

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: P310351

Luminaire Tested: **24FCZ2-60HE-UNV-L82765-RDP-CP250-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: P310351
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-CP250-W2A-U-5000K
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS WITH INSERT, 0.250" POLYCARB SHEET
Light Source: (336) 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: 3544.0 lumens
Efficiency: N/A
Efficacy: 72.8 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

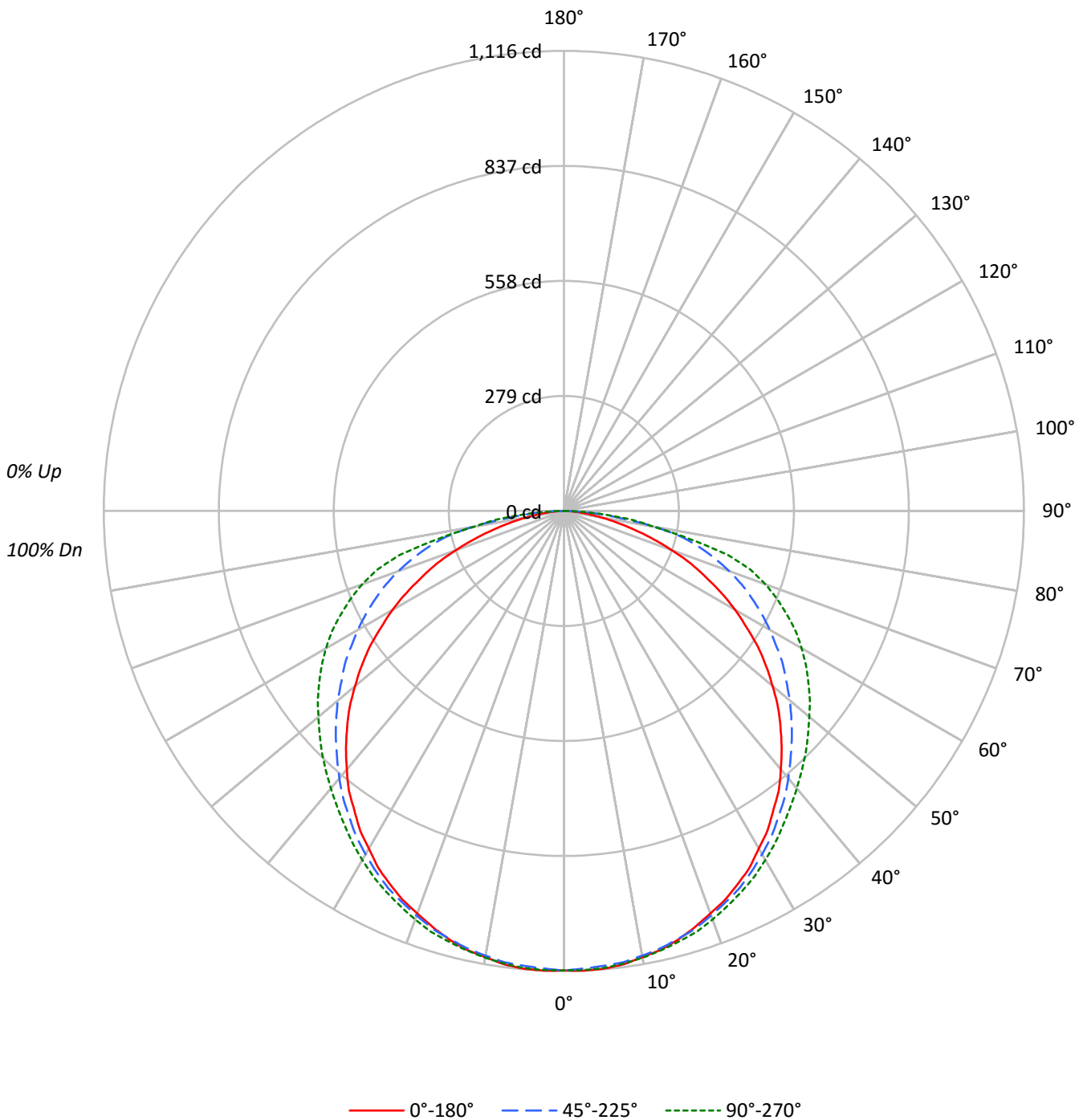
Input Watts (W): 48.7
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	67	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°	1500	1500	1500
5°	1505	1496	1503
10°	1501	1496	1503
15°	1499	1496	1506
20°	1488	1495	1510
25°	1482	1498	1514
30°	1469	1494	1519
35°	1455	1490	1525
40°	1439	1488	1544
45°	1415	1489	1579
50°	1384	1498	1626
55°	1348	1522	1699
60°	1291	1552	1793
65°	1209	1606	1903
70°	1100	1681	2047
75°	932	1773	2138
80°	735	1784	1729
85°	543	1357	1519



