

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: P324341

Luminaire Tested: **GLEON-SA7D-830-U-SLL-HSS**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P324341
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1903-205-27)
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: McGRAW-EDISON
Catalog Number: GLEON-SA7D-830-U-SLL-HSS
Description: GALLEON AREA AND ROADWAY LUMINAIRE
(7) 80 CRI, 3000K, 1200mA LIGHTSQUARES WITH 16 LEDS EACH AND SPILL LIGHT
ELIMINATOR LEFT OPTICS WITH HOUSE SIDE SHIELD
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 32332 lumens
Efficiency: N/A
Efficacy: 72.2 lumens/watt
Luminous Opening: Rectangular (W 2' x L: 1' x H: 0')
IES Classification: Type III - Medium
BUG Rating: B3 - U0 - G4

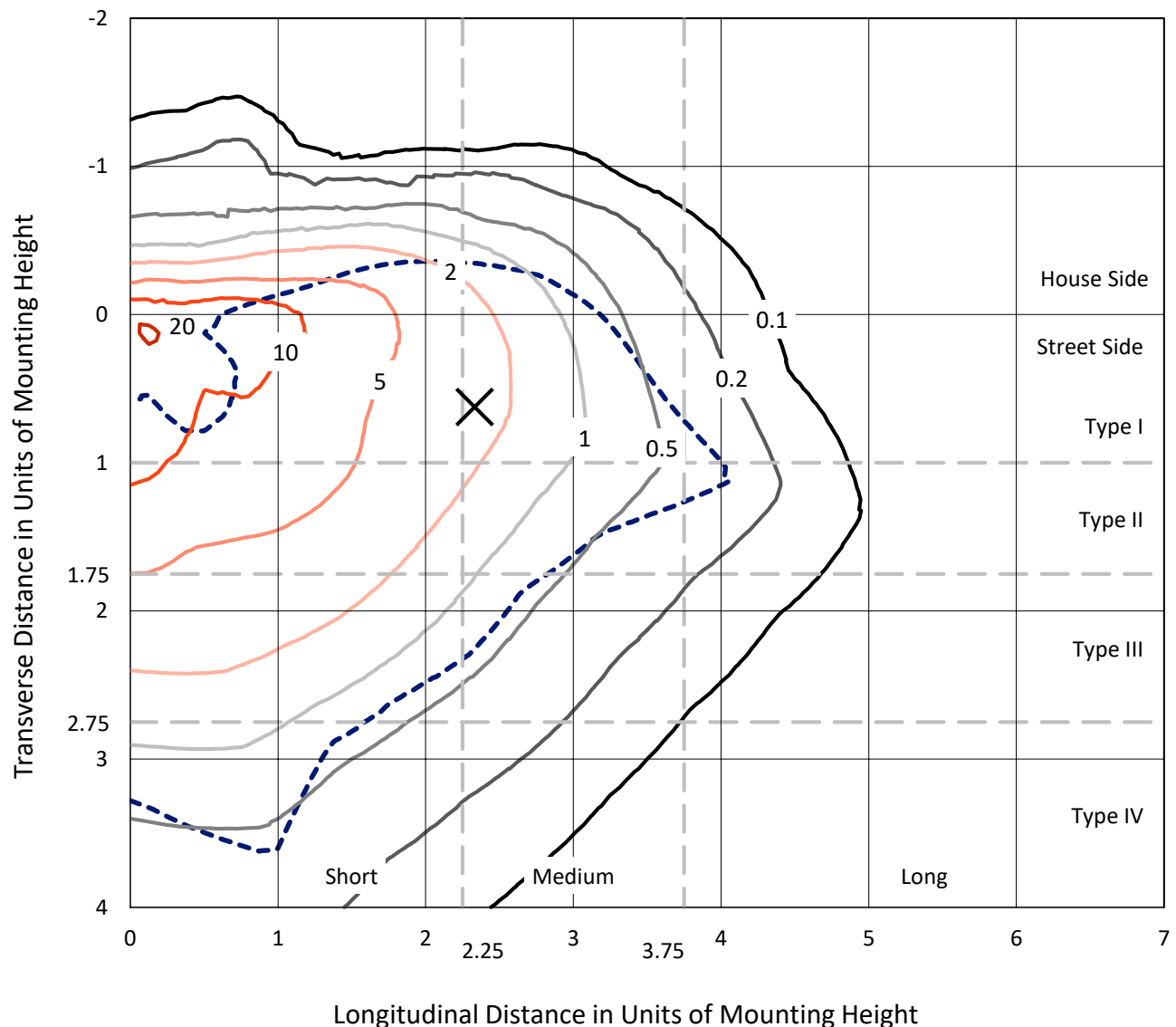
Input Watts (W): 448
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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Iso-Footcandle Lines of Horizontal Illumination

