

Signify Classified - Internal
Cooper Lighting Solutions Photometric Lab
1121 Highway 74 South
Peachtree City, GA 30269



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: P437011

Luminaire Tested: **ISS-SA1A-740-U-T2-HSS**

Issue Date: 12/9/2020

Test Information

Test Method: LM-79-08
Report Number: P437011
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2011-074-7)
Test Lab: INNOVATION CENTER
Issue Date: 12/9/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: McGRAW-EDISON
Catalog Number: ISS-SA1A-740-U-T2-HSS
Description: IMPACT ELITE LED QUARTER SPHERE LUMINAIRE
(1) 70 CRI, 4000K, 350mA LIGHTSQUARE WITH 16 LEDS AND TYPE II OPTICS WITH HOUSE SIDE SHIELD
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2138 lumens
Efficiency: N/A
Efficacy: 106.4 lumens/watt
Luminous Opening: Rectangular (W 0.5' x L: 0.5' x H: 0')
IES Classification: Type II - Medium
BUG Rating: B0 - U0 - G1

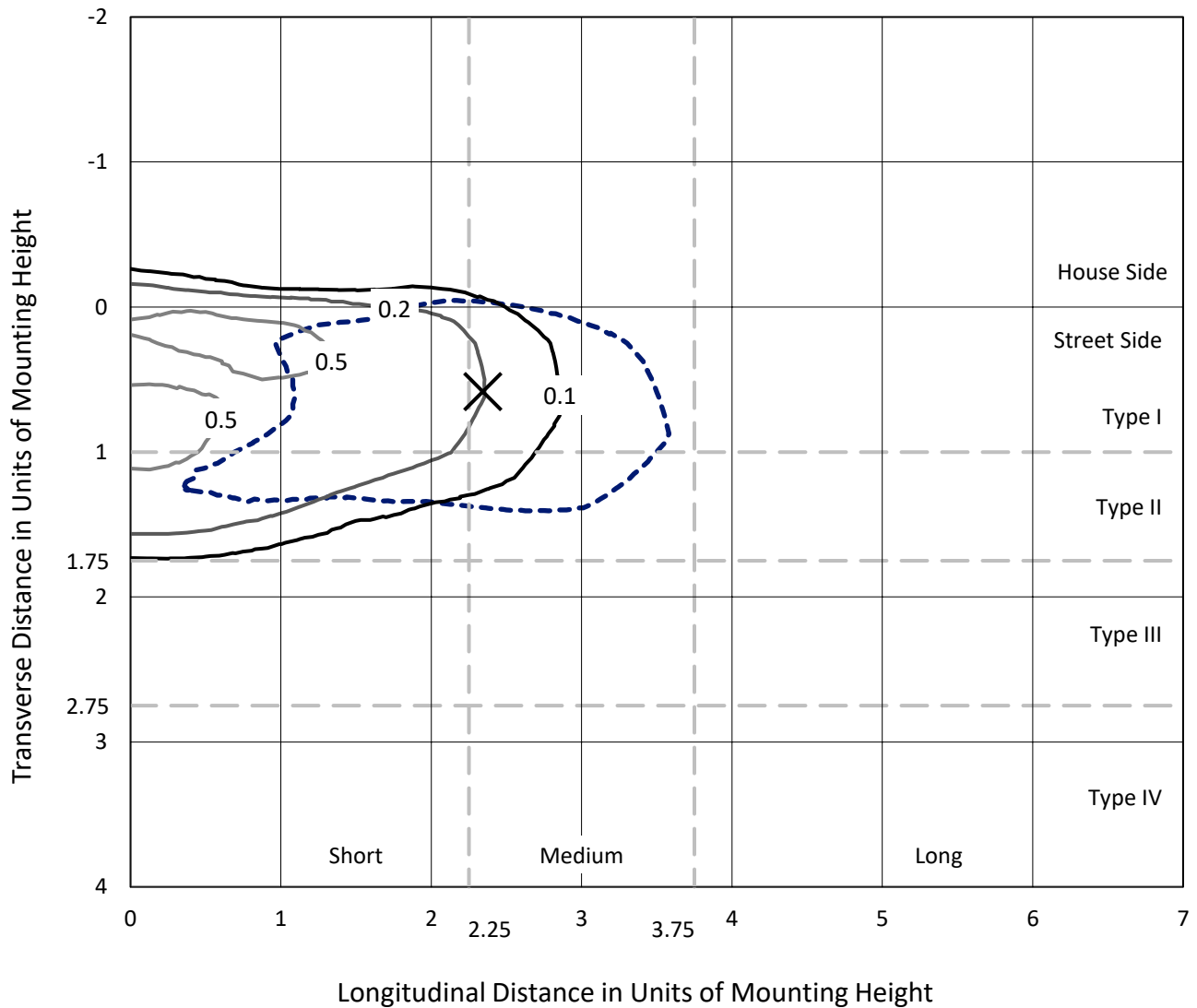
Input Watts (W): 20.1
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 28.75 FT



