

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: STREETWORKS

Report Number: P348816

Luminaire Tested: **ARCH-N-PA1-30-730-12VDC-T3-HSS**

Issue Date: 3/3/2020



Test Information

Test Method: LM-79-08
Report Number: P348816
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1903-205-15)
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: STREETWORKS
Catalog Number: ARCH-N-PA1-30-730-12VDC-T3-HSS
Description: ARCHEON ROADWAY AND AREA LUMINAIRE
(1) 70 CRI, 3000K, 560mA LIGHT ENGINE WITH 16 LEDS AND
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2807 lumens
Efficiency: N/A
Efficacy: 100.3 lumens/watt
Luminous Opening: Rectangular (W 0.5' x L: 0.75' x H: 0')
IES Classification: Type III - Short
BUG Rating: B0 - U0 - G1

Input Watts (W): 28
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

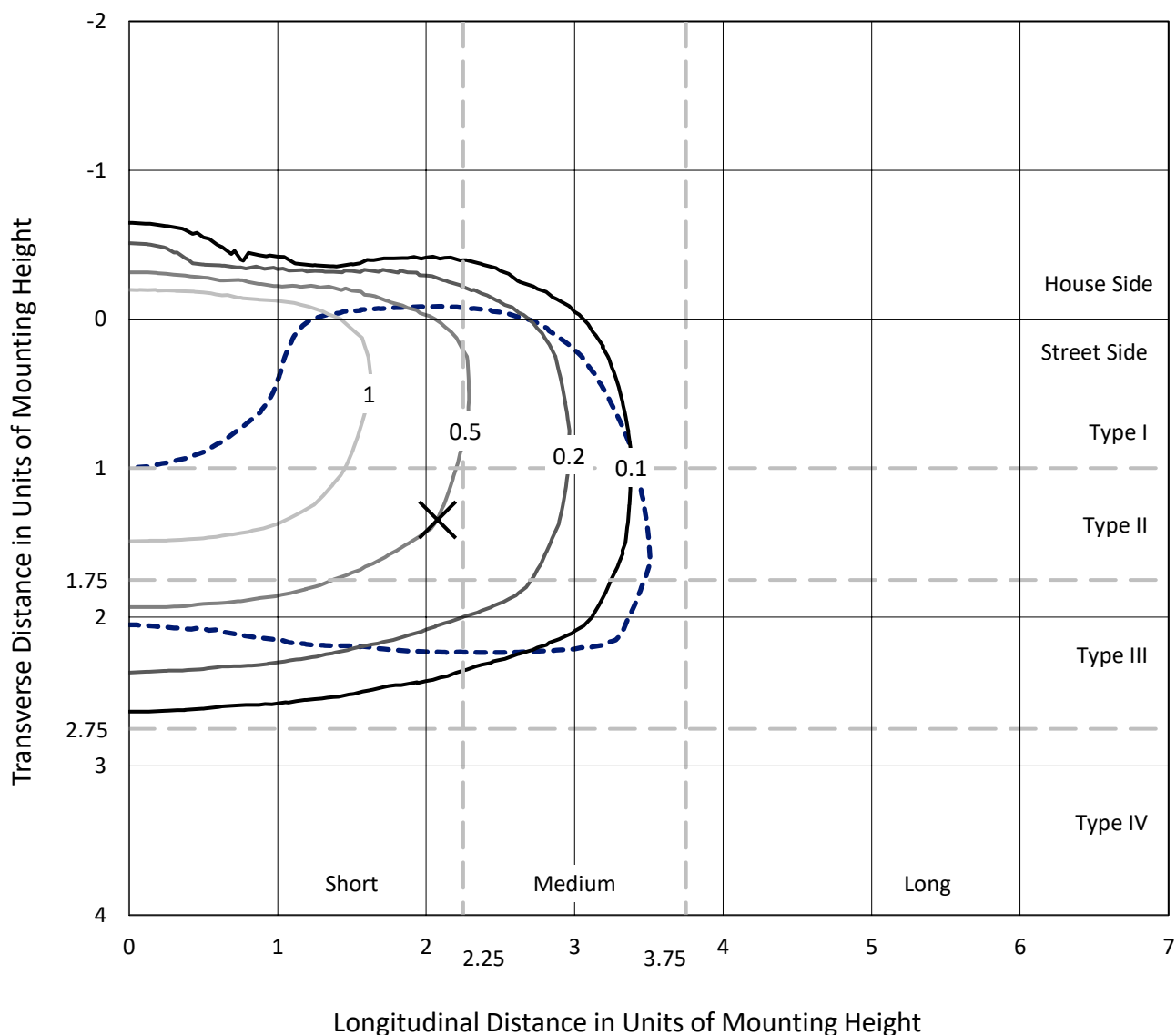
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Iso-Footcandle Lines of Horizontal Illumination