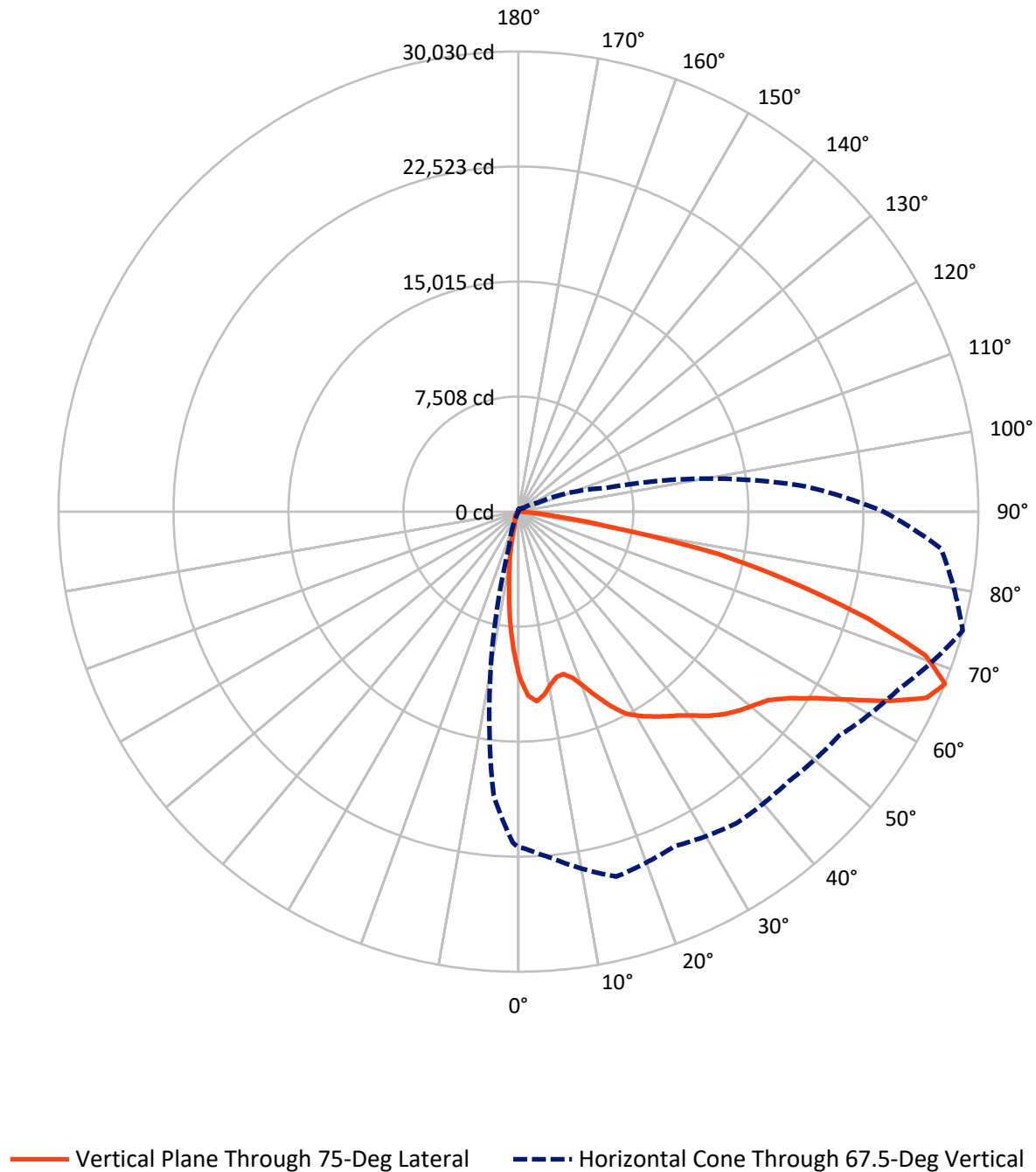
✕ Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 22.5 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	4851.7	0.0	4851.7
	% Fixture	15.0	0.0	15.0
Street Side	Lumens	27480.2	0.0	27480.2
	% Fixture	85.0	0.0	85.0
Total	Lumens	32332.0	0.0	32332.0
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	822.8	2.5
10°-20°	1620.1	5.0
20°-30°	2291.9	7.1
30°-40°	3369.8	10.4
40°-50°	4843.5	15.0
50°-60°	6818.4	21.1
60°-70°	7963.3	24.6
70°-80°	4062.6	12.6
80°-90°	539.7	1.7
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°	32332.0	100.0
0°-180°	32332.0	100.0

