

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: P313327

Luminaire Tested: **24FCZ2-60HE-UNV-L83050-HRP-CP125-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: P313327
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-4000K
Description: 2'X4' TROFFER LED MODULE, HIGH EFFICIENCY RND PERF. LENS, 0.125" 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: 4395.0 lumens
Efficiency: N/A
Efficacy: 90.2 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

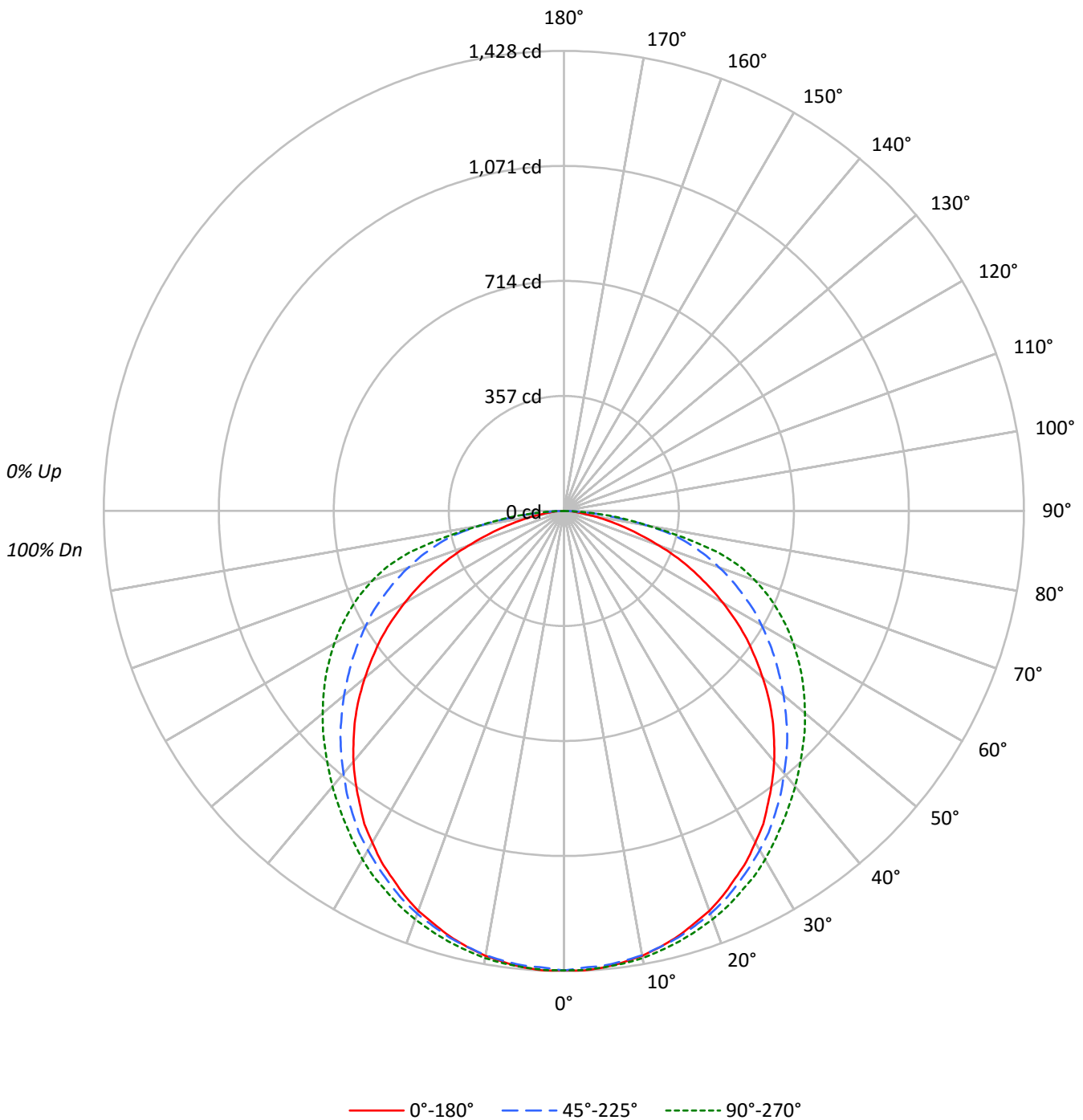
Input Watts (W): 48.7
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	1919	1919	1919
5°	1921	1914	1921
10°	1915	1913	1926
15°	1904	1909	1927
20°	1892	1905	1931
25°	1868	1896	1934
30°	1847	1890	1941
35°	1816	1880	1943
40°	1784	1868	1962
45°	1744	1866	1992
50°	1687	1864	2045
55°	1627	1878	2119
60°	1535	1906	2213
65°	1418	1951	2337
70°	1238	2019	2490
75°	1004	2124	2573
80°	742	2081	2081
85°	568	1535	1732



