

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: P309674

Luminaire Tested: **24FCZ2-60HE-UNV-L82765-HRP-CP250-W2A-U-4000K**

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: P309674
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: 24FCZ2-60HE-UNV-L82765-HRP-CP250-W2A-U-4000K
Description: 2'X4' TROFFER LED MODULE, HIGH EFFICIENCY RND PERF. LENS, 0.250"
POLYCARB SHEET
Light Source: (336) 4000K 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: 3876.0 lumens
Efficiency: N/A
Efficacy: 80.4 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

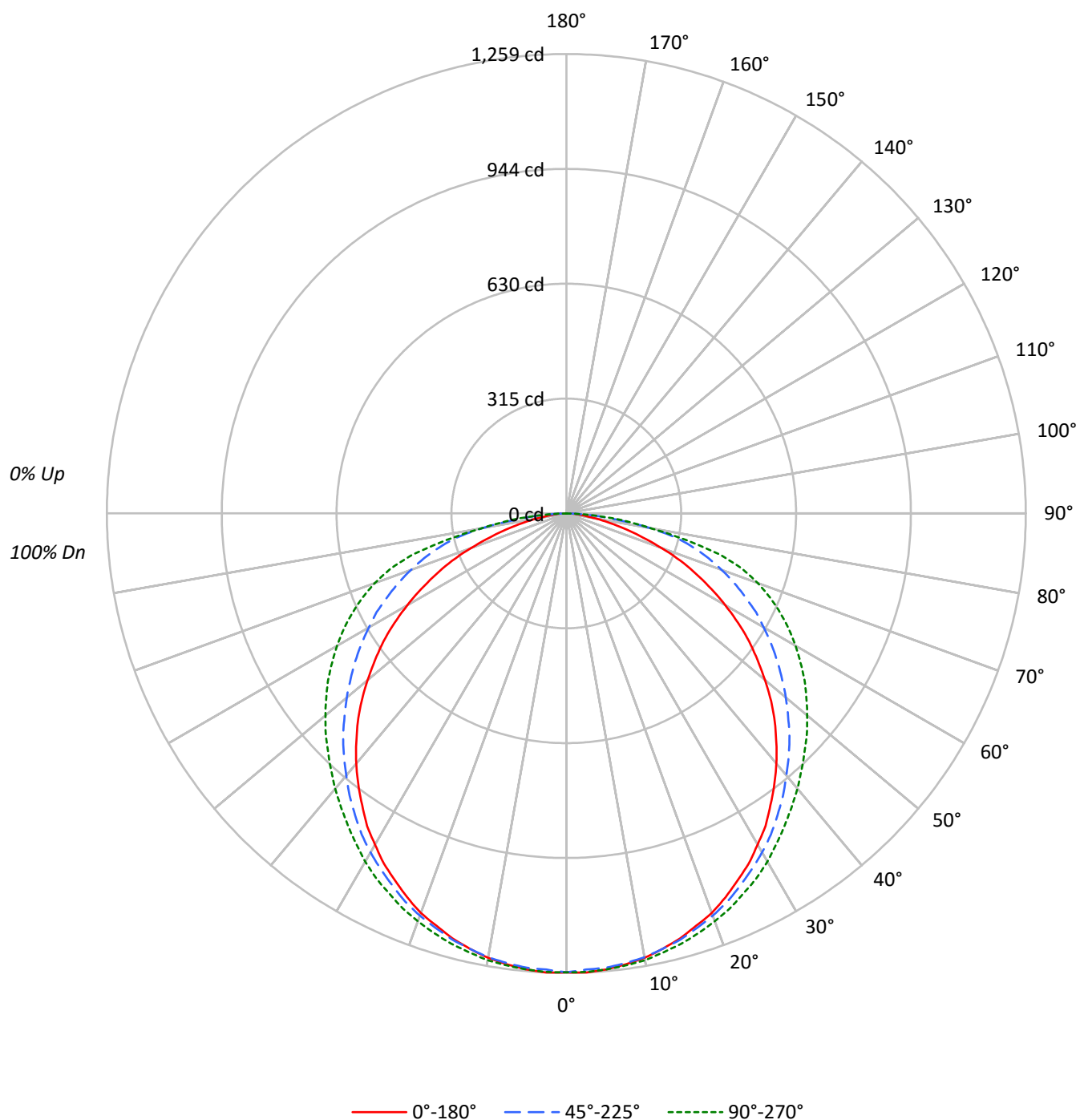
Input Watts (W): 48.2
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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				0
RW	70	50	30	10	70	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		100
1	108	103	98	94	105	101	96	93	96	93	90		92	90	87		82
2	98	89	82	76	95	87	80	75	83	78	73		80	75	71		67
3	89	78	69	62	86	76	68	62	73	66	61		70	64	59		56
4	81	68	59	52	79	67	59	52	65	57	51		62	56	50		48
5	74	61	52	45	72	60	51	45	58	50	44		56	49	44		41
6	69	55	46	39	67	54	45	39	52	44	38		50	43	38		36
7	63	50	41	34	62	49	40	34	47	39	34		46	39	34		31
8	59	45	36	30	57	44	36	30	43	36	30		42	35	30		28
9	55	41	33	27	54	41	33	27	40	32	27		39	32	27		25
10	52	38	30	25	50	38	30	25	37	30	25		36	29	24		23