Coefficient of Utilization



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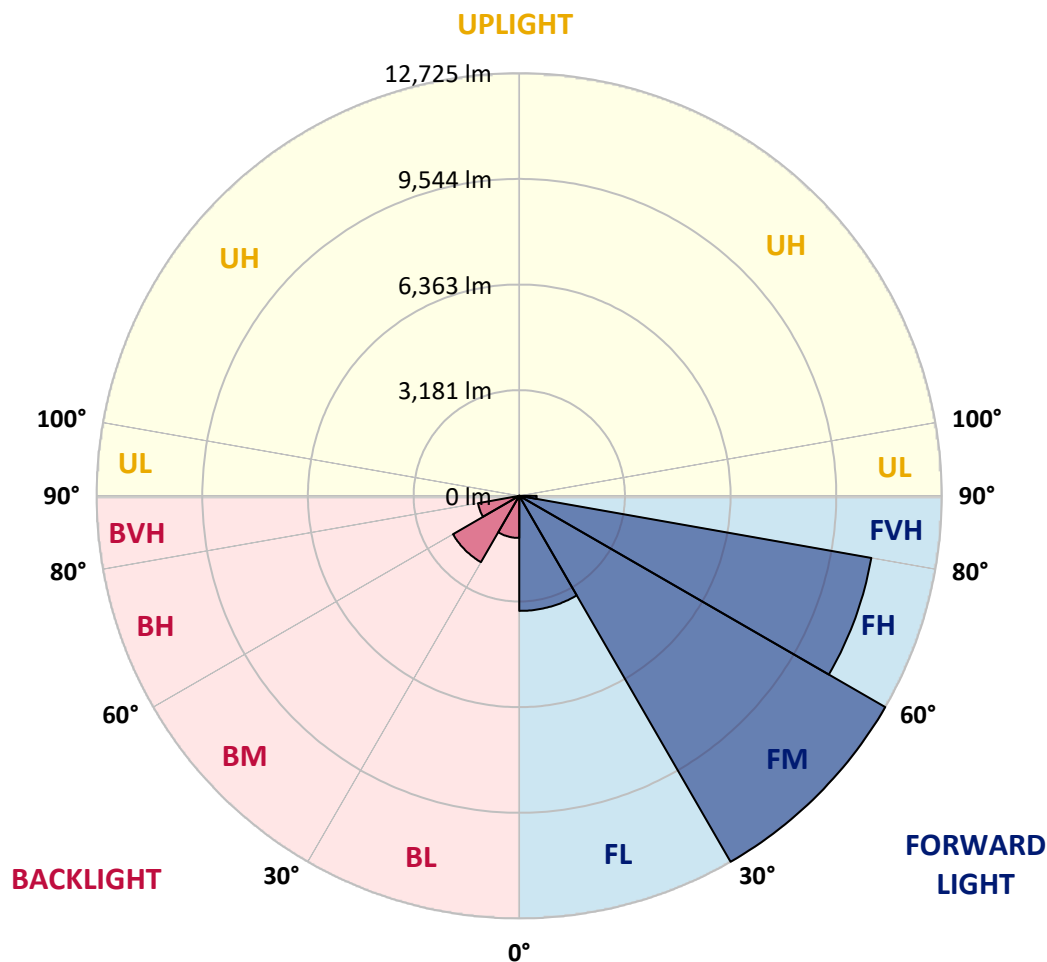
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	3466.0	10.7			
FM	(30°-60°)	12725.3	39.4			
FH	(60°-80°)	10765.6	33.3			G4/12000
FVH	(80°-90°)	523.3	1.6			G4/750
BL	(0°-30°)	1268.8	3.9	B3/2500		
BM	(30°-60°)	2306.4	7.1	B2/2500		
BH	(60°-80°)	1260.2	3.9	B3/2500		G3/2500
BVH	(80°-90°)	16.4	0.1			G1/100
UL	(90°-100°)	0.0	0.0		U0/0	
UH	(100°-180°)	0.0	0.0		U0/0	

BUG Rating: B3-U0-G4

Type III Medium





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CANDELA DISTRIBUTION (FULL):