× Max cd

--- 1/2 Max cd

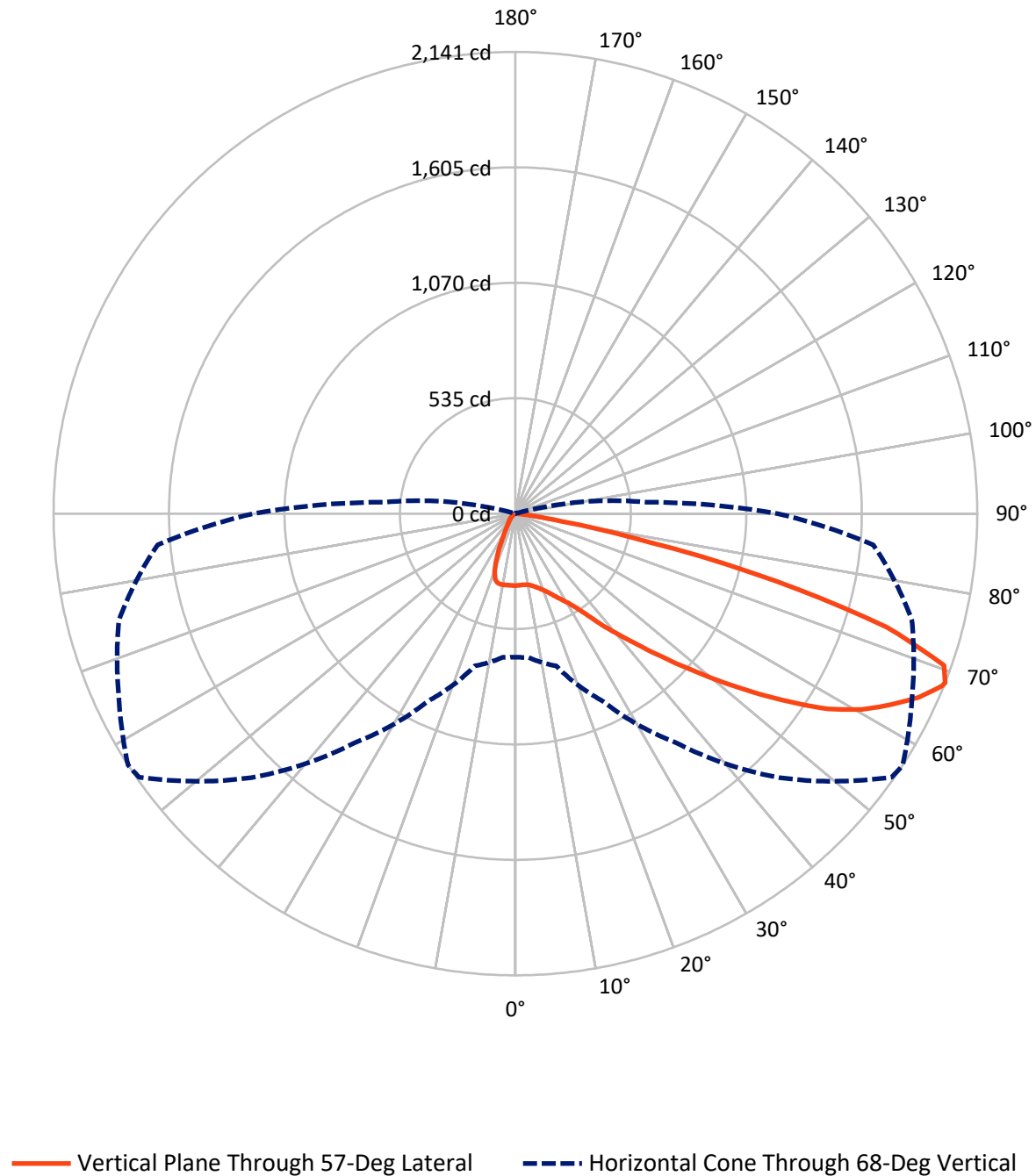


Based on 15 foot mounting height. Maximum calculated value = 1.9 fc

Type III - Short - N/A

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Luminous Intensity Polar Plot



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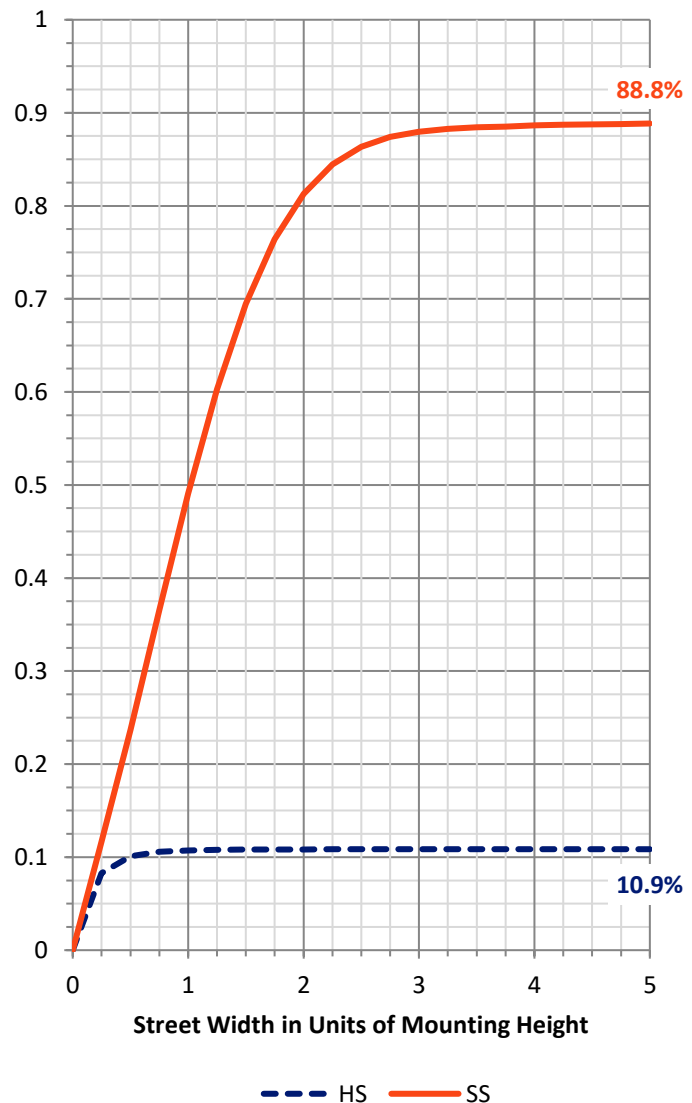
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	307.8	0.0	307.8
	% Fixture	11.0	0.0	11.0
Street Side	Lumens	2499.2	0.0	2499.2
	% Fixture	89.0	0.0	89.0
Total	Lumens	2807.0	0.0	2807.0
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	31.2	1.1
10°-20°	86.5	3.1
20°-30°	149.2	5.3
30°-40°	257.5	9.2
40°-50°	440.5	15.7
50°-60°	704.8	25.1
60°-70°	814.3	29.0
70°-80°	311.2	11.1
80°-90°	11.7	0.4
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°-90°	2807.0	100.0
0°-180°	2807.0	100.0



