

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: P313329

Luminaire Tested: **24FCZ2-60HE-UNV-L83050-HRP-CP125-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: P313329
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-L83050-HRP-CP125-W2A-U-5000K
Description: 2'X4' TROFFER LED MODULE, HIGH EFFICIENCY RND PERF. LENS, 0.125" 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: 4437.0 lumens
Efficiency: N/A
Efficacy: 88.9 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

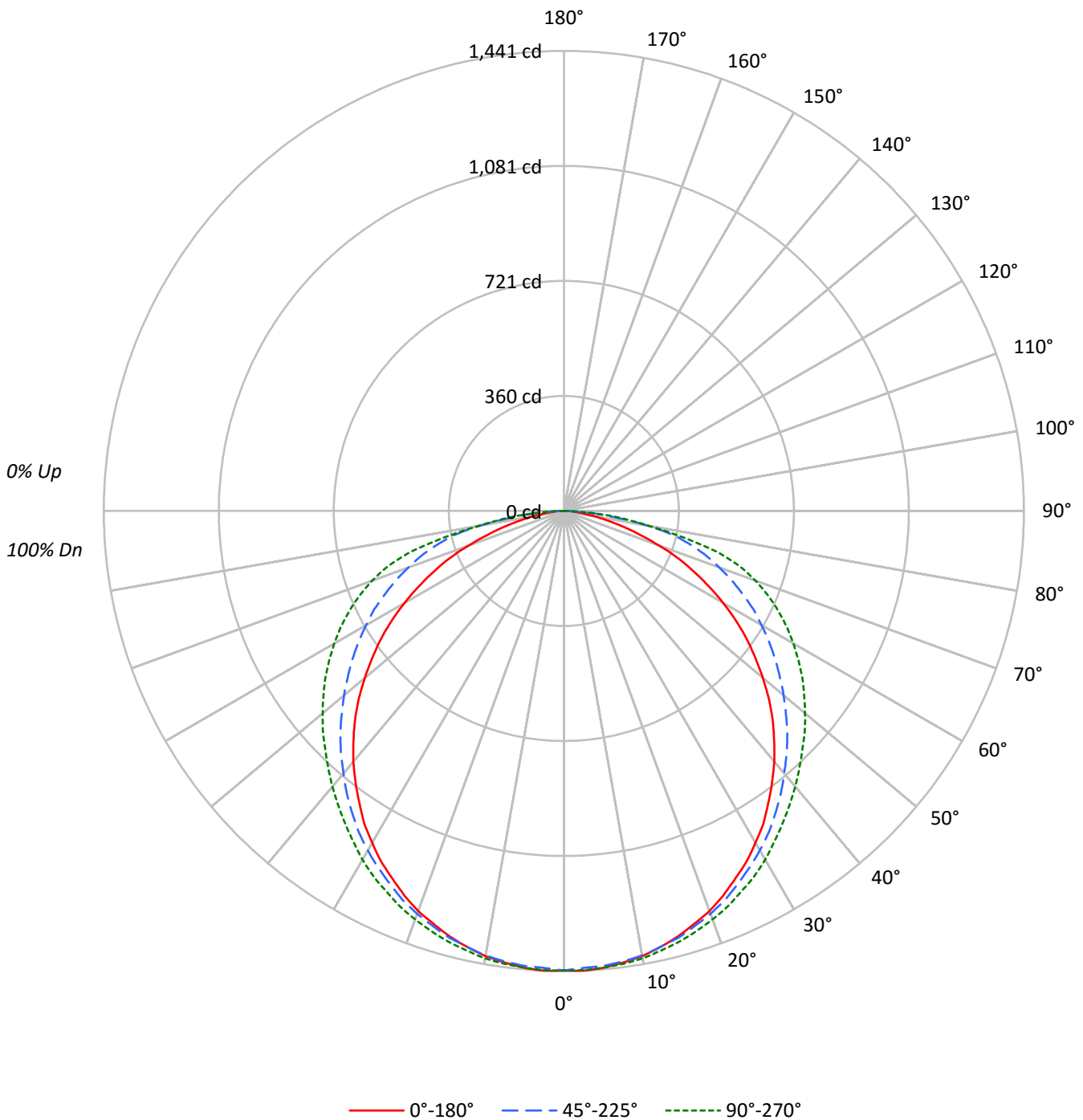
Input Watts (W): 49.9
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	1937	1937	1937
5°	1939	1932	1939
10°	1934	1931	1944
15°	1922	1928	1946
20°	1910	1923	1950
25°	1886	1914	1952
30°	1864	1908	1960
35°	1834	1898	1962
40°	1801	1886	1980
45°	1760	1884	2011
50°	1703	1882	2065
55°	1643	1895	2139
60°	1549	1925	2234
65°	1431	1969	2360
70°	1249	2039	2514
75°	1014	2144	2598
80°	748	2101	2101
85°	574	1548	1749