	0°	1°	5°	15°	25°	35°	45°	55°	65°	75°	85°
0°	10846.8	10846.8	10846.8	10846.8	10846.8	10846.8	10846.8	10846.8	10846.8	10846.8	10846.8
2.5°	11758.1	11776.5	11871.5	12092.0	12332.5	12350.9	12513.2	12346.3	12289.6	12020.0	11741.3
5°	11847.0	11917.4	12243.7	12891.5	13453.6	13634.4	13763.0	13435.2	13090.6	12432.0	11729.0
7.5°	11131.7	11249.6	11762.7	12978.8	13983.6	14427.7	14512.0	13998.9	13155.0	12070.6	11013.8
10°	10215.8	10350.6	10969.4	12464.2	13844.2	14605.4	14721.8	14049.4	12836.4	11485.5	10240.3
12.5°	9474.5	9632.3	10264.8	11885.3	13364.8	14207.2	14436.9	13879.4	12560.7	11070.4	9711.9
15°	9133.0	9313.7	9978.4	11511.5	12833.3	13496.5	13686.4	13446.0	12407.5	11004.6	9589.4
17.5°	9329.0	9525.1	10211.2	11543.7	12334.0	12617.4	12770.5	12868.6	12407.5	11401.3	9947.8
20°	10133.1	10344.5	11070.4	11869.9	11920.5	11814.8	11978.7	12323.3	12551.5	12154.8	10808.5
22.5°	11245.1	11493.2	12312.6	12429.0	11718.3	11318.6	11340.0	11880.7	12813.4	13110.5	12003.2
25°	12600.5	12903.8	13737.0	13262.2	11802.6	11023.0	11015.3	11516.1	13069.2	14067.8	13334.2
27.5°	13946.8	14280.7	15012.8	14279.2	12150.2	10969.4	10954.0	11405.9	13318.8	14919.4	14787.7
30°	15075.6	15400.3	16031.3	15015.9	12525.5	11095.0	11021.4	11523.8	13467.4	15472.3	15847.5
32.5°	15994.6	16254.9	16765.0	15522.8	12926.8	11338.5	11179.2	11839.3	13720.1	15939.4	16821.6
35°	17005.4	17279.6	17483.3	16005.3	13377.0	11689.2	11461.0	12340.1	14109.2	16414.2	17889.2
37.5°	18158.7	18431.3	18406.8	16446.4	13948.3	12269.7	12124.2	13133.5	14714.1	16884.4	19080.7
40°	19287.5	19566.3	19367.2	16928.8	14619.2	13226.9	13119.7	14325.1	15524.4	17486.3	20477.6
42.5°	20344.3	20646.0	20220.3	17385.3	15418.7	14433.9	14617.6	15859.8	16538.3	18227.6	21681.4
45°	21195.9	21503.7	20935.5	17829.4	16261.1	15898.1	16451.0	17559.9	17757.4	18854.1	22494.7
47.5°	21814.7	22105.7	21431.8	18273.6	17339.3	17688.5	18651.9	19342.7	18858.7	19397.8	23072.1
50°	22209.8	22436.5	21577.3	18829.6	18754.5	19777.6	20944.7	21281.7	19895.6	19887.9	23773.6
52.5°	22461.0	22563.6	21684.5	19410.0	20231.0	22052.1	23190.0	23295.7	20963.1	20427.0	24718.6
55°	23326.4	23409.1	22444.2	20113.0	21451.7	24044.7	25221.0	25122.9	22171.5	21482.3	25833.6
57.5°	24802.8	24890.1	24014.0	21123.9	22439.6	25276.1	26692.8	26869.0	23588.3	22964.9	27028.2
60°	25544.1	25706.5	25394.0	22404.3	23396.8	26063.3	27696.0	28258.1	25358.8	24919.2	28186.1
62.5°	24871.7	25107.6	25561.0	23824.1	24347.9	26496.8	28008.5	28755.9	27172.2	27196.7	28899.9
65°	23530.1	23718.4	24487.3	24602.2	24899.3	26443.2	27236.5	28060.6	28282.6	29288.9	28861.6
67.5°	21909.6	21980.1	22632.5	24663.4	24099.8	24831.9	24917.7	25527.3	27405.0	30030.2	27702.2
70°	19577.0	19615.3	20185.0	22612.6	20710.4	20871.2	20744.1	20868.1	23560.7	28224.4	24775.3
72.5°	15755.6	15852.1	16662.3	18779.0	15087.8	14623.8	15622.4	15567.2	18144.9	23845.6	18400.7
75°	11600.4	11767.3	12991.1	15126.1	10589.5	9578.7	10307.7	10502.2	12899.2	18445.1	11507.0
77.5°	8122.1	8246.2	9431.6	11119.5	7664.2	6849.3	6585.9	6817.2	8514.2	13343.4	5797.1
80°	4679.1	4725.0	5481.6	6420.5	5164.6	5908.9	5353.0	5512.2	5101.8	5936.5	2493.5
82.5°	3061.7	3069.3	3364.9	3821.4	3216.4	3737.1	2766.1	3536.5	3138.3	2384.7	811.8
85°	1654.1	1663.3	1951.3	2712.5	1821.1	1029.2	605.0	1242.1	1940.5	546.8	222.1
87.5°	182.3	166.9	588.1	986.4	505.4	93.4	32.2	139.4	310.9	35.2	0.0
90°	0.0	0.0	0.0	0.0	0.0	0.0	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°	10846.8	10846.8	10846.8	10846.8	10846.8	10846.8	10846.8	10846.8	10846.8	10846.8	10846.8
2.5°	11598.9	11471.7	11154.7	10819.3	10549.7	10297.0	10042.7	9731.8	9491.4	9442.4	9362.7
5°	11350.7	10947.9	10283.2	9615.4	9077.8	8399.3	7968.9	7633.5	7305.8	7285.8	7220.0
7.5°	10483.8	9953.9	9018.1	8094.5	7337.9	6691.6	6039.1	5602.6	5259.5	5138.5	5066.6
10°	9650.6	9054.9	7886.2	6832.5	6157.1	5585.8	5126.3	4669.9	4256.3	3971.5	3842.8
12.5°	9068.6	8410.0	7122.0	6213.7	5729.7	5187.5	4627.0	4057.2	3580.9	3237.8	3028.0
15°	8843.5	8140.5	6866.2	5968.7	5371.3	4685.2	3968.4	3317.5	2789.1	2478.1	2289.8
17.5°	9111.5	8293.6	6846.3	5670.0	4835.3	3982.2	3190.3	2421.5	1923.7	1687.8	1566.8
20°	9791.6	8780.7	6838.6	5304.0	4198.1	3149.0	2161.1	1592.9	1291.1	1159.4	1102.8
22.5°	10753.4	9402.5	6899.9	4942.5	3534.9	2249.9	1491.8	1170.1	1015.5	945.0	912.8
25°	11990.9	10275.5	7073.0	4614.7	2911.6	1678.6	1162.5	980.2	871.5	816.3	793.4
27.5°	13309.7	11280.3	7342.5	4329.8	2404.6	1338.6	995.5	839.3	761.2	722.9	701.5
30°	14397.1	12444.3	7615.1	4012.8	2037.0	1167.1	911.3	765.8	675.4	650.9	631.0
32.5°	15348.2	13325.0	7808.1	3726.4	1796.6	1036.9	824.0	684.6	623.4	575.9	554.4
35°	16333.0	14058.6	7802.0	3525.8	1631.2	938.9	750.5	612.6	539.1	484.0	467.1
37.5°	17399.0	14887.2	7668.8	3354.2	1559.2	860.8	709.1	574.4	500.8	445.7	424.3
40°	18647.3	15757.2	7532.4	3193.4	1539.3	798.0	680.0	543.7	465.6	412.0	390.6
42.5°	19863.4	16541.3	7413.0	3073.9	1453.5	796.4	654.0	520.7	438.0	386.0	361.5
45°	20836.0	17271.9	7390.0	3001.9	1363.1	824.0	640.2	505.4	416.6	364.5	341.5
47.5°	21644.7	18065.3	7537.0	2951.4	1277.4	752.0	673.9	494.7	396.7	346.1	320.1
50°	22606.5	19039.4	7883.2	2868.7	1187.0	677.0	771.9	497.8	379.8	327.8	300.2
52.5°	23948.2	20387.2	8391.7	2729.3	1062.9	608.0	759.7	500.8	361.5	307.9	280.3
55°	25452.2	22070.4	8938.5	2498.0	889.9	517.7	650.9	479.4	326.2	286.4	260.4
57.5°	27032.8	23597.5	9263.2	2222.4	707.6	447.2	520.7	436.5	287.9	257.3	240.5
60°	27281.0	24177.9	9114.6	1883.9	562.1	389.0	386.0	444.2	257.3	226.7	214.4
62.5°	26663.7	23448.9	8396.3	1582.1	470.2	341.5	317.0	387.5	232.8	202.2	189.9
65°	25476.7	21477.7	7232.2	1425.9	436.5	292.5	263.4	272.6	203.7	176.1	165.4
67.5°	23825.7	18846.4	5938.0	1337.1	431.9	251.2	225.1	206.8	176.1	153.2	144.0
70°	20450.0	15700.5	4737.3	1288.1	419.7	211.4	189.9	168.5	147.0	130.2	122.5
72.5°	15051.1	11125.6	3685.0	1234.5	422.7	168.5	165.4	139.4	117.9	101.1	98.0
75°	8696.5	6356.2	2416.9	1000.1	402.8	130.2	137.8	98.0	82.7	70.5	70.5
77.5°	4634.6	3876.5	920.5	416.6	147.0	82.7	78.1	58.2	52.1	42.9	41.4
80°	2020.2	1706.2	277.2	116.4	81.2	44.4	29.1	26.0	23.0	18.4	16.8
82.5°	715.3	617.2	90.4	56.7	35.2	0.0	0.0	0.0	0.0	0.0	0.0
85°	162.4	116.4	0.0	13.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0
87.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