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	135.1	3.1
10°-20°	387.9	8.8
20°-30°	590.5	13.4
30°-40°	717.1	16.3
40°-50°	757.6	17.2
50°-60°	714.8	16.3
60°-70°	594.4	13.5
70°-80°	391.0	8.9
80°-90°	106.6	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°	1113.5	25.3
0°-40°	1830.6	41.7
0°-60°	3303.0	75.2
0°-90°	4395.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4395.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1426	1426	1426	1426	1426	
5°	1422	1422	1417	1422	1422	135
15°	1367	1369	1371	1384	1384	386
25°	1258	1266	1277	1299	1303	581
35°	1106	1119	1144	1174	1183	692
45°	916	935	981	1028	1047	706
55°	694	723	800	876	903	618
65°	445	497	613	703	734	440
75°	193	282	408	484	495	208
85°	37	81	99	110	112	45
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1426.0	1426.0	1426.0	1426.0	1426.0
2.5°	1427.8	1426.0	1418.6	1426.0	1426.0
5°	1422.3	1422.3	1416.8	1422.3	1422.3
7.5°	1413.1	1413.1	1409.4	1416.8	1416.8
10°	1402.0	1402.0	1400.2	1409.4	1409.4
12.5°	1385.5	1387.3	1385.5	1396.5	1396.5
15°	1367.1	1368.9	1370.8	1383.6	1383.6
17.5°	1343.2	1346.8	1350.5	1365.2	1367.1
20°	1321.1	1322.9	1330.3	1346.8	1348.7
22.5°	1291.6	1297.2	1306.4	1322.9	1328.4
25°	1258.5	1265.9	1276.9	1299.0	1302.7
27.5°	1227.2	1232.8	1247.5	1271.4	1278.8
30°	1188.6	1197.8	1216.2	1240.1	1249.3
32.5°	1151.8	1161.0	1183.1	1208.8	1216.2
35°	1105.8	1118.7	1144.4	1173.9	1183.1
37.5°	1061.7	1074.5	1105.8	1138.9	1150.0
40°	1015.7	1030.4	1063.5	1102.1	1116.8
42.5°	966.0	986.2	1023.0	1065.3	1081.9
45°	916.3	934.7	980.7	1028.5	1046.9
47.5°	862.9	885.0	934.7	991.7	1013.8
50°	805.9	833.5	890.5	953.1	977.0
52.5°	748.9	780.1	844.5	914.5	940.2
55°	693.7	723.1	800.4	875.8	903.4
57.5°	632.9	669.7	754.4	835.3	862.9
60°	570.4	610.9	708.4	793.0	822.5
62.5°	507.8	553.8	664.2	748.9	780.1
65°	445.3	496.8	612.7	702.9	734.1
67.5°	384.5	441.6	564.9	655.0	686.3
70°	314.6	386.4	513.3	601.7	632.9
72.5°	250.2	333.0	463.7	546.5	574.1
75°	193.2	281.5	408.5	483.9	494.9
77.5°	141.7	230.0	351.4	377.2	379.0
80°	95.7	184.0	268.6	265.0	268.6
82.5°	62.6	138.0	169.3	189.5	191.4
85°	36.8	81.0	99.4	110.4	112.2
87.5°	18.4	27.6	35.0	36.8	40.5
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)