

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: McGRAW-EDISON

Report Number: P323649

Luminaire Tested: **GLEON-SA5C-827-U-SL3-HSS**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P323649
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1903-205-23)
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: McGRAW-EDISON
Catalog Number: GLEON-SA5C-827-U-SL3-HSS
Description: GALLEON AREA AND ROADWAY LUMINAIRE
(5) 80 CRI, 2700K, 1050mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE III
SPILL LIGHT ELIMINATOR OPTICS WITH HOUSE SIDE SHIELD
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 22201 lumens
Efficiency: N/A
Efficacy: 79.6 lumens/watt
Luminous Opening: Rectangular (W 1.5' x L: 1' x H: 0')
IES Classification: Type III - Medium
BUG Rating: B2 - U0 - G4

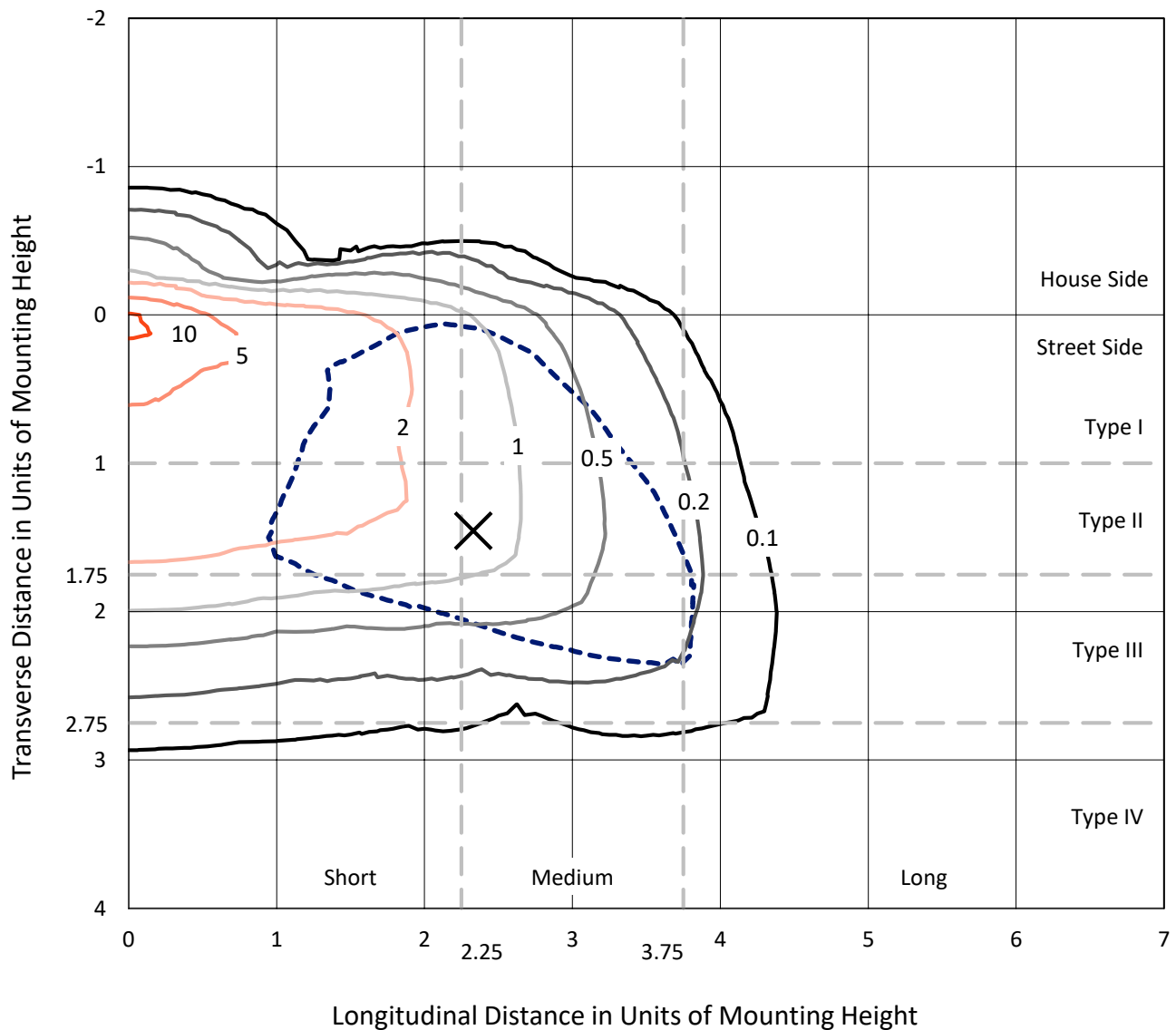
Input Watts (W): 279
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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Iso-Footcandle Lines of Horizontal Illumination