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CANDELA DISTRIBUTION (continued):

	185°	195°	205°	215°	225°	235°	245°	255°	265°	270°	275°
0°	10846.8	10846.8	10846.8	10846.8	10846.8	10846.8	10846.8	10846.8	10846.8	10846.8	10846.8
2.5°	9200.4	9166.7	8967.6	8975.2	9010.4	9061.0	8941.5	8996.7	9145.2	9287.7	9341.3
5°	7114.3	7122.0	7001.0	7076.0	7143.4	7189.4	6996.4	6999.4	7117.4	7278.2	7362.4
7.5°	5012.9	5000.7	5006.8	5186.0	5313.1	5221.2	5293.2	5043.6	5058.9	5173.8	5088.0
10°	3726.4	3557.9	3463.0	3597.7	3737.1	3686.6	3562.5	3481.3	3538.0	3665.1	3655.9
12.5°	2928.4	2686.4	2544.0	2447.5	2562.4	2467.4	2464.4	2393.9	2317.3	2331.1	2534.8
15°	2202.4	2026.3	1857.8	1703.1	1700.1	1667.9	1504.0	1320.2	1304.9	1314.1	1419.8
17.5°	1514.8	1455.0	1386.1	1252.9	1217.6	1082.8	923.6	850.0	813.3	830.1	865.4
20°	1064.5	1041.5	1049.2	977.2	926.6	798.0	704.5	675.4	669.3	686.2	703.0
22.5°	882.2	840.9	836.3	804.1	753.6	660.1	609.6	592.7	585.1	600.4	612.6
25°	771.9	730.6	713.7	693.8	640.2	575.9	545.3	529.9	522.3	531.5	539.1
27.5°	680.0	641.7	626.4	612.6	560.6	514.6	490.1	476.3	470.2	473.3	480.9
30°	611.1	577.4	557.5	540.7	496.2	464.1	442.6	428.8	422.7	422.7	430.4
32.5°	539.1	520.7	502.4	480.9	439.6	418.1	396.7	381.4	375.2	376.8	382.9
35°	448.8	442.6	447.2	427.3	392.1	373.7	352.3	335.4	330.8	332.4	338.5
37.5°	398.2	370.6	387.5	376.8	356.9	332.4	304.8	289.5	281.8	286.4	289.5
40°	366.1	332.4	320.1	330.8	327.8	287.9	263.4	248.1	242.0	243.5	246.6
42.5°	338.5	298.7	271.1	269.6	287.9	251.2	225.1	211.4	203.7	203.7	206.8
45°	312.4	269.6	235.9	209.8	242.0	212.9	188.4	176.1	166.9	166.9	168.5
47.5°	292.5	245.1	205.2	171.5	182.3	174.6	154.7	142.4	133.2	133.2	134.8
50°	274.2	220.6	177.7	144.0	136.3	144.0	125.6	111.8	105.7	104.1	107.2
52.5°	254.2	196.0	151.6	122.5	107.2	108.7	98.0	88.8	81.2	81.2	84.2
55°	234.3	176.1	131.7	104.1	88.8	81.2	78.1	72.0	65.9	65.9	68.9
57.5°	214.4	154.7	111.8	85.8	70.5	64.3	64.3	59.7	55.1	55.1	58.2
60°	196.0	133.2	91.9	70.5	55.1	53.6	55.1	50.5	47.5	47.5	50.5
62.5°	174.6	113.3	75.0	58.2	44.4	42.9	47.5	44.4	41.4	41.4	44.4
65°	148.6	96.5	59.7	44.4	33.7	33.7	39.8	36.8	33.7	33.7	36.8
67.5°	125.6	81.2	45.9	32.2	24.5	26.0	33.7	30.6	29.1	29.1	32.2
70°	104.1	62.8	32.2	19.9	13.8	19.9	26.0	26.0	26.0	26.0	29.1
72.5°	78.1	42.9	18.4	7.7	6.1	13.8	21.4	24.5	23.0	23.0	27.6
75°	50.5	24.5	6.1	0.0	0.0	7.7	16.8	19.9	19.9	18.4	23.0
77.5°	29.1	7.7	0.0	0.0	0.0	0.0	10.7	9.2	7.7	6.1	10.7
80°	7.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
82.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
85°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
87.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

