

Scaled data based on original data using

LM-41-14 Approved Method for Photometric Testing Of Indoor Fluorescent Luminaires

Test Report Prepared for

Cooper Lighting Solutions

(formerly Eaton)

Brand: NEO-RAY

Report Number: 18003

Luminaire Tested: **MB-SH-2T8**

Issue Date: 3/3/2020

**Test Information**

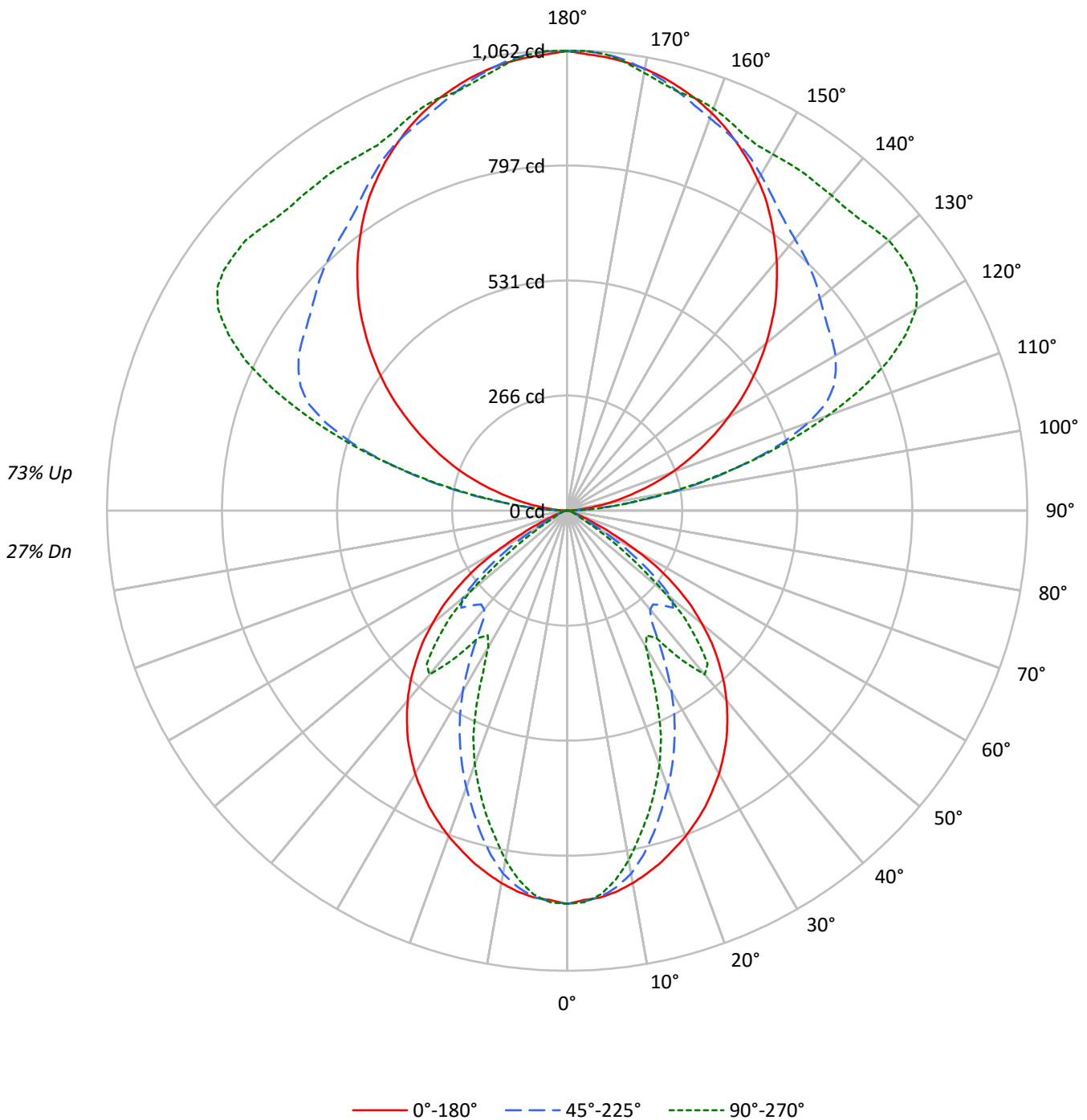
Test Method: LM-41-14  
Report Number: 18003  
Test Lab:  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: NEO-RAY  
Catalog Number: MB-SH-2T8  
Description: DIRECT/INDIRECT SUSPENDED LUMINAIRE - MINIGATOR WHITE INTERIOR WITH  
SPECULAR REFLECTORS AND 46 CELL HI PERFORMANCE LOUVER BLADE  
Light Source: TWO PHILIPS 32 WATT T8 LAMPS  
  
F32T8/TL841. LUMEN RATING = 3000 LMS.  
  