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	105.7	3.0
10°-20°	304.3	8.6
20°-30°	465.3	13.1
30°-40°	568.8	16.0
40°-50°	606.2	17.1
50°-60°	579.6	16.4
60°-70°	491.0	13.9
70°-80°	330.0	9.3
80°-90°	93.1	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°	875.3	24.7
0°-40°	1444.1	40.7
0°-60°	2629.9	74.2
0°-90°	3544.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3544.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1114	1114	1114	1114	1114	
5°	1114	1113	1108	1113	1113	106
15°	1076	1076	1074	1083	1081	303
25°	998	1002	1009	1018	1020	460
35°	886	893	907	925	928	555
45°	744	756	782	816	830	574
55°	575	596	649	700	724	512
65°	380	418	504	571	598	377
75°	179	244	341	399	411	192
85°	35	72	88	95	98	44
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1114.5	1114.5	1114.5	1114.5	1114.5
2.5°	1116.2	1116.2	1111.0	1114.5	1114.5
5°	1114.5	1112.7	1107.5	1112.7	1112.7
7.5°	1109.2	1107.5	1103.9	1109.2	1107.5
10°	1098.7	1098.7	1095.2	1100.4	1100.4
12.5°	1089.9	1088.1	1086.4	1093.4	1091.6
15°	1075.8	1075.8	1074.1	1082.8	1081.1
17.5°	1058.2	1060.0	1061.8	1068.8	1070.5
20°	1038.9	1042.4	1044.2	1054.7	1054.7
22.5°	1021.3	1023.1	1026.6	1037.1	1037.1
25°	998.5	1002.0	1009.0	1017.8	1019.6
27.5°	975.6	977.4	986.2	998.5	1000.2
30°	945.7	951.0	961.6	975.6	977.4
32.5°	919.4	924.6	936.9	951.0	954.5
35°	886.0	893.0	907.1	924.6	928.2
37.5°	856.1	861.4	878.9	898.3	903.5
40°	819.2	829.7	847.3	870.1	878.9
42.5°	782.3	792.8	813.9	843.8	854.3
45°	743.6	755.9	782.3	815.6	829.7
47.5°	704.9	719.0	748.9	787.5	803.3
50°	661.0	678.5	715.5	759.4	777.0
52.5°	618.8	639.9	680.3	729.5	752.4
55°	574.8	595.9	648.7	699.6	724.2
57.5°	525.6	553.7	611.7	669.7	696.1
60°	479.9	506.3	576.6	639.9	666.2
62.5°	430.7	465.8	541.4	608.2	634.6
65°	379.7	418.4	504.5	571.3	597.7
67.5°	334.0	376.2	467.6	534.4	560.8
70°	279.5	332.2	427.2	494.0	520.3
72.5°	228.5	286.5	385.0	450.0	474.6
75°	179.3	244.3	341.0	399.0	411.3
77.5°	133.6	202.2	295.3	319.9	311.1
80°	94.9	161.7	230.3	218.0	223.2
82.5°	61.5	123.1	142.4	161.7	167.0
85°	35.2	72.1	87.9	94.9	98.4
87.5°	15.8	26.4	35.2	35.2	33.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)