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Iso-Footcandle Lines of Horizontal Illumination

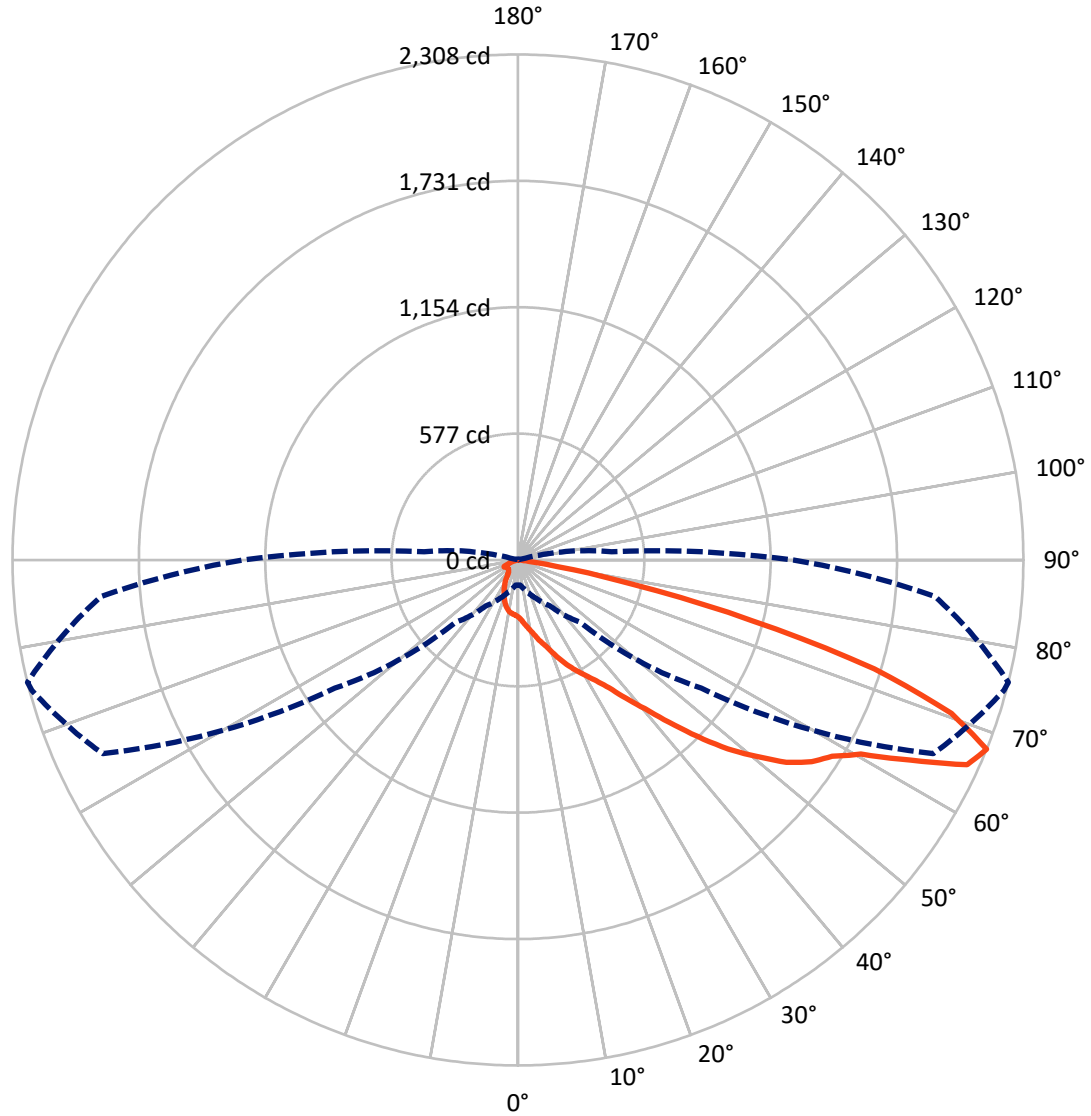
✕ Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 0.6 fc
 Type II - Medium - N/A