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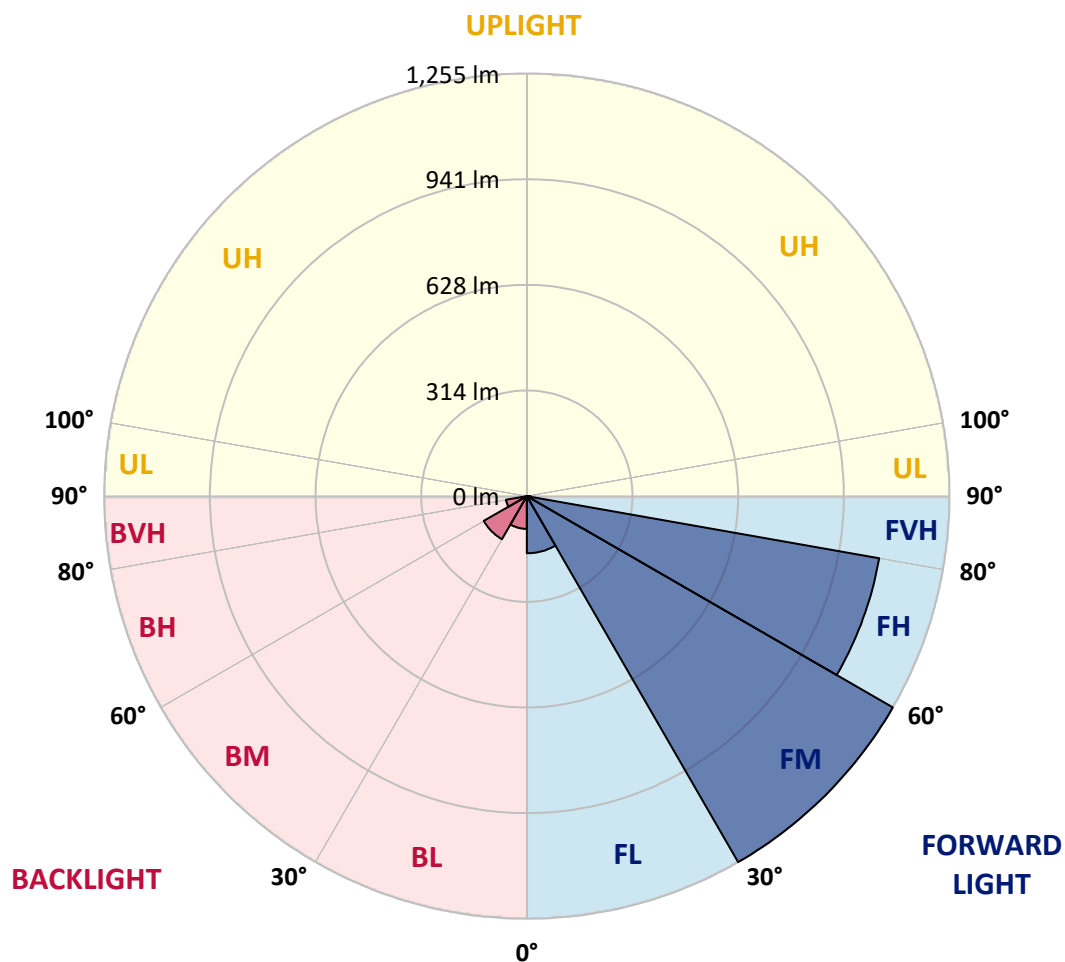
CATALOG NUMBER: ARCH-N-PA1-30-730-12VDC-T3-HSS

LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	169.7	6.0			
FM	(30°-60°)	1255.3	44.7			
FH	(60°-80°)	1062.8	37.9			G1/1800
FVH	(80°-90°)	11.5	0.4			G1/100
BL	(0°-30°)	97.3	3.5	B0/110		
BM	(30°-60°)	147.6	5.3	B0/220		
BH	(60°-80°)	62.7	2.2	B0/110		G0/110
BVH	(80°-90°)	0.2	0.0			G0/10
UL	(90°-100°)	0.0	0.0		U0/0	
UH	(100°-180°)	0.0	0.0		U0/0	

