

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: P313322

Luminaire Tested: **24FCZ2-60HE-UNV-L83050-HRP-CA125-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: P313322
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-CA125-W2A-U-4000K
Description: 2'X4' TROFFER LED MODULE, HIGH EFFICIENCY RND PERF. LENS, 0.125" ACRYLIC 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: 4482.0 lumens
Efficiency: N/A
Efficacy: 92.0 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

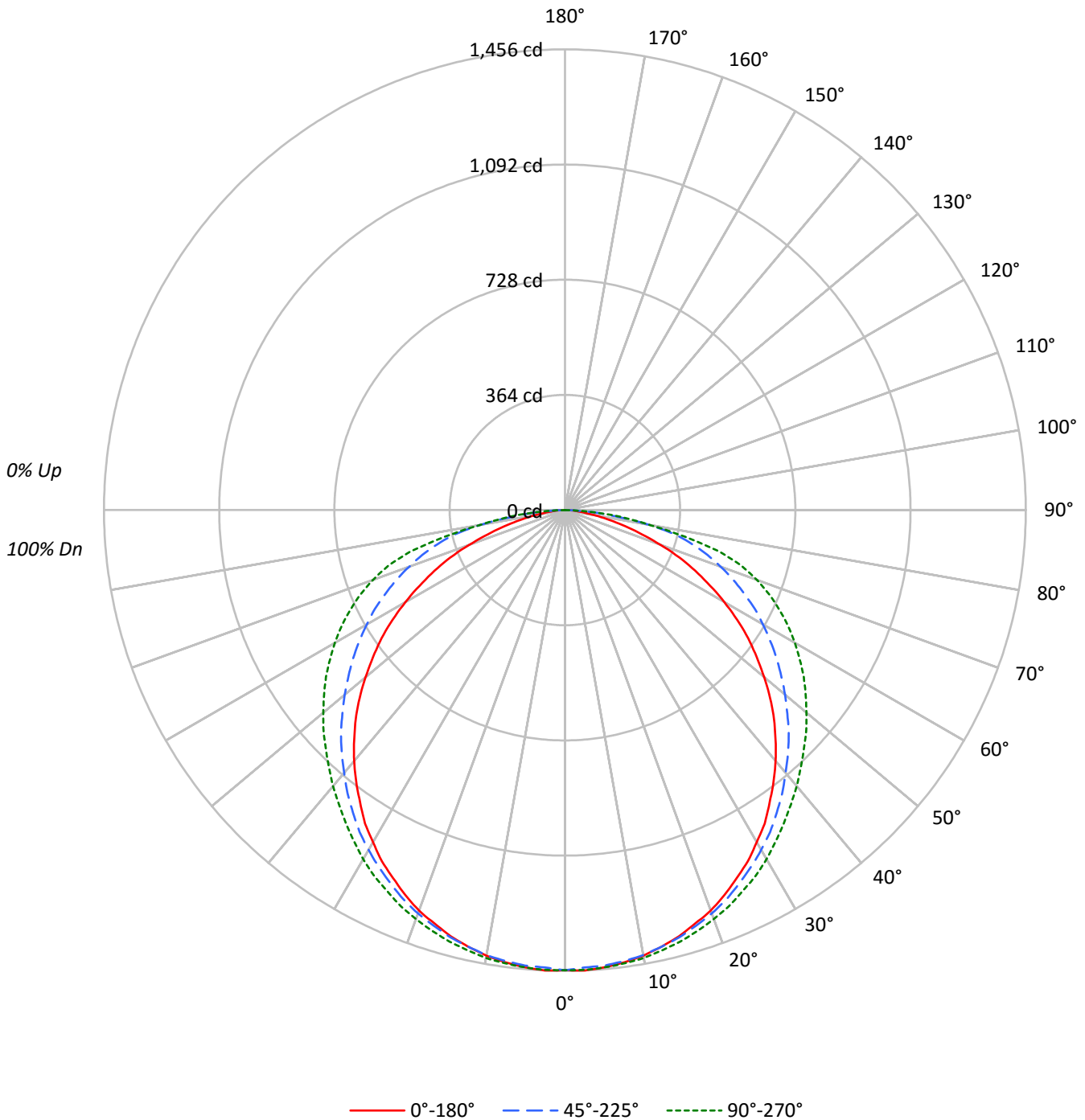
Input Watts (W): 48.7
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	50	30	10	0	
RCR																						
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100				100
1	108	103	98	94	105	101	96	93	96	93	90	92	90	87	89	86	84	82				82
2	98	89	82	76	95	87	80	75	83	78	73	80	75	71	77	73	70	67				67
3	89	78	69	62	86	76	68	62	73	66	61	70	64	59	68	63	58	56				56
4	81	68	59	52	79	67	59	52	65	57	51	62	56	50	60	54	50	48				48
5	74	61	52	45	72	60	51	45	58	50	44	56	49	44	54	48	43	41				41
6	69	55	46	39	67	54	45	39	52	44	38	50	43	38	49	42	38	36				36
7	63	50	41	34	62	49	40	34	47	39	34	46	39	34	44	38	33	31				31
8	59	45	36	30	57	44	36	30	43	36	30	42	35	30	41	34	30	28				28
9	55	41	33	27	54	41	33	27	40	32	27	39	32	27	38	31	27	25				25
10	52	38	30	25	50	38	30	25	37	30	25	36	29	24	35	29	24	23				23