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	136.4	3.1
10°-20°	391.6	8.8
20°-30°	596.2	13.4
30°-40°	723.9	16.3
40°-50°	764.8	17.2
50°-60°	721.7	16.3
60°-70°	600.1	13.5
70°-80°	394.8	8.9
80°-90°	107.6	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°	1124.2	25.3
0°-40°	1848.1	41.7
0°-60°	3334.6	75.2
0°-90°	4437.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4437.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1440	1440	1440	1440	1440	
5°	1436	1436	1430	1436	1436	136
15°	1380	1382	1384	1397	1397	389
25°	1271	1278	1289	1311	1315	586
35°	1116	1129	1155	1185	1194	699
45°	925	944	990	1038	1057	712
55°	700	730	808	884	912	624
65°	450	502	619	710	741	444
75°	195	284	412	488	500	210
85°	37	82	100	112	113	46
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1439.6	1439.6	1439.6	1439.6	1439.6
2.5°	1441.4	1439.6	1432.2	1439.6	1439.6
5°	1435.9	1435.9	1430.3	1435.9	1435.9
7.5°	1426.6	1426.6	1422.9	1430.3	1430.3
10°	1415.4	1415.4	1413.6	1422.9	1422.9
12.5°	1398.7	1400.6	1398.7	1409.9	1409.9
15°	1380.1	1382.0	1383.9	1396.9	1396.9
17.5°	1356.0	1359.7	1363.4	1378.3	1380.1
20°	1333.7	1335.6	1343.0	1359.7	1361.6
22.5°	1304.0	1309.6	1318.8	1335.6	1341.1
25°	1270.6	1278.0	1289.1	1311.4	1315.1
27.5°	1239.0	1244.5	1259.4	1283.6	1291.0
30°	1200.0	1209.3	1227.8	1252.0	1261.3
32.5°	1162.8	1172.1	1194.4	1220.4	1227.8
35°	1116.4	1129.4	1155.4	1185.1	1194.4
37.5°	1071.8	1084.8	1116.4	1149.8	1161.0
40°	1025.4	1040.2	1073.7	1112.7	1127.5
42.5°	975.2	995.6	1032.8	1075.5	1092.2
45°	925.1	943.6	990.1	1038.4	1056.9
47.5°	871.2	893.5	943.6	1001.2	1023.5
50°	813.6	841.5	899.0	962.2	986.4
52.5°	756.0	787.6	852.6	923.2	949.2
55°	700.3	730.0	808.0	884.2	912.0
57.5°	639.0	676.1	761.6	843.3	871.2
60°	575.8	616.7	715.2	800.6	830.3
62.5°	512.7	559.1	670.6	756.0	787.6
65°	449.5	501.5	618.6	709.6	741.2
67.5°	388.2	445.8	570.3	661.3	692.9
70°	317.6	390.1	518.3	607.4	639.0
72.5°	252.6	336.2	468.1	551.7	579.6
75°	195.0	284.2	412.4	488.5	499.7
77.5°	143.0	232.2	354.8	380.8	382.7
80°	96.6	185.8	271.2	267.5	271.2
82.5°	63.2	139.3	170.9	191.3	193.2
85°	37.2	81.7	100.3	111.5	113.3
87.5°	18.6	27.9	35.3	37.2	40.9
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)