BUG Rating: B0-U0-G1

Type III Short



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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	57°	65°	75°	85°
0°	333.5	333.5	333.5	333.5	333.5	333.5	333.5	333.5	333.5	333.5	333.5
2.5°	325.7	327.2	328.2	328.9	329.7	331.4	332.0	332.7	333.1	333.1	334.1
5°	312.8	314.4	316.7	318.5	322.3	327.0	330.5	331.8	334.2	336.3	337.5
7.5°	300.9	302.8	305.4	309.8	316.2	323.9	331.0	332.9	337.5	342.0	344.3
10°	293.2	294.7	298.1	304.3	312.7	323.5	333.5	335.8	343.8	351.3	355.6
12.5°	290.5	291.9	295.5	302.5	312.8	325.4	339.4	342.7	354.4	365.4	371.4
15°	294.4	294.7	298.5	305.1	315.4	330.4	349.1	353.1	367.8	382.1	389.6
17.5°	309.3	308.1	310.1	313.0	321.1	336.9	359.3	365.3	384.9	401.8	408.8
20°	346.4	346.4	341.9	333.9	334.1	347.0	373.1	379.9	403.9	423.4	429.8
22.5°	410.0	408.8	399.8	380.3	362.3	364.3	390.0	398.7	426.7	447.6	449.7
25°	486.4	485.0	471.1	443.6	412.5	392.5	412.8	422.9	453.9	472.4	468.0

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CANDELA DISTRIBUTION (continued):

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	333.5	333.5	333.5	333.5	333.5	333.5	333.5	333.5	333.5	333.5	333.5
2.5°	334.5	334.6	333.7	333.3	333.5	332.0	331.3	331.6	331.6	332.0	331.3
5°	337.8	337.8	336.2	334.1	332.9	329.8	327.8	327.3	326.9	326.6	326.1
7.5°	345.0	344.2	341.4	336.7	332.7	326.1	321.1	318.4	317.1	316.6	316.2
10°	356.5	355.0	350.4	341.8	332.6	320.8	309.8	302.0	295.5	292.8	291.2
12.5°	372.0	369.9	362.1	347.7	331.7	309.9	286.0	263.1	241.7	232.9	228.6
15°	390.0	386.9	374.6	352.8	326.2	285.4	233.5	193.3	163.7	152.5	147.7
17.5°	408.1	404.2	385.4	356.0	309.9	234.5	163.8	123.7	103.9	98.6	96.8
20°	426.5	420.6	394.9	353.6	273.0	169.1	108.0	90.4	84.7	83.1	82.6
22.5°	443.8	434.8	403.4	344.3	216.2	113.5	85.5	79.9	78.0	77.1	76.8
25°	459.0	446.4	410.8	315.6	153.0	85.7	77.0	75.1	72.7	71.0	71.1
27.5°	473.2										

Report Prepared for

Cooper Lighting Solutions

(formerly Eaton)

STREETWORKS

Report Number: SP1-2101-121-6

Luminaire Tested: IFLD-S-SA2E-730-U-T2

Test Date: 03/04/2021

Test Information

Test Method: LM-79-08
 Report Number: SP1-2101-121-6
 Test Lab: COOPER LIGHTING SOLUTIONS
 Photometer: SP1
 Measurement Geometry: 4π
 Issue Date: 03/04/2021
 Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
 Product Line: STREETWORKS
 Catalog Number: **IFLD-S-SA2E-730-U-T2**
 Description: STREETWORKS INF FLOOD

PROGRAMMED @ 615mA.

Spectral Parameters

CCT (K):	2981	CRI (Ra):	72.3		
CIE u':	0.2509	R1:	68.0	R9:	-36.9
CIE v':	0.5228	R2:	82.9	R10:	62.7
Duv:	0.0008	R3:	95.0	R11:	65.3
CIE x:	0.4393	R4:	68.7	R12:	58.3
CIE y:	0.4068	R5:	68.4	R13:	70.8
CIE z:	0.1540	R6:	77.8	R14:	97.4
Peak Wavelength (nm):	598	R7:	76.5		
Dominant Wavelength (nm):	582	R8:	41.3		
Purity:	54.3				
Rf:	76.2				
Rg:	94.1				



Test Conditions

Stabilization Time: 64M
 Operation Time: 12H
 Room Temperature (°C) / RH%: 25.0/30%
 Sphere Temperature (°C): 24.1