Ballast/Driver: -

**Summary**

Lumens per Lamp: 3000 (2 lamps)  
Luminaire Lumens: 5120.7 lumens  
Efficiency: 85.3%  
Efficacy: 89.8 lumens/watt  
Spacing Criteria (0/90/45): 1.16 / 0.82 / 0.94  
Luminous Opening: Rectangular (W 0.22' x L: 3.59' x H: 0')  
CIE Type: Semi-Indirect  
  
Input Watts (W): 57  
Input Voltage (V): NR  
Input Current (A<sub>in</sub>): 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	87	87	87	87	77	77	77	77	60	60	60	44	44	44	30	30	30	23
1	80	76	73	71	71	68	66	64	54	52	50	40	39	38	27	27	26	21
2	73	67	63	59	65	60	57	53	48	45	43	36	34	33	25	24	23	18
3	67	60	54	49	60	54	49	45	42	39	37	32	30	28	22	21	20	16
4	61	53	47	42	55	48	43	39	38	34	31	29	27	25	20	19	18	14
5	56	47	41	36	50	43	37	33	34	30	27	26	24	22	19	17	16	13
6	52	43	36	32	47	39	33	29	31	27	24	24	21	19	17	15	14	11
7	48	38	32	28	43	35	29	26	28	24	21	22	19	17	16	14	13	10
8	45	35	29	25	40	32	26	23	26	22	19	20	17	15	14	13	12	9
9	42	32	26	22	37	29	24	20	23	20	17	18	16	14	13	12	11	9
10	39	29	23	20	35	27	22	18	22	18	15	17	14	12	12	11	10	8

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°
0°	12367	12367	12367
5°	12258	12236	12168
10°	12081	11770	11334
15°	11849	10870	10219
20°	11600	9861	9033
25°	11340	8809	7427
30°	11036	7579	5717
35°	10673	6083	5978
40°	10189	5302	8789
45°	9521	5948	8209
50°	8612	6700	6187
55°	7297	4885	3426
60°	5130	2611	1371
65°	2399	1125	800
70°	1056	769	677
75°	627	690	537
80°	487	620	667
85°	532	610	970



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture	% Lamp
0°-10°	83.9	1.6	1.4
10°-20°	217.6	4.2	3.6
20°-30°	274.7	5.4	4.6
30°-40°	274.9	5.4	4.6
40°-50°	287.8	5.6	4.8
50°-60°	173.9	3.4	2.9
60°-70°	46.3	0.9	0.8
70°-80°	13.2	0.3	0.2
80°-90°	5.1	0.1	0.1
90°-100°	101.1	2.0	1.7
100°-110°	393.8	7.7	6.6
110°-120°	611.1	11.9	10.2
120°-130°	657.0	12.8	11.0
130°-140°	619.3	12.1	10.3
140°-150°	543.7	10.6	9.1
150°-160°	433.4	8.5	7.2
160°-170°	283.9	5.5	4.7
170°-180°	100.0	2.0	1.7
0°-30°	576.2	11.3	9.6
0°-40°	851.1	16.6	14.2
0°-60°	1312.8	25.6	21.9
0°-90°	1377.4	26.9	23.0
90°-120°	1106.0	21.6	18.4
90°-150°	2926.0	57.1	48.8
90°-180°	3743.0	73.1	62.4
0°-180°	5120.7	100.0	85.3