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CATALOG NUMBER: GLEON-SA7D-830-U-SLL-HSS

CANDELA DISTRIBUTION (continued):

	285°	295°	305°	315°	325°	335°	345°	355°	359°	360°
0°	10846.8	10846.8	10846.8	10846.8	10846.8	10846.8	10846.8	10846.8	10846.8	10846.8
2.5°	9557.2	9738.0	9992.2	10261.8	10676.8	11006.1	11329.3	11606.5	11713.7	11758.1
5°	7564.6	7829.6	8201.7	8679.6	9428.6	10102.5	10785.6	11473.3	11771.9	11847.0
7.5°	5428.0	5766.5	6239.8	6838.6	7716.2	8589.2	9543.4	10552.8	11015.3	11131.7
10°	4017.4	4430.9	4973.1	5604.1	6441.9	7339.5	8379.4	9532.7	10061.1	10215.8
12.5°	2850.3	3409.4	4135.3	4902.7	5628.7	6429.7	7481.9	8753.1	9307.6	9474.5
15°	1674.0	2214.7	3073.9	4101.6	5031.3	5843.1	6912.1	8353.4	8964.5	9133.0
17.5°	960.3	1229.9	1879.3	3024.9	4287.0	5411.2	6732.9	8452.9	9172.8	9329.0
20°	733.6	819.4	1082.8	1948.2	3417.0	4986.9	6732.9	9016.6	9903.4	10133.1
22.5°	641.7	704.5	811.8	1162.5	2514.9	4532.0	6811.1	9831.4	10990.8	11245.1
25°	569.8	626.4	718.3	874.5	1715.4	3991.4	6996.4	10831.5	12271.2	12600.5
27.5°	510.0	563.6	646.3	765.8	1173.2	3338.9	7246.0	12004.7	13683.4	13946.8
30°	456.4	507.0	582.0	666.2	905.2	2599.1	7458.9	13110.5	14792.2	15075.6
32.5°	405.9	451.8	519.2	582.0	741.3	1922.2	7481.9	13986.6	15712.7	15994.6
35°	358.4	399.7	461.0	510.0	614.2	1517.8	7125.0	14746.3	16633.2	17005.4
37.5°	312.4	352.3	405.9	442.6	540.7	1237.5	6579.8	15593.3	17814.1	18158.7
40°	269.6	304.8	359.9	384.4	511.6	951.1	5987.0	16481.6	18972.0	19287.5
42.5°	229.7	263.4	317.0	364.5	448.8	710.7	5346.8	17314.8	20013.5	20344.3
45°	191.5	226.7	280.3	386.0	372.2	531.5	4662.2	17867.7	20836.0	21195.9
47.5°	154.7	194.5	268.0	367.6	297.1	390.6	4120.0	18391.5	21459.3	21814.7
50°	124.1	163.9	301.7	327.8	243.5	298.7	3893.3	18860.2	21868.3	22209.8
52.5°	101.1	137.8	284.9	251.2	203.7	246.6	4015.9	19619.9	22246.6	22461.0
55°	84.2	108.7	171.5	174.6	173.1	209.8	4167.5	20710.4	23225.3	23326.4
57.5°	73.5	87.3	119.5	134.8	145.5	186.9	4170.6	22275.7	24740.0	24802.8
60°	62.8	76.6	99.6	108.7	125.6	166.9	4018.9	22822.5	25335.8	25544.1
62.5°	55.1	67.4	82.7	90.4	105.7	150.1	3663.6	22030.6	24517.9	24871.7
65°	49.0	61.3	68.9	76.6	93.4	134.8	3078.5	20446.9	23160.9	23530.1
67.5°	42.9	53.6	61.3	68.9	84.2	119.5	2266.8	18607.5	21603.3	21909.6
70°	38.3	47.5	55.1	61.3	73.5	101.1	1375.4	15789.3	19449.9	19577.0
72.5°	36.8	42.9	50.5	55.1	64.3	88.8	696.9	11603.4	15548.9	15755.6
75°	32.2	38.3	45.9	49.0	56.7	76.6	283.3	7621.3	11268.0	11600.4
77.5°	26.0	35.2	41.4	44.4	49.0	62.8	144.0	4870.5	7907.7	8122.1
80°	9.2	26.0	35.2	36.8	41.4	45.9	95.0	2666.5	4587.2	4679.1
82.5°	0.0	16.8	27.6	26.0	29.1	35.2	61.3	1268.2	3028.0	3061.7
85°	0.0	7.7	21.4	16.8	12.3	24.5	21.4	277.2	1588.3	1654.1
87.5°	0.0	0.0	1.5	7.7	6.1	9.2	3.1	1.5	144.0	182.3
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

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

Report Prepared for

Cooper Lighting Solutions

MCGRAW EDISON

Report Number: SP1-2408-195-9

Test Date: 08/07/2024

Luminaire Tested: GALN-SB1A-830-U-5WQ

Data in this report applies to families of products including GALN-SB1A-830-U-5WQ.