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Luminous Intensity Polar Plot



— Vertical Plane Through 76-Deg Lateral - - - Horizontal Cone Through 67.5-Deg Vertical

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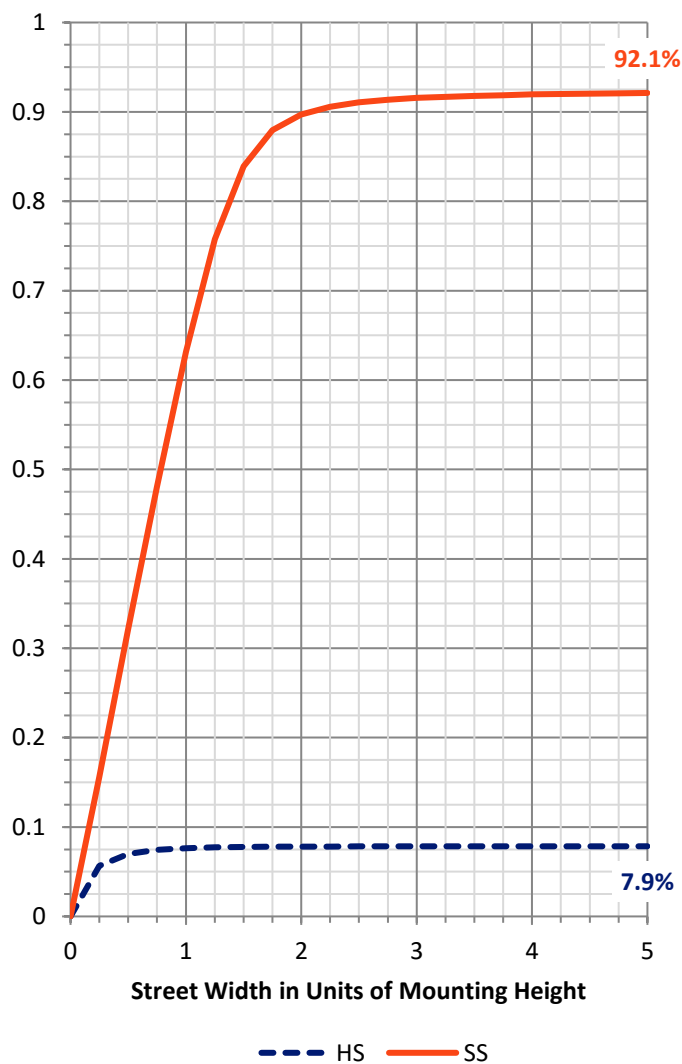
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	169.1	0.0	169.1
	% Fixture	7.9	0.0	7.9
Street Side	Lumens	1968.8	0.0	1968.8
	% Fixture	92.1	0.0	92.1
Total	Lumens	2138.0	0.0	2138.0
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	24.9	1.2
10°-20°	69.5	3.2
20°-30°	119.9	5.6
30°-40°	213.6	10.0
40°-50°	380.3	17.8
50°-60°	570.3	26.7
60°-70°	540.2	25.3
70°-80°	210.5	9.8
80°-90°	8.7	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°	2138.0	100.0
0°-180°	2138.0	100.0