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	907	907	907	907	907	
5°	896	897	894	891	889	85
15°	840	821	770	731	724	236
25°	754	680	586	518	494	347
35°	642	512	366	329	359	400
45°	494	328	309	419	426	380
55°	307	182	206	153	144	271
65°	74	49	35	26	25	86
75°	12	13	13	11	10	14
85°	3	3	4	6	6	3
90°	0	0	0	0	0	2
95°	28	82	87	89	93	37
105°	168	337	434	431	437	180
115°	341	444	679	789	818	338
125°	516	549	735	901	967	461
135°	680	689	793	904	953	523
145°	821	818	849	920	951	513
155°	932	923	935	952	959	430
165°	1010	1013	999	998	999	285
175°	1050	1058	1057	1058	1056	100
180°	1060	1060	1060	1060	1060	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	907.4	907.4	907.4	907.4	907.4
2.5°	899.4	902.8	902.8	906.3	904.7
5°	896.0	896.7	894.4	891.1	889.4
7.5°	886.1	886.5	876.4	867.5	858.8
10°	873.0	869.6	850.5	827.9	819.0
12.5°	856.7	849.3	813.8	786.3	770.4
15°	839.8	820.6	770.4	730.9	724.3
17.5°	819.3	792.4	724.2	688.8	674.2
20°	799.8	755.8	679.9	635.9	622.8
22.5°	777.2	719.9	634.1	580.3	566.1
25°	754.1	680.3	585.8	518.1	493.9
27.5°	727.5	636.4	535.7	442.7	419.6
30°	701.3	598.1	481.6	381.5	363.3
32.5°	671.4	554.7	423.0	336.7	341.3
35°	641.5	512.5	365.6	329.0	359.3
37.5°	607.2	463.0	317.7	360.4	434.4
40°	572.7	421.8	298.0	425.8	494.0
42.5°	535.1	372.9	293.5	452.8	479.9
45°	494.0	328.3	308.6	419.0	425.9
47.5°	453.0	287.8	331.7	357.6	368.4
50°	406.2	247.3	316.0	293.5	291.8
52.5°	360.4	216.2	264.8	227.0	209.6
55°	307.1	181.5	205.6	153.3	144.2
57.5°	252.9	151.5	149.3	104.3	88.4
60°	188.2	114.9	95.8	60.3	50.3
62.5°	126.1	81.2	58.2	37.2	32.2
65°	74.4	49.1	34.9	25.9	24.8
67.5°	41.2	30.5	23.7	19.7	20.3
70°	26.5	20.3	19.3	16.3	17.0
72.5°	16.3	15.9	14.8	13.6	13.0
75°	11.9	13.1	13.1	11.4	10.2
77.5°	9.0	9.7	10.2	9.6	9.6
80°	6.2	7.3	7.9	8.5	8.5
82.5°	5.1	5.1	5.7	7.4	6.8
85°	3.4	3.4	3.9	5.7	6.2
87.5°	1.1	3.0	4.0	4.5	7.9
90°	0.5	0.5	0.5	0.5	0.5
92.5°	9.6	27.7	36.2	39.6	41.2
95°	27.7	82.3	86.7	89.1	93.1
97.5°	56.5	156.5	159.5	153.9	153.9
100°	91.2	249.6	248.5	263.6	237.1
102.5°	128.4	281.7	340.9	310.9	334.0
105°	168.5	336.9	434.2	431.4	437.1
107.5°	211.7	366.1	522.6	540.7	539.7
110°	256.3	393.8	591.9	637.0	639.8



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**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°
112.5°	298.6	417.9	647.1	722.5	735.5
115°	340.9	443.7	678.7	788.6	818.4
117.5°	385.3	472.6	699.0	845.3	881.4
120°	428.5	498.9	715.2	881.4	929.9
122.5°	474.3	535.1	726.0	897.3	957.5
125°	516.5	549.2	735.1	901.3	967.1
127.5°	558.1	585.8	746.8	906.8	968.8
130°	599.8	619.0	761.5	906.8	969.2
132.5°	639.8	653.3	778.4	904.5	961.4
135°	679.9	689.4	792.6	903.9	952.9
137.5°	715.9	721.4	805.5	907.4	948.9
140°	752.5	753.5	817.8	912.3	949.5
142.5°	786.7	784.0	831.3	916.3	949.5
145°	820.6	818.4	849.3	919.6	951.2
147.5°	852.7	832.4	871.8	921.4	950.6
150°	880.8	868.5	894.4	925.3	949.5
152.5°	907.9	896.0	916.8	934.9	950.2
155°	932.2	923.1	934.9	951.9	959.1
157.5°	955.9	948.9	949.5	968.6	974.5
160°	976.1	972.8	963.7	981.7	987.8
162.5°	994.6	994.8	980.0	989.1	996.3
165°	1009.8	1013.2	998.6	998.1	999.2
167.5°	1024.0	1033.5	1017.8	1016.6	1010.4
170°	1035.2	1038.6	1034.1	1023.2	1025.5
172.5°	1043.6	1051.5	1047.5	1044.3	1042.4
175°	1049.8	1058.2	1057.0	1057.6	1056.1
177.5°	1054.2	1061.2	1060.4	1062.9	1061.6
180°	1060.3	1060.3	1060.3	1060.3	1060.3

(END OF REPORT)