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Measurement and Test Equipment			
Instrument	Identification Number	Calibration Date	Calibration Due Date
Photometer	IN0058	1/31/2021	7/31/2021
Power Meter	IN0071	12/1/2020	12/1/2021
AC Power Source	IN0063	12/1/2020	12/1/2021
DC Power Source	IN0208	12/1/2020	12/1/2021
Sphere Thermometer	IN0085	12/1/2020	12/1/2021
Room Thermometer	IN0046	12/1/2020	12/1/2021

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CIE 1931 Chromaticity Diagram



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



Point lies inside the ANSI 3000K 4-step quadrangle

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Photopic Flux vs. Wavelength



#####

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	2718	0.0	490	31388	4.5	620	149681	39.0	750	6127	0.0	880	4244	0.0
365	2104	0.0	495	39325	7.1	625	139059	30.7	755	5537	0.0	885	2890	0.0
370	2172	0.0	500	47816	10.5	630	126485	22.9	760	5066	0.0	890	2506	0.0
375	2770	0.0	505	55667	15.6	635	114115	17.1	765	4739	0.0	895	4522	0.0
380	2942	0.0	510	62766	21.6	640	102385	12.2	770	3828	0.0	900	4104	0.0
385	2372	0.0	515	69117	28.6	645	91895	8.8	775	3411	0.0	905	2090	0.0
390	2265	0.0	520	74088	35.9	650	81196	5.9	780	3776	0.0	910	3618	0.0
395	2023	0.0	525	78477	42.1	655	71232	4.1	785	3744	0.0	915	4126	0.0
400	1804	0.0	530	83585	49.2	660	62529	2.6	790	3446	0.0	920	3214	0.0
405	2029	0.0	535	87899	54.5	665</								

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Scotopic Flux vs. Wavelength



Scotopic Lumens: 10635.1

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	2718	0.0	490	31388	48.3	620	149681	1.9	750	6127	0.0	880	4244	0.0
365	2104	0.0	495	39325	63.6	625	139059	1.2	755	5537	0.0	885	2890	0.0
370	2172	0.0	500	47816	80.0	630	126485	0.7	760	5066	0.0	890	2506	0.0
375	2770	0.0	505	55667	94.6	635	114115	0.4	765	4739	0.0	895	4522	0.0
380	2942	0.0	510	62766	106.4	640	102385	0.3	770	3828	0.0	900	4104	0.0
385	2372	0.0	515	69117	114.6	645	91895	0.2	775	3411	0.0	905	2090	0.0
390	2265	0.0	520	74088	117.8	650	81196	0.1	780	3776	0.0	910	3618	0.0
395	2023	0.0	525	78477	117.4	655	71232	0.1	785	3744	0.0	915	4126	0.0
400	1804	0.0	530	83585	115.2	660	62529	0.0	790	3446	0.0	920	3214	0.0
405	20													

REPORT NUMBER: SP1-2101-121-6

Melanopic Flux vs. Wavelength


Melanopic Lumens: 3860
M/P: 0.44

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	2718	0.0	490	31388	26.1	620	149681	0.1	750	6127	0.0	880	4244	0.0
365	2104	0.0	495	39325	32.5	625	139059	0.1	755	5537	0.0	885	2890	0.0
370	2172	0.0	500	47816	38.4	630	126485	0.0	760	5066	0.0	890	2506	0.0
375	2770	0.0	505	55667	42.7	635	114115	0.0	765	4739	0.0	895	4522	0.0
380	2942	0.0	510	62766	45.1	640	102385	0.0	770	3828	0.0	900	4104	0.0
385	2372	0.0	515	69117	45.2	645	91895	0.0	775	3411	0.0	905	2090	0.0
390	2265	0.0	520	74088	43.1	650	81196	0.0	780	3776	0.0	910	3618	0.0
395	2023	0.0	525	78477	39.8	655	71232	0.0	785	3744	0.0	915	4126	0.0
400	1804	0.0	530	83585	36.1	660	62529	0.0	790					