Coefficient of Utilization



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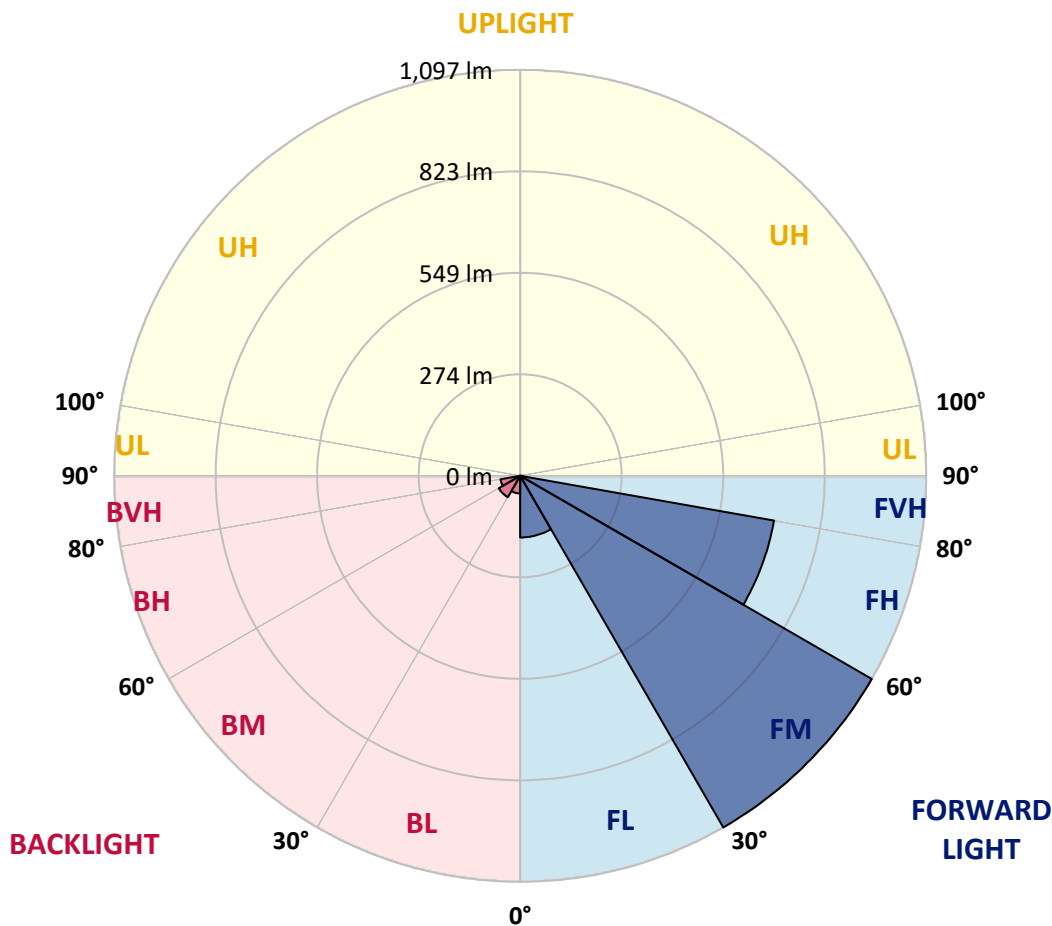
CATALOG NUMBER: ISS-SA1A-740-U-T2-HSS

LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	166.7	7.8			
FM (30°-60°)	1097.5	51.3			
FH (60°-80°)	696.7	32.6			G1/1800
FVH (80°-90°)	7.9	0.4			G0/10
BL (0°-30°)	47.6	2.2	B0/110		
BM (30°-60°)	66.8	3.1	B0/220		
BH (60°-80°)	54.0	2.5	B0/110		G0/110
BVH (80°-90°)	0.8	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 II Medium





