

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: P313313

Luminaire Tested: **24FCZ2-55HE-UNV-L83050-HRP-CP250-W2A-U-4500K**

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: P313313
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: 24FCZ2-55HE-UNV-L83050-HRP-CP250-W2A-U-4500K
Description: 2'X4' TROFFER LED MODULE, HIGH EFFICIENCY RND PERF. LENS, 0.250"
POLYCARB SHEET
Light Source: (336) 4500K 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: 3878.0 lumens
Efficiency: N/A
Efficacy: 85.8 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

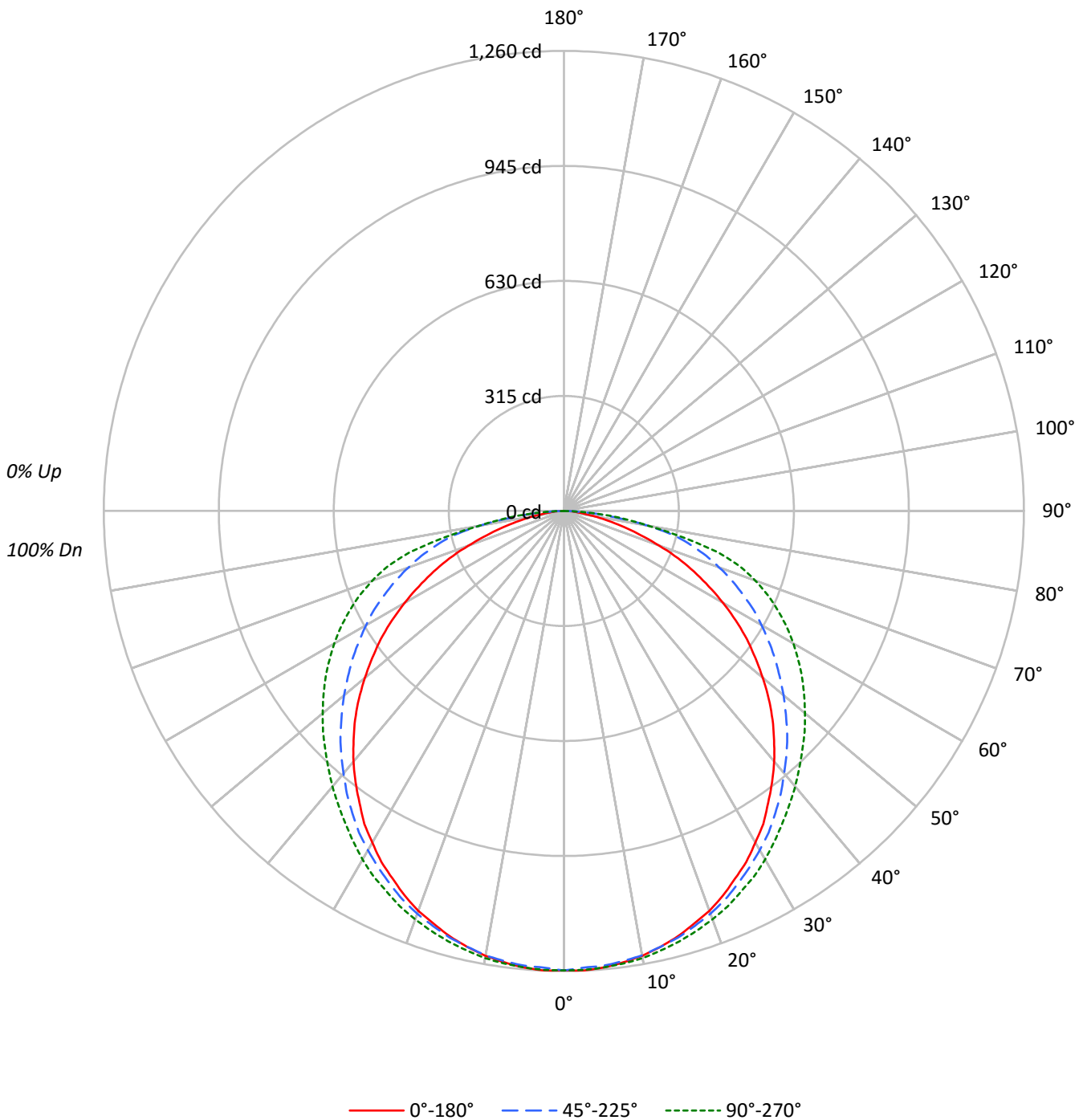
Input Watts (W): 45.2
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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				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°	1693	1693	1693
5°	1695	1688	1695
10°	1690	1688	1699
15°	1680	1685	1701
20°	1669	1681	1704
25°	1649	1673	1706
30°	1629	1667	1713
35°	1603	1659	1715
40°	1574	1648	1731
45°	1538	1647	1758
50°	1488	1645	1805
55°	1436	1657	1870
60°	1354	1682	1953
65°	1251	1721	2062
70°	1092	1782	2197
75°	886	1874	2270
80°	654	1836	1836
85°	502	1354	1528