Summary

$R_f = 76.2$
 $R_g = 94.1$
 CIE $R_a = 72.3$
 $R_g = -36.9$

Spectral Power Distribution Comparison



Color Vector Graphics

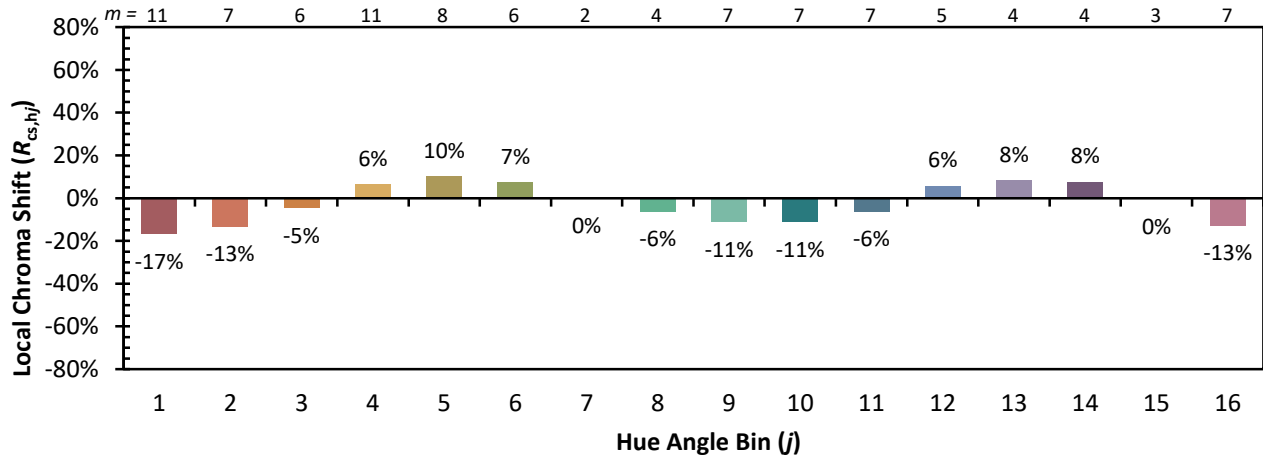


Individual Sample Fidelity Index ($R_{f,i}$)

CES01 = 86	CES26 = 67	CES51 = 88	CES76 = 64
CES02 = 63	CES27 = 88	CES52 = 87	CES77 = 81
CES03 = 31	CES28 = 88	CES53 = 79	CES78 = 67
CES04 = 71	CES29 = 66	CES54 = 84	CES79 = 87
CES05 = 49	CES30 = 72	CES55 = 84	CES80 = 87
CES06 = 51	CES31 = 70	CES56 = 75	CES81 = 71
CES07 = 41	CES32 = 66	CES57 = 74	CES82 = 94
CES08 = 40	CES33 = 73	CES58 = 77	CES83 = 90
CES09 = 29	CES34 = 80	CES59 = 86	CES84 = 90
CES10 = 76	CES35 = 90	CES60 = 93	CES85 = 78
CES11 = 59	CES36 = 96	CES61 = 85	CES86 = 61
CES12 = 65	CES37 = 88	CES62 = 90	CES87 = 79
CES13 = 43	CES38 = 80	CES63 = 77	CES88 = 77
CES14 = 74	CES39 = 95	CES64 = 73	CES89 = 67
CES15 = 71	CES40 = 91	CES65 = 69	CES90 = 76
CES16 = 47	CES41 = 88	CES66 = 71	CES91 = 90
CES17 = 50	CES42 = 89	CES67 = 69	CES92 = 59
CES18 = 56	CES43 = 80	CES68 = 73	CES93 = 75
CES19 = 73	CES44 = 99	CES69 = 82	CES94 = 50
CES20 = 66	CES45 = 85	CES70 = 68	CES95 = 69
CES21 = 87	CES46 = 80	CES71 = 68	CES96 = 77
CES22 = 79	CES47 = 81	CES72 = 88	CES97 = 83
CES23 = 92	CES48 = 69	CES73 = 61	CES98 = 75
CES24 = 91	CES49 = 80	CES74 = 95	CES99 = 63
CES25 = 73	CES50 = 87	CES75 = 70	



Color Rendition by Hue-Angle Bin



Measure Comparisons



(END OF REPORT)