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	65°	75°	76°	85°
0°	260	260	260	260	260	260	260	260	260	260	260
2.5°	308	305	303	302	300	294	289	280	272	272	267
5°	336	335	331	329	328	324	315	304	291	290	278
7.5°	344	345	345	347	348	346	338	328	311	309	291
10°	341	341	344	350	358	362	361	353	333	331	306
12.5°	330	332	337	347	362	374	381	378	358	356	326
15°	315	317	326	340	360	383	399	408	388	386	347
17.5°	294	296	306	327	355	387	418	436	419	413	369
20°	286	288	296	313	346	387	435	469	456	451	397
22.5°	318	317	310	312	337	384	448	510	500	493	427
25°	376	380	370	347	343	381	457	542	541	534	458
27.5°	443	445	434	410	377	387	467	574	579	573	482
30°	498	505	497	475	440	413	474	603	620	612	505
32.5°	577	580	572	540	504	463	487	628	665	658	532
35°	660	664	649	614	570	524	518	662	730	716	573
37.5°	734	738	731	688	645	596	573	708	809	800	624
40°	793	803	801	764	724	680	652	762	900	892	689
42.5°	853	860	856	829	801	774	739	837	1017	1013	770
45°	928	939	934	912	878	872	839	927	1156	1150	868
47.5°	1039	1049	1041	1011	972	961	933	1029	1292	1289	965
50°	1099	1109	1130	1135	1109	1050	1017	1126	1414	1409	1058
52.5°	1078	1087	1138	1186	1243	1193	1119	1231	1526	1535	1149
55°	988	1000	1073	1150	1288	1355	1270	1350	1614	1627	1209
57.5°	806	820	914	1033	1219	1396	1457	1514	1674	1691	1286
60°	483	505	602	760	1018	1299	1590	1750	1791	1799	1450
62.5°	268	263	341	471	702	1055	1570	2037	2012	2012	1730
65°	161	166	206	280	408	696	1400	2214	2247	2254	1957
67.5°	114	115	144	192	255	401	1021	2092	2298	2308	1912
70°	74	75	103	137	182	221	624	1724	2105	2100	1691
72.5°	45	47	65	101	140	125	336	1246	1668	1702	1327
75°	28	30	39	70	98	85	148	832	1076	1102	857
77.5°	16	18	25	40	70	59	70	437	521	538	344
80°	6	7	13	20	43	36	32	148	166	186	105
82.5°	1	2	6	12	17	17	14	45	46	49	28
85°	0	0	2	3	3	3	5	9	14	14	8
87.5°	0	0	0	0	1	1	1	2	2	2	2
90°	0	0	0	0	0	0	0	0	0	0	0



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CANDELA DISTRIBUTION (continued):

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	260	260	260	260	260	260	260	260	260	260	260
2.5°	262	260	252	244	238	233	225	225	222	219	220
5°	269	263	248	233	219	206	195	190	183	181	180
7.5°	278	267	242	218	195	178	164	155	147	145	146
10°	289	273	235	198	170	149	133	126	117	114	111
12.5°	305	280	224	176	145	124	101	84	78	76	76
15°	318	284	210	155	124	91	72	69	68	68	68
17.5°	333	287	193	135	96	67	63	63	62	62	61
20°	349	288	175	117	68	60	57	56	54	53	53
22.5°	367	287	155	96	60	55	50	48	46	44	44
25°	382	285	137	69	55	48	43	40	38	37	36
27.5°	395	274	119	59	50	43	37	34	32	31	31
30°	396	256	104	55	46	38	32	30	29	28	28
32.5°	402	238	88	52	41	34	29	27	25	25	25
35°	414	222	68	47	37	30	26	24	23	22	22
37.5°	433	211	56	43	34	27	24	22	21	20	20
40°	458	205	51	39	30	25	22	20	18	17	17
42.5°	501	205	47	35	27	23	20	18	16	15	15
45°	551	213	44	31	24	21	18	15	13	12	12
47.5°	606	228	41	28	22	19	16	12	10	9	9
50°	670	250	39	25	20	17	13	9	8	7	7
52.5°	724	272	36	23	18	15	10	8	6	6	6
55°	775	296	34	21	17	12	8	6	5	5	5
57.5°	843	326	31	19	14	9	7	5	4	4	4
60°	982	393	27	17	12	8	6	5	4	3	3
62.5°	1208	502	23	15	9	7	5	4	3	2	2
65°	1351	529	19	12	7	5	4	3	2	1	1
67.5°	1259	430	15	9	6	4	3	2	1	0	0
70°	1063	325	11	6	5	3	2	1	0	0	0
72.5°	840	247	10	5	4	2	2	1	0	0	0
75°	551	127	8	5	3	2	1	1	0	0	0
77.5°	217	48	6	4	3	2	1	1	0	0	0
80°	59	16	3	2	2	1	1	1	0	0	0
82.5°	15	7	2	2	1	1	1	1	1	0	0
85°	5	2	2	1	1	1	0	0	0	0	0
87.5°	2	2	2	1	1	1	0	0	0	0	0
90°	0	0	0	0	0	0	0	0	0	0	0

Cooper Lighting Solutions Photometric Lab
1121 Highway 74 South
Peachtree City, GA 30269



Test Information

Test Method: LM-79-08
 Report Number: SP1-2101-121-2
 Test Lab: COOPER LIGHTING SOLUTIONS
 Photometer: SP1
 Measurement Geometry: 4π
 Issue Date: 03/05/2021
 Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
 Product Line: STREETWORKS
 Catalog Number: **IFLD-S-SA2A-740-U-T3R-HSS**
 Description: STREETWORKS INF FLOOD

SHIELD, DRIVER PROGRAMMED @ 615mA.