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	119.2	3.1
10°-20°	342.3	8.8
20°-30°	521.1	13.4
30°-40°	632.7	16.3
40°-50°	668.4	17.2
50°-60°	630.8	16.3
60°-70°	524.5	13.5
70°-80°	345.0	8.9
80°-90°	94.1	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°	982.5	25.3
0°-40°	1615.2	41.7
0°-60°	2914.5	75.2
0°-90°	3878.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3878.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1258	1258	1258	1258	1258	
5°	1255	1255	1250	1255	1255	119
15°	1206	1208	1210	1221	1221	340
25°	1110	1117	1127	1146	1149	512
35°	976	987	1010	1036	1044	611
45°	808	825	865	908	924	623
55°	612	638	706	773	797	545
65°	393	438	541	620	648	388
75°	170	248	360	427	437	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°	1258.2	1258.2	1258.2	1258.2	1258.2
2.5°	1259.8	1258.2	1251.7	1258.2	1258.2
5°	1255.0	1255.0	1250.1	1255.0	1255.0
7.5°	1246.9	1246.9	1243.6	1250.1	1250.1
10°	1237.1	1237.1	1235.5	1243.6	1243.6
12.5°	1222.5	1224.1	1222.5	1232.2	1232.2
15°	1206.3	1207.9	1209.5	1220.9	1220.9
17.5°	1185.2	1188.4	1191.7	1204.6	1206.3
20°	1165.7	1167.3	1173.8	1188.4	1190.0
22.5°	1139.7	1144.6	1152.7	1167.3	1172.2
25°	1110.5	1117.0	1126.7	1146.2	1149.4
27.5°	1082.9	1087.8	1100.7	1121.8	1128.3
30°	1048.8	1056.9	1073.1	1094.2	1102.4
32.5°	1016.3	1024.4	1043.9	1066.6	1073.1
35°	975.7	987.1	1009.8	1035.8	1043.9
37.5°	936.8	948.1	975.7	1005.0	1014.7
40°	896.2	909.2	938.4	972.5	985.5
42.5°	852.3	870.2	902.7	940.0	954.6
45°	808.5	824.7	865.3	907.5	923.8
47.5°	761.4	780.9	824.7	875.1	894.6
50°	711.1	735.4	785.8	841.0	862.1
52.5°	660.8	688.4	745.2	806.9	829.6
55°	612.1	638.0	706.2	772.8	797.1
57.5°	558.5	591.0	665.6	737.1	761.4
60°	503.3	539.0	625.1	699.7	725.7
62.5°	448.1	488.7	586.1	660.8	688.4
65°	392.9	438.3	540.6	620.2	647.8
67.5°	339.3	389.6	498.4	578.0	605.6
70°	277.6	340.9	453.0	530.9	558.5
72.5°	220.8	293.9	409.1	482.2	506.5
75°	170.5	248.4	360.4	427.0	436.7
77.5°	125.0	202.9	310.1	332.8	334.4
80°	84.4	162.4	237.0	233.8	237.0
82.5°	55.2	121.8	149.4	167.2	168.8
85°	32.5	71.4	87.7	97.4	99.0
87.5°	16.2	24.4	30.8	32.5	35.7
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)