°	1376	1490	1618
55°	1342	1514	1690
60°	1285	1544	1784
65°	1203	1598	1893
70°	1094	1672	2037
75°	927	1764	2128
80°	731	1775	1721
85°	540	1349	1511



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	105.2	3.0
10°-20°	302.7	8.6
20°-30°	462.9	13.1
30°-40°	565.9	16.0
40°-50°	603.1	17.1
50°-60°	576.7	16.4
60°-70°	488.5	13.9
70°-80°	328.3	9.3
80°-90°	92.6	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°	870.8	24.7
0°-40°	1436.7	40.7
0°-60°	2616.5	74.2
0°-90°	3526.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3526.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1109	1109	1109	1109	1109	
5°	1109	1107	1102	1107	1107	105
15°	1070	1070	1069	1077	1076	302
25°	993	997	1004	1013	1014	458
35°	882	888	902	920	923	552
45°	740	752	778	812	826	571
55°	572	593	645	696	721	509
65°	378	416	502	568	595	375
75°	178	243	339	397	409	191
85°	35	72	87	94	98	43
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1108.8	1108.8	1108.8	1108.8	1108.8
2.5°	1110.6	1110.6	1105.3	1108.8	1108.8
5°	1108.8	1107.1	1101.8	1107.1	1107.1
7.5°	1103.6	1101.8	1098.3	1103.6	1101.8
10°	1093.1	1093.1	1089.6	1094.8	1094.8
12.5°	1084.3	1082.6	1080.8	1087.8	1086.1
15°	1070.3	1070.3	1068.6	1077.3	1075.6
17.5°	1052.9	1054.6	1056.4	1063.4	1065.1
20°	1033.6	1037.1	1038.9	1049.4	1049.4
22.5°	1016.1	1017.9	1021.4	1031.9	1031.9
25°	993.4	996.9	1003.9	1012.6	1014.4
27.5°	970.7	972.4	981.2	993.4	995.1
30°	940.9	946.2	956.7	970.7	972.4
32.5°	914.7	919.9	932.2	946.2	949.7
35°	881.5	888.5	902.5	919.9	923.4
37.5°	851.7	857.0	874.5	893.7	899.0
40°	815.0	825.5	843.0	865.7	874.5
42.5°	778.3	788.8	809.8	839.5	850.0
45°	739.8	752.0	778.3	811.5	825.5
47.5°	701.3	715.3	745.0	783.5	799.3
50°	657.6	675.1	711.8	755.5	773.0
52.5°	615.6	636.6	676.8	725.8	748.5
55°	571.9	592.9	645.4	696.1	720.6
57.5°	522.9	550.9	608.6	666.3	692.6
60°	477.5	503.7	573.7	636.6	662.8
62.5°	428.5	463.5	538.7	605.1	631.4
65°	377.8	416.2	501.9	568.4	594.6
67.5°	332.3	374.3	465.2	531.7	557.9
70°	278.1	330.5	425.0	491.5	517.7
72.5°	227.4	285.1	383.0	447.7	472.2
75°	178.4	243.1	339.3	397.0	409.3
77.5°	132.9	201.1	293.8	318.3	309.6
80°	94.4	160.9	229.1	216.9	222.1
82.5°	61.2	122.4	141.7	160.9	166.1
85°	35.0	71.7	87.4	94.4	97.9
87.5°	15.7	26.2	35.0	35.0	33.2
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)