Spectral Parameters

CCT (K):	3905	CRI (Ra):	71.2	R9:	-29.7
CIE u':	0.2273	R1:	68.9	R10:	46.2
CIE v':	0.5024	R2:	77.0	R11:	68.8
Duv:	-0.0008	R3:	84.0	R12:	45.6
CIE x:	0.3841	R4:	71.6	R13:	69.5
CIE y:	0.3774	R5:	68.9	R14:	90.7
CIE z:	0.2385	R6:	68.3		
Peak Wavelength (nm):	443	R7:	78.7		
Dominant Wavelength (nm):	579	R8:	52.2		
Purity:	28.7				
Rf:	71.7				
Rg:	96.9				



Test Conditions

Stabilization Time: 211M
 Operation Time: 12H
 Room Temperature (°C) / RH%: 24.8/312%
 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 4000K 4-step quadrangle

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Photopic Flux vs. Wavelength



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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	2304	0.0	490	19043	2.7	620	97577	25.4	750	4830	0.0	880	3505	0.0
365	2150	0.0	495	26606	4.8	625	90158	19.9	755	4664	0.0	885	2991	0.0
370	2146	0.0	500	36376	8.0	630	82240	14.9	760	4006	0.0	890	2327	0.0
375	2332	0.0	505	47714	13.3	635	74361	11.2	765	3715	0.0	895	2775	0.0
380	2527	0.0	510	58741	20.2	640	66994	8.0	770	3696	0.0	900	2141	0.0
385	2304	0.0	515	68716	28.5	645	60405	5.8	775	3117	0.0	905	2421	0.0
390	2064	0.0	520	77136	37.4	650	53806	3.9	780	3062	0.0	910	2200	0.0
395	1856	0.0	525	83567	44.9	655	47610	2.7	785	2907	0.0	915	2716	0.0
400	1856	0.0	530	89283	52.6	660	42018	1.8	790	2655	0.0	920	2656	0.0
405	2374	0.0	535	94097	58.4	665	36742	1.2	795	2467	0.0	925	2671	0.0
410	4084	0.0	540	96845	63.1	670	32105	0.7	800	2609	0.0	930	3292	0.0
415	8543	0.0	545	100829	67.1	675	27946	0.5	805	2293	0.0	935	3188	0.0
420	18394	0.1	550	105648	71.8	680	24146	0.3	810	2188	0.0	940	1997	0.0
425	37987	0.2	555	110017	75.1	685	21191	0.2	815	2386	0.0	945	2623	0.0
430	67605	0.5	560	114586	77.9	690	18544	0.1	820	2712	0.0	950	2969	0.0
435	102160	1.2	565	118987	79.1	695	16058	0.1	825	2473	0.0	955	2277	0.0
440	135103	2.1	570	122326	79.5	700	14133	0.0	830	1969	0.0	960	4267	0.0
445	140126	2.9	575	125968	78.4	705	12309	0.0	835	1917	0.0	965	2034	0.0
450	102339	2.7	580	127613	75.8	710	11142	0.0	840	2248	0.0	970	3586	0.0
455	58751	2.0	585	129466	71.9	715	10143	0.0	845	2266	0.0	975	2505	0.0
460	36892	1.5	590	128813	66.6	720	9072	0.0	850	2558	0.0	980	2666	0.0
465	24637	1.3	595	126387	59.9	725	8130	0.0	855	2767	0.0	985	2934	0.0
470	16738	1.0	600	123477	53.2	730	7149	0.0	860	2826	0.0	990	4120	0.0
475	13456	1.1	605	118718	46.0	735	6311	0.0	865	2385	0.0	995	3858	0.0
480	13081	1.2	610	112091	38.5	740	5711	0.0	870	3194	0.0	1000	3405	0.0
485	14734	1.7	615	105039	31.7	745	5111	0.0	875	3189	0.0			