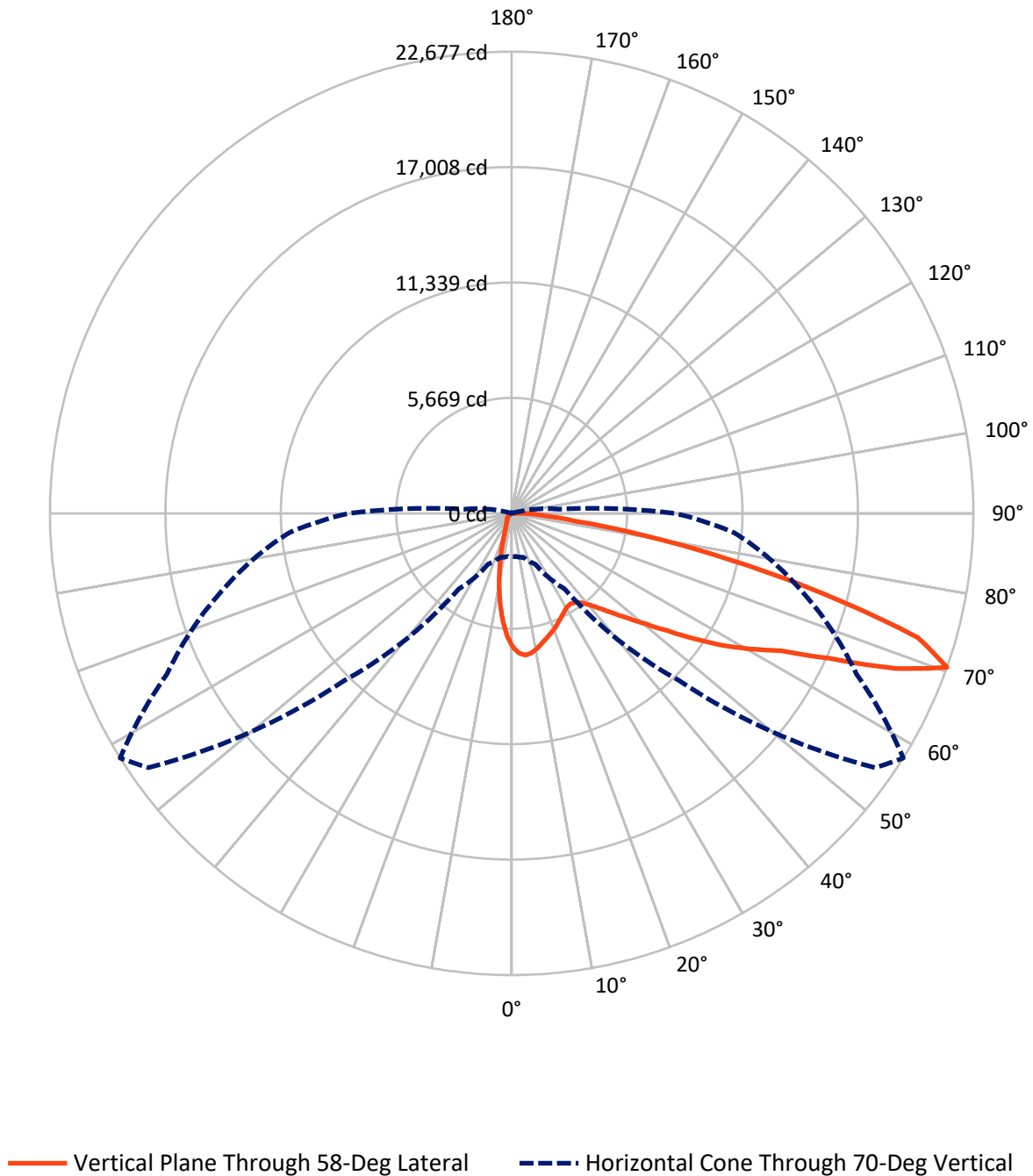
✕ Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 10.7 fc
 Type III - Medium - N/A

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Luminous Intensity Polar Plot