Test Information

Test Method: LM-79-2019
 Report Number: SP1-2408-195-9
 Test Lab: COOPER LIGHTING SOLUTIONS
 Photometer: SP1 - 76IN SPHERE
 Measurement Geometry: 4π
 Issue Date: 08/07/2024
 Manufacturer: COOPER LIGHTING SOLUTIONS
 Product Line: MCGRAW EDISON
 Catalog Number: **GALN-SB1A-830-U-5WQ**
 Description: GALLEON AREA AND ROADWAY LUMINAIRE. (1) 80 CRI, 3000K, 350MA HIGH DENSITY LIGHTSQUARE WITH 26 LEDS AND TYPE V WIDE OPTICS

Spectral Parameters

CCT (K): 3050
 CIE u' : 0.2476
 CIE v' : 0.5251
 Duv: 0.0034
 CIE x: 0.4383
 CIE y: 0.4131
 CIE z: 0.1487
 Peak Wavelength (nm): 603
 Dominant Wavelength (nm): 581
 Purity: 55.55201
 R_f: 81.5
 R_g: 99.2

CRI (Ra): 81.0
 R1: 79.6
 R2: 85.6
 R3: 92.0
 R4: 82.6
 R5: 78.9
 R6: 81.7
 R7: 85.2
 R8: 62.0
 R9: 7.1
 R10: 67.0
 R11: 82.7
 R12: 63.2
 R13: 80.3
 R14: 95.0
 R15: 71.7



Test Conditions

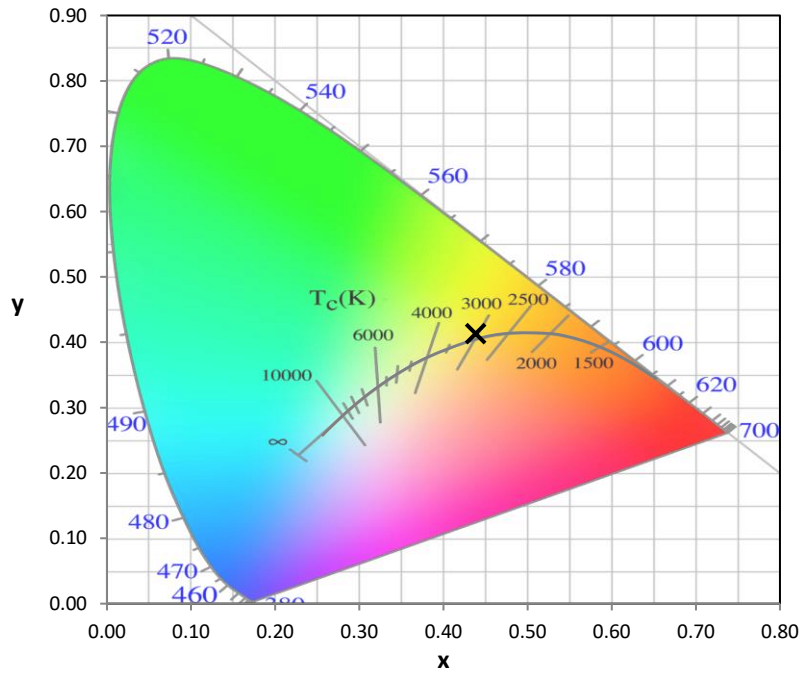
Stabilization Time: 20M
 Operation Time: 1H 20M
 Sphere Temperature (°C): 24.2

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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



Point lies inside the ANSI 3000K 4-step quadrangle

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Photopic Flux vs. Wavelength



Photopic Lumens: NR

λ (nm)	Power W/nm	Lumens (ϕ/nm)	λ (nm)	Power W/nm	Lumens (ϕ/nm)	λ (nm)	Power W/nm	Lumens (ϕ/nm)	λ (nm)	Power W/nm	Lumens (ϕ/nm)	λ (nm)	Power W/nm	Lumens (ϕ/nm)
360	0	NR	490	168	NR	620	940	NR	750	35	NR	880	1	NR
365	0	NR	495	233	NR	625	897	NR	755	30	NR	885	1	NR
370	0	NR	500	300	NR	630	847	NR	760	26	NR	890	1	NR
375	0	NR	505	372	NR	635	790	NR	765	22	NR	895	1	NR
380	0	NR	510	430	NR	640	730	NR	770	19	NR	900	1	NR
385	0	NR	515	483	NR	645	668	NR	775	16	NR	905	1	NR
390	0	NR	520	524	NR	650	605	NR	780	14	NR	910	0	NR
395	2	NR	525	555	NR	655	545	NR	785	12	NR	915	0	NR
400	4	NR	530	581	NR	660	485	NR	790	10	NR	920	0	NR
405	7	NR	535	604	NR	665	430	NR	795	9	NR	925	0	NR
410	17	NR	540	623	NR	670	378	NR	800	8	NR	930	0	NR
415	34	NR	545	645	NR	675	331	NR	805	7	NR	935	0	NR
420	68	NR	550	667	NR	680	290	NR	810	6	NR	940	0	NR
425	128	NR	555	693	NR	685	251	NR	815	5	NR	945	0	NR
430	214	NR	560	719	NR	690	218	NR	820	4	NR	950	0	NR
435	339	NR	565	754	NR	695	188	NR	825	4	NR	955	0	NR
440	507	NR	570	791	NR	700	162	NR	830	3	NR	960	0	NR
445	573	NR	575	830	NR	705	139	NR	835	3	NR	965	0	NR
450	356	NR	580	873	NR	710	119	NR	840	3	NR	970	0	NR
455	217	NR	585	913	NR	715	102	NR	845	2	NR	975	0	NR
460	168	NR	590	948	NR	720	88	NR	850	2	NR	980	0	NR
465	113	NR	595	974	NR	725	76	NR	855	2	NR	985	0	NR
470	85	NR	600	994	NR	730	65	NR	860	1	NR	990	0	NR
475	85	NR	605	998	NR	735	55	NR	865	1	NR	995	0	NR
480	94	NR	610	994	NR	740	47	NR	870	1	NR	1000	0	NR
485	120	NR	615	973	NR	745	41	NR	875	1	NR			