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Scotopic Flux vs. Wavelength



Scotopic Lumens: 10425.8 S/P: 1.47

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	2304	0.0	490	19043	29.3	620	97577	1.2	750	4830	0.0	880	3505	0.0
365	2150	0.0	495	26606	43.0	625	90158	0.8	755	4664	0.0	885	2991	0.0
370	2146	0.0	500	36376	60.8	630	82240	0.5	760	4006	0.0	890	2327	0.0
375	2332	0.0	505	47714	81.1	635	74361	0.3	765	3715	0.0	895	2775	0.0
380	2527	0.0	510	58741	99.6	640	66994	0.2	770	3696	0.0	900	2141	0.0
385	2304	0.0	515	68716	113.9	645	60405	0.1	775	3117	0.0	905	2421	0.0
390	2064	0.0	520	77136	122.6	650	53806	0.1	780	3062	0.0	910	2200	0.0
395	1856	0.0	525	83567	125.0	655	47610	0.0	785	2907	0.0	915	2716	0.0
400	1856	0.0	530	89283	123.1	660	42018	0.0	790	2655	0.0	920	2656	0.0
405	2374	0.1	535	94097	117.3	665	36742	0.0	795	2467	0.0	925	2671	0.0
410	4084	0.2	540	96845	107.0	670	32105	0.0	800	2609	0.0	930	3292	0.0
415	8543	0.9	545	100829	96.7	675	27946	0.0	805	2293	0.0	935	3188	0.0
420	18394	3.0	550	105648	86.4	680	24146	0.0	810	2188	0.0	940	1997	0.0
425	37987	9.3	555	110017	75.2	685	21191	0.0	815	2386	0.0	945	2623	0.0
430	67605	23.0	560	114586	64.0	690	18544	0.0	820	2712	0.0	950	2969	0.0
435	102160	45.7	565	118987	53.4	695	16058	0.0	825	2473	0.0	955	2277	0.0
440	135103	75.5	570	122326	43.2	700	14133	0.0	830	1969	0.0	960	4267	0.0
445	140126	93.8	575	125968	34.3	705	12309	0.0	835	1917	0.0	965	2034	0.0
450	102339	79.3	580	127613	26.3	710	11142	0.0	840	2248	0.0	970	3586	0.0
455	58751	51.3	585	129466	19.8	715	10143	0.0	845	2266	0.0	975	2505	0.0
460	36892	35.6	590	128813	14.3	720	9072	0.0	850	2558	0.0	980	2666	0.0
465	24637	26.0	595	126387	10.1	725	8130	0.0	855	2767	0.0	985	2934	0.0
470	16738	19.3	600	123477	7.0	730	7149	0.0	860	2826	0.0	990	4120	0.0
475	13456	16.8	605	118718	4.7	735	6311	0.0	865	2385	0.0	995	3858	0.0
480	13081	17.7	610	112091	3.0	740	5711	0.0	870	3194	0.0	1000	3405	0.0
485	14734	21.4	615	105039	1.9	745	5111	0.0	875	3189	0.0			

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Melanopic Flux vs. Wavelength



