

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: P309653

Luminaire Tested: **24FCZ2-60HE-UNV-L82765-HRP-CP125-W2A-U-2700K**

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: P309653
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-CP125-W2A-U-2700K
Description: 2'X4' TROFFER LED MODULE, HIGH EFFICIENCY RND PERF. LENS, 0.125" POLYCARB SHEET
Light Source: (336) 2700K 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: 3751.0 lumens
Efficiency: N/A
Efficacy: 78.8 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

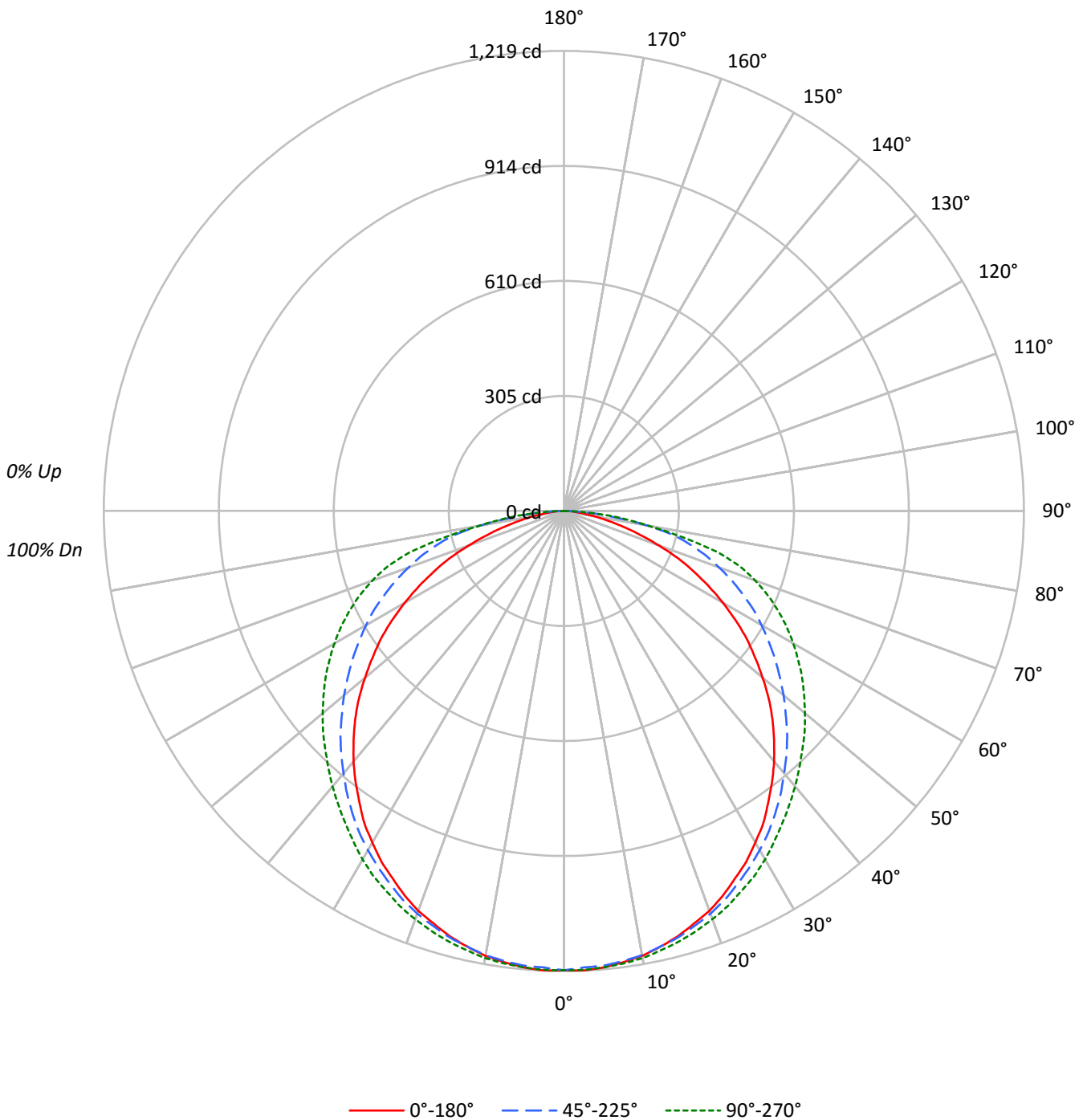
Input Watts (W): 47.6
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	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°	1637	1637	1637
5°	1640	1633	1640
10°	1635	1633	1643
15°	1625	1630	1645
20°	1614	1626	1648
25°	1595	1618	1651
30°	1576	1613	1657
35°	1550	1604	1658
40°	1522	1594	1674
45°	1488	1593	1700
50°	1440	1591	1746
55°	1389	1602	1809
60°	1310	1627	1889
65°	1210	1665	1995
70°	1056	1723	2125
75°	857	1812	2196
80°	633	1777	1777
85°	485	1309	1479