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FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	1899.9	0.0	1899.9
	% Fixture	8.6	0.0	8.6
Street Side	Lumens	20301.1	0.0	20301.1
	% Fixture	91.4	0.0	91.4
Total	Lumens	22201.0	0.0	22201.0
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	536.3	2.4
10°-20°	1125.5	5.1
20°-30°	1479.7	6.7
30°-40°	1959.7	8.8
40°-50°	2929.1	13.2
50°-60°	4692.3	21.1
60°-70°	5914.6	26.6
70°-80°	3	

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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	2378.2	10.7			
FM	(30°-60°)	8856.3	39.9			
FH	(60°-80°)	8696.4	39.2			G4/12000
FVH	(80°-90°)	370.2	1.7			G3/500
BL	(0°-30°)	763.3	3.4	B2/1000		
BM	(30°-60°)	724.8	3.3	B1/1000		
BH	(60°-80°)	408.6	1.8	B1/500		G1/500
BVH	(80°-90°)	3.2	0.0			G0/10
UL	(90°-100°)	0.0	0.0		U0/0	
UH	(100°-180°)	0.0	0.0			



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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	58°	65°	75°	85°
0°	6558.1	6558.1	6558.1	6558.1	6558.1	6558.1	6558.1	6558.1	6558.1	6558.1	6558.1
2.5°	7101.8	7084.3	7077.8	7066.7	7024.3	6982.7	6900.6	6877.5	6825.8	6703.0	6572.8
5°	7107.3	7106.4	7125.8	7121.2	7106.4	7087.0	7028.0	6997.5	6909.8	6734.4	6496.2
7.5°	6764.9	6782.4	6825.8	6860.9	6901.5	6954.1	6961.5	6931.9	6859.9	6670.7	6355.0
10°	6305.1	6332.8	6393.7	6463.0	6569.1	6674.4	6768.5	6764.9	6739.9		



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CANDELA DISTRIBUTION (continued):

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	6558.1	6558.1	6558.1	6558.1	6558.1	6558.1	6558.1	6558.1	6558.1	6558.1	6558.1
2.5°	6506.4	6442.7	6308.8	6143.6	6017.1	5877.7	5766.9	5626.6	5565.7	5568.5	5535.2
5°	6360.5	6229.4	5933.1	5559.2	5271.2	4973.9	4718.2	4463.4	4313.0	4264.0	4217.9
7.5°	6151.9	5944.2	5471.5	4895.5	4408.0	3931.7	3517.2	3152.6	2921.8	2809.2	2767.6
10°	5916.5	5624.8	4940.7	4181.9	3485.8	2841.5	2304.2				

LM-79-2019: Approved Method: Electrical and Photometric Measurements of Solid-State Lighting Products

Report Prepared for

Cooper Lighting Solutions

Invue

Report Number: SP1-2407-157-9

Test Date: 10/03/2024

Luminaire Tested: EMM2-HTN-SA1A-827-U-5WQ

Data applicable to all product families utilizing light square engine

Test Information

Test Method: LM-79-2019
 Report Number: SP1-2407-157-9
 Test Lab: COOPER LIGHTING SOLUTIONS
 Photometer: SP1 - 76IN SPHERE
 Measurement Geometry: 4π
 Issue Date: 10/03/2024
 Manufacturer: COOPER LIGHTING SOLUTIONS
 Product Line: Invue
 Catalog Number: **EMM2-HTN-SA1A-827-U-5WQ**
 Description: Epic Modern Light Square 40W 5WQ Optic

Spectral Parameters

CCT (K): 2764
 CIE u' : 0.2591
 CIE v' : 0.5290
 Duv: 0.0020
 CIE x: 0.4581
 CIE y: 0.4156
 CIE z: 0.1263
 Peak Wavelength (nm): 603
 Dominant Wavelength (nm): 583
 Purity: 62.2537
 R_f: 84.7
 R_g: 94.6

CRI (Ra): 80.9
 R1: 78.8
 R2: 89.9
 R3: 96.2
 R4: 79.1
 R5: 79.1
 R6: 88.8
 R7: 81.3
 R8: 54.3
 R9: -1.5
 R10: 77.9
 R11: 78.9
 R12: 71.6
 R13: 81.2
 R14: 98.5
 R15: 69.9



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Measurement and Test Equipment			
Instrument	Identification Number	Calibration Date	Calibration Due Date
Photometer	IN0058	6/18/2024	12/18/2024
Power Meter	INXT2011004	2/8/2024	2/8/2025
AC Power Source	IN0063	10/24/2023	10/24/2024
DC Power Source	IN0208	10/24/2023	10/24/2024
Sphere Thermometer	IN0085	10/24/2023	10/24/2024
Room Thermometer	IN0046	10/24/2023	10/24/2024