Melanopic Lumens: 3927.2 M/P: 0.55

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	2304	0.0	490	19043	15.8	620	97577	0.1	750	4830	0.0	880	3505	0.0
365	2150	0.0	495	26606	22.0	625	90158	0.0	755	4664	0.0	885	2991	0.0
370	2146	0.0	500	36376	29.2	630	82240	0.0	760	4006	0.0	890	2327	0.0
375	2332	0.0	505	47714	36.6	635	74361	0.0	765	3715	0.0	895	2775	0.0
380	2527	0.0	510	58741	42.2	640	66994	0.0	770	3696	0.0	900	2141	0.0
385	2304	0.0	515	68716	44.9	645	60405	0.0	775	3117	0.0	905	2421	0.0
390	2064	0.0	520	77136	44.9	650	53806	0.0	780	3062	0.0	910	2200	0.0
395	1856	0.0	525	83567	42.4	655	47610	0.0	785	2907	0.0	915	2716	0.0
400	1856	0.0	530	89283	38.6	660	42018	0.0	790	2655	0.0	920	2656	0.0
405	2374	0.0	535	94097	33.9	665	36742	0.0	795	2467	0.0	925	2671	0.0
410	4084	0.2	540	96845	28.3	670	32105	0.0	800	2609	0.0	930	3292	0.0
415	8543	0.6	545	100829	23.4	675	27946	0.0	805	2293	0.0	935	3188	0.0
420	18394	2.1	550	105648	19.0	680	24146	0.0	810	2188	0.0	940	1997	0.0
425	37987	5.9	555	110017	14.8	685	21191	0.0	815	2386	0.0	945	2623	0.0
430	67605	14.3	560	114586	11.3	690	18544	0.0	820	2712	0.0	950	2969	0.0
435	102160	27.3	565	118987	8.4	695	16058	0.0	825	2473	0.0	955	2277	0.0
440	135103	45.1	570	122326	6.0	700	14133	0.0	830	1969	0.0	960	4267	0.0
445	140126	55.3	575	125968	4.2	705	12309	0.0	835	1917	0.0	965	2034	0.0
450	102339	47.2	580	127613	2.9	710	11142	0.0	840	2248	0.0	970	3586	0.0
455	58751	30.8	585	129466	1.9	715	10143	0.0	845	2266	0.0	975	2505	0.0
460	36892	21.7	590	128813	1.3	720	9072	0.0	850	2558	0.0	980	2666	0.0
465	24637	16.1	595	126387	0.8	725	8130	0.0	855	2767	0.0	985	2934	0.0
470	16738	12.0	600	123477	0.5	730	7149	0.0	860	2826	0.0	990	4120	0.0
475	13456	10.3	605	118718	0.3	735	6311	0.0	865	2385	0.0	995	3858	0.0
480	13081	10.5	610	112091	0.2	740	5711	0.0	870	3194	0.0	1000	3405	0.0
485	14734	12.1	615	105039	0.1	745	5111	0.0	875	3189	0.0			

Summary

$R_f = 71.7$
 $R_g = 96.9$
 CIE $R_a = 71.2$
 $R_g = -29.7$



Color Vector Graphics



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

CES01 = 85	CES26 = 55	CES51 = 86	CES76 = 45
CES02 = 61	CES27 = 80	CES52 = 87	CES77 = 68
CES03 = 30	CES28 = 79	CES53 = 74	CES78 = 49
CES04 = 70	CES29 = 51	CES54 = 81	CES79 = 77
CES05 = 47	CES30 = 60	CES55 = 80	CES80 = 75
CES06 = 50	CES31 = 56	CES56 = 69	CES81 = 75
CES07 = 40	CES32 = 52	CES57 = 67	CES82 = 90
CES08 = 39	CES33 = 62	CES58 = 69	CES83 = 85
CES09 = 29	CES34 = 65	CES59 = 86	CES84 = 87
CES10 = 74	CES35 = 81	CES60 = 91	CES85 = 83
CES11 = 57	CES36 = 92	CES61 = 85	CES86 = 72
CES12 = 63	CES37 = 74	CES62 = 81	CES87 = 77
CES13 = 42	CES38 = 69	CES63 = 72	CES88 = 77
CES14 = 74	CES39 = 92	CES64 = 69	CES89 = 72
CES15 = 71	CES40 = 86	CES65 = 64	CES90 = 75
CES16 = 46	CES41 = 84	CES66 = 63	CES91 = 91
CES17 = 49	CES42 = 75	CES67 = 60	CES92 = 66
CES18 = 56	CES43 = 70	CES68 = 67	CES93 = 80
CES19 = 72	CES44 = 98	CES69 = 77	CES94 = 56
CES20 = 65	CES45 = 80	CES70 = 57	CES95 = 72
CES21 = 86	CES46 = 77	CES71 = 53	CES96 = 78
CES22 = 78	CES47 = 74	CES72 = 84	CES97 = 83
CES23 = 92	CES48 = 66	CES73 = 47	CES98 = 73
CES24 = 91	CES49 = 76	CES74 = 96	CES99 = 63
CES25 = 72	CES50 = 85	CES75 = 52	



Color Rendition by Hue-Angle Bin



Measure Comparisons



(END OF REPORT)