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	115.3	3.1
10°-20°	331.1	8.8
20°-30°	504.0	13.4
30°-40°	612.0	16.3
40°-50°	646.6	17.2
50°-60°	610.1	16.3
60°-70°	507.3	13.5
70°-80°	333.7	8.9
80°-90°	91.0	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°	950.4	25.3
0°-40°	1562.4	41.7
0°-60°	2819.0	75.2
0°-90°	3751.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3751.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1217	1217	1217	1217	1217	
5°	1214	1214	1209	1214	1214	115
15°	1167	1168	1170	1181	1181	329
25°	1074	1080	1090	1109	1112	495
35°	944	955	977	1002	1010	591
45°	782	798	837	878	894	602
55°	592	617	683	748	771	527
65°	380	424	523	600	627	376
75°	165	240	349	413	422	178
85°	31	69	85	94	96	38
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1217.0	1217.0	1217.0	1217.0	1217.0
2.5°	1218.6	1217.0	1210.7	1217.0	1217.0
5°	1213.9	1213.9	1209.2	1213.9	1213.9
7.5°	1206.0	1206.0	1202.9	1209.2	1209.2
10°	1196.6	1196.6	1195.0	1202.9	1202.9
12.5°	1182.5	1184.0	1182.5	1191.9	1191.9
15°	1166.8	1168.3	1169.9	1180.9	1180.9
17.5°	1146.3	1149.5	1152.6	1165.2	1166.8
20°	1127.5	1129.1	1135.4	1149.5	1151.1
22.5°	1102.4	1107.1	1114.9	1129.1	1133.8
25°	1074.1	1080.4	1089.8	1108.7	1111.8
27.5°	1047.4	1052.1	1064.7	1085.1	1091.4
30°	1014.4	1022.3	1038.0	1058.4	1066.3
32.5°	983.0	990.9	1009.7	1031.7	1038.0
35°	943.8	954.8	976.8	1001.9	1009.7
37.5°	906.1	917.1	943.8	972.0	981.5
40°	866.8	879.4	907.7	940.6	953.2
42.5°	824.4	841.7	873.1	909.2	923.4
45°	782.0	797.7	837.0	877.8	893.5
47.5°	736.5	755.3	797.7	846.4	865.3
50°	687.8	711.4	760.0	813.4	833.9
52.5°	639.1	665.8	720.8	780.5	802.4
55°	592.0	617.1	683.1	747.5	771.0
57.5°	540.2	571.6	643.8	712.9	736.5
60°	486.8	521.4	604.6	676.8	701.9
62.5°	433.4	472.7	566.9	639.1	665.8
65°	380.0	424.0	522.9	599.9	626.6
67.5°	328.2	376.9	482.1	559.0	585.7
70°	268.5	329.8	438.1	513.5	540.2
72.5°	213.6	284.2	395.7	466.4	489.9
75°	164.9	240.3	348.6	413.0	422.4
77.5°	120.9	196.3	299.9	321.9	323.5
80°	81.7	157.0	229.3	226.1	229.3
82.5°	53.4	117.8	144.5	161.7	163.3
85°	31.4	69.1	84.8	94.2	95.8
87.5°	15.7	23.6	29.8	31.4	34.5
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)