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	1692	1692	1692
5°	1694	1688	1694
10°	1689	1687	1698
15°	1679	1684	1700
20°	1668	1680	1703
25°	1648	1672	1706
30°	1629	1666	1712
35°	1602	1658	1714
40°	1573	1647	1730
45°	1538	1646	1757
50°	1488	1644	1804
55°	1435	1656	1869
60°	1354	1681	1952
65°	1250	1720	2061
70°	1092	1781	2196
75°	886	1873	2269
80°	654	1836	1836
85°	502	1352	1528



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	119.1	3.1
10°-20°	342.1	8.8
20°-30°	520.8	13.4
30°-40°	632.4	16.3
40°-50°	668.1	17.2
50°-60°	630.4	16.3
60°-70°	524.2	13.5
70°-80°	344.9	8.9
80°-90°	94.0	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°	982.0	25.3
0°-40°	1614.4	41.7
0°-60°	2913.0	75.2
0°-90°	3876.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3876.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1258	1258	1258	1258	1258	
5°	1254	1254	1250	1254	1254	119
15°	1206	1207	1209	1220	1220	340
25°	1110	1116	1126	1146	1149	512
35°	975	987	1009	1035	1043	610
45°	808	824	865	907	923	622
55°	612	638	706	772	797	545
65°	393	438	540	620	647	388
75°	170	248	360	427	436	184
85°	32	71	88	97	99	40
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1257.6	1257.6	1257.6	1257.6	1257.6
2.5°	1259.2	1257.6	1251.1	1257.6	1257.6
5°	1254.3	1254.3	1249.5	1254.3	1254.3
7.5°	1246.2	1246.2	1243.0	1249.5	1249.5
10°	1236.5	1236.5	1234.9	1243.0	1243.0
12.5°	1221.9	1223.5	1221.9	1231.6	1231.6
15°	1205.6	1207.3	1208.9	1220.2	1220.2
17.5°	1184.6	1187.8	1191.0	1204.0	1205.6
20°	1165.1	1166.7	1173.2	1187.8	1189.4
22.5°	1139.1	1144.0	1152.1	1166.7	1171.6
25°	1109.9	1116.4	1126.1	1145.6	1148.9
27.5°	1082.3	1087.2	1100.2	1121.3	1127.8
30°	1048.2	1056.4	1072.6	1093.7	1101.8
32.5°	1015.8	1023.9	1043.4	1066.1	1072.6
35°	975.2	986.6	1009.3	1035.3	1043.4
37.5°	936.3	947.6	975.2	1004.4	1014.2
40°	895.7	908.7	937.9	972.0	985.0
42.5°	851.9	869.8	902.2	939.5	954.1
45°	808.1	824.3	864.9	907.1	923.3
47.5°	761.0	780.5	824.3	874.6	894.1
50°	710.7	735.1	785.4	840.5	861.6
52.5°	660.4	688.0	744.8	806.5	829.2
55°	611.7	637.7	705.9	772.4	796.7
57.5°	558.2	590.7	665.3	736.7	761.0
60°	503.0	538.7	624.7	699.4	725.3
62.5°	447.9	488.4	585.8	660.4	688.0
65°	392.7	438.1	540.3	619.9	647.4
67.5°	339.1	389.4	498.2	577.7	605.3
70°	277.5	340.8	452.7	530.6	558.2
72.5°	220.7	293.7	408.9	481.9	506.3
75°	170.4	248.3	360.2	426.8	436.5
77.5°	124.9	202.8	309.9	332.6	334.3
80°	84.4	162.3	236.9	233.7	236.9
82.5°	55.2	121.7	149.3	167.1	168.8
85°	32.5	71.4	87.6	97.4	99.0
87.5°	16.2	24.3	30.8	32.5	35.7
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)