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CIE 1931 Chromaticity Diagram



CIE 1931 Chromaticity Diagram with 2017 ANSI 7-Step and 4-Step Quadrangles



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Photopic Flux vs. Wavelength



Photopic Lumens: 4337.9

λ (nm)	Power (μW/nm)	Lumens (φ/nm)	λ (nm)	Power (μW/nm)	Lumens (φ/nm)	λ (nm)	Power (μW/nm)	Lumens (φ/nm)	λ (nm)	Power (μW/nm)	Lumens (φ/nm)	λ (nm)	Power (μW/nm)	Lumens (φ/nm)
360	0	0.0	490	18018	2.6	620	87426	22.8	750	2680	0.0	880	58	0.0
365	0	0.0	495	22295	3.9	625	83013	18.2	755	2287	0.0	885	46	0.0
370	0	0.0	500	26478	5.8	630	78077	14.1	760	1944	0.0	890	45	0.0
375	0	0.0	505	30524	8.5	635	72080							

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Scotopic Flux vs. Wavelength



Scotopic Lumens: 5286.7

S/P: 1.22

λ (nm)	Power (μW/nm)	Lumens (φ/nm)	λ (nm)	Power (μW/nm)	Lumens (φ/nm)	λ (nm)	Power (μW/nm)	Lumens (φ/nm)	λ (nm)	Power (μW/nm)	Lumens (φ/nm)	λ (nm)	Power (μW/nm)	Lumens (φ/nm)
360	0	0.0	490	18018	75.9	620	87426	0.4	750	2680	0.0	880	58	0.0
365	0	0.0	495	22295	93.2	625	83013	0.2	755	2287	0.0	885	46	0.0
370	0	0.0	500	26478	107.8	630	78077	0.1	760	1944	0.0	890	45	0.0

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Melanopic Flux vs. Wavelength



Melanopic Lumens: 9797

M/P: 2.26

λ (nm)	Power (μW/nm)	Lumens (Φ/nm)	λ (nm)	Power (μW/nm)	Lumens (Φ/nm)	λ (nm)	Power (μW/nm)	Lumens (Φ/nm)	λ (nm)	Power (μW/nm)	Lumens (Φ/nm)	λ (nm)	Power (μW/nm)	Lumens (Φ/nm)
360	0	0.0	490	18018	27.7	620	87426	1.1	750	2680	0.0	880	58	0.0
365	0	0.0	495	22295	36.0	625	83013	0.7	755	2287	0.0	885	46	0.0
370	0	0.0	500	26478	44.2	630	78077	0.4	76					

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TM-30-18

Summary

$R_f = 84.7$
 $R_g = 94.6$
 $CIE R_a = 80.9$
 $R_g = -1.5$



Color Vector Graphics



Individual Sample Fidelity Index ($R_{f,i}$)

CES01 = 86	CES26 = 84	CES51 = 95	CES76 = 81
CES02 = 63	CES27 = 95	CES52 = 94	CES77 = 84
CES03 = 31	CES28 = 94	CES53 = 89	CES78 = 81
CES04 = 71	CES29 = 87	CES54 = 91	CES79 = 89
CES05 = 50	CES30 = 94	CES55 = 90	CES80 = 89
CES06 = 52	CES31 = 89	CES56 = 86	CES81 = 69
CES07 = 43	CES32 = 82	CES57 = 85	CES82 = 96
CES08 = 41	CES33 = 91	CES58 = 86	CES83 = 93
CES09 = 29	CES34 = 92	CES59 = 91	CES84 = 92
CES10 = 77	CES35 = 96	CES60 = 94	CES85 = 76
CES11 = 60	CES36 = 90	CES61 = 89	CES86 = 65
CES12 = 66	CES37 = 96	CES62 = 94	CES87 = 84
CES13 = 44	CES38 = 98	CES63 = 87	CES88 = 86
CES14 = 74	CES39 = 98	CES64 = 82	CES89 = 73
CES15 = 72	CES40 = 95	CES65 = 78	CES90 = 88
CES16 = 48	CES41 = 96	CES66 = 81	CES91 = 82
CES17 = 50	CES42 = 97	CES67 = 80	CES92 = 64

Color Rendition by Hue-Angle Bin



Measure Comparisons



(END OF REPORT)