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	1957	1957	1957
5°	1959	1951	1959
10°	1953	1951	1964
15°	1942	1947	1965
20°	1929	1942	1969
25°	1905	1933	1972
30°	1883	1927	1979
35°	1852	1917	1982
40°	1819	1905	2001
45°	1778	1903	2032
50°	1720	1901	2086
55°	1659	1915	2161
60°	1565	1944	2257
65°	1446	1989	2384
70°	1262	2059	2539
75°	1024	2166	2624
80°	756	2123	2123
85°	579	1564	1768



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	137.8	3.1
10°-20°	395.6	8.8
20°-30°	602.2	13.4
30°-40°	731.3	16.3
40°-50°	772.6	17.2
50°-60°	729.0	16.3
60°-70°	606.1	13.5
70°-80°	398.8	8.9
80°-90°	108.7	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°	1135.6	25.3
0°-40°	1866.8	41.7
0°-60°	3368.4	75.2
0°-90°	4482.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4482.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1454	1454	1454	1454	1454	
5°	1450	1450	1445	1450	1450	138
15°	1394	1396	1398	1411	1411	393
25°	1283	1291	1302	1325	1328	592
35°	1128	1141	1167	1197	1206	706
45°	934	953	1000	1049	1068	720
55°	707	737	816	893	921	630
65°	454	507	625	717	749	449
75°	197	287	417	494	505	212
85°	38	83	101	113	114	46
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1454.2	1454.2	1454.2	1454.2	1454.2
2.5°	1456.1	1454.2	1446.7	1454.2	1454.2
5°	1450.4	1450.4	1444.8	1450.4	1450.4
7.5°	1441.1	1441.1	1437.3	1444.8	1444.8
10°	1429.8	1429.8	1427.9	1437.3	1437.3
12.5°	1412.9	1414.8	1412.9	1424.2	1424.2
15°	1394.1	1396.0	1397.9	1411.0	1411.0
17.5°	1369.8	1373.5	1377.3	1392.3	1394.1
20°	1347.2	1349.1	1356.6	1373.5	1375.4
22.5°	1317.2	1322.8	1332.2	1349.1	1354.7
25°	1283.4	1290.9	1302.2	1324.7	1328.5
27.5°	1251.5	1257.2	1272.2	1296.6	1304.1
30°	1212.1	1221.5	1240.3	1264.7	1274.1
32.5°	1174.6	1184.0	1206.5	1232.8	1240.3
35°	1127.7	1140.8	1167.1	1197.1	1206.5
37.5°	1082.7	1095.8	1127.7	1161.5	1172.7
40°	1035.8	1050.8	1084.5	1123.9	1139.0
42.5°	985.1	1005.7	1043.3	1086.4	1103.3
45°	934.4	953.2	1000.1	1048.9	1067.7
47.5°	880.0	902.5	953.2	1011.4	1033.9
50°	821.9	850.0	908.2	972.0	996.4
52.5°	763.7	795.6	861.3	932.6	958.8
55°	707.4	737.4	816.2	893.2	921.3
57.5°	645.5	683.0	769.3	851.9	880.0
60°	581.7	623.0	722.4	808.7	838.7
62.5°	517.9	564.8	677.4	763.7	795.6
65°	454.1	506.6	624.8	716.8	748.7
67.5°	392.2	450.3	576.0	668.0	699.9
70°	320.9	394.0	523.5	613.6	645.5
72.5°	255.2	339.6	472.8	557.3	585.4
75°	197.0	287.1	416.6	493.5	504.7
77.5°	144.5	234.5	358.4	384.7	386.5
80°	97.6	187.6	274.0	270.2	274.0
82.5°	63.8	140.7	172.6	193.3	195.1
85°	37.5	82.6	101.3	112.6	114.5
87.5°	18.8	28.1	35.7	37.5	41.3
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)