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Scotopic Flux vs. Wavelength



Scotopic Lumens: NR

S/P: 1.27

λ (nm)	Power W ^Λ /nm	Lumens (Φ/nm)	λ (nm)	Power W ^Λ /nm	Lumens (Φ/nm)	λ (nm)	Power W ^Λ /nm	Lumens (Φ/nm)	λ (nm)	Power W ^Λ /nm	Lumens (Φ/nm)	λ (nm)	Power W ^Λ /nm	Lumens (Φ/nm)
360	0	NR	490	168	NR	620	940	NR	750	35	NR	880	1	NR
365	0	NR	495	233	NR	625	897	NR	755	30	NR	885	1	NR
370	0	NR	500	300	NR	630	847	NR	760	26	NR	890	1	NR
375	0	NR	505	372	NR	635	790	NR	765	22	NR	895	1	NR
380	0	NR	510	430	NR	640	730	NR	770	19	NR	900	1	NR
385	0	NR	515	483	NR	645	668	NR	775	16	NR	905	1	NR
390	0	NR	520	524	NR	650	605	NR	780	14	NR	910	0	NR
395	2	NR	525	555	NR	655	545	NR	785	12	NR	915	0	NR
400	4	NR	530	581	NR	660	485	NR	790	10	NR	920	0	NR
405	7	NR	535	604	NR	665	430	NR	795	9	NR	925	0	NR
410	17	NR	540	623	NR	670	378	NR	800	8	NR	930	0	NR
415	34	NR	545	645	NR	675	331	NR	805	7	NR	935	0	NR
420	68	NR	550	667	NR	680	290	NR	810	6	NR	940	0	NR
425	128	NR	555	693	NR	685	251	NR	815	5	NR	945	0	NR
430	214	NR	560	719	NR	690	218	NR	820	4	NR	950	0	NR
435	339	NR	565	754	NR	695	188	NR	825	4	NR	955	0	NR
440	507	NR	570	791	NR	700	162	NR	830	3	NR	960	0	NR
445	573	NR	575	830	NR	705	139	NR	835	3	NR	965	0	NR
450	356	NR	580	873	NR	710	119	NR	840	3	NR	970	0	NR
455	217	NR	585	913	NR	715	102	NR	845	2	NR	975	0	NR
460	168	NR	590	948	NR	720	88	NR	850	2	NR	980	0	NR
465	113	NR	595	974	NR	725	76	NR	855	2	NR	985	0	NR
470	85	NR	600	994	NR	730	65	NR	860	1	NR	990	0	NR
475	85	NR	605	998	NR	735	55	NR	865	1	NR	995	0	NR
480	94	NR	610	994	NR	740	47	NR	870	1	NR	1000	0	NR
485	120	NR	615	973	NR	745	41	NR	875	1	NR			

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Melanopic Flux vs. Wavelength


Melanopic Lumens: NR
M/P: 2.32

λ (nm)	Power $\text{W}^\wedge/\text{nm}$	Lumens (ϕ/nm)	λ (nm)	Power $\text{W}^\wedge/\text{nm}$	Lumens (ϕ/nm)	λ (nm)	Power $\text{W}^\wedge/\text{nm}$	Lumens (ϕ/nm)	λ (nm)	Power $\text{W}^\wedge/\text{nm}$	Lumens (ϕ/nm)	λ (nm)	Power $\text{W}^\wedge/\text{nm}$	Lumens (ϕ/nm)
360	0	NR	490	168	NR	620	940	NR	750	35	NR	880	1	NR
365	0	NR	495	233	NR	625	897	NR	755	30	NR	885	1	NR
370	0	NR	500	300	NR	630	847	NR	760	26	NR	890	1	NR
375	0	NR	505	372	NR	635	790	NR	765	22	NR	895	1	NR
380	0	NR	510	430	NR	640	730	NR	770	19	NR	900	1	NR
385	0	NR	515	483	NR	645	668	NR	775	16	NR	905	1	NR
390	0	NR	520	524	NR	650	605	NR	780	14	NR	910	0	NR
395	2	NR	525	555	NR	655	545	NR	785	12	NR	915	0	NR
400	4	NR	530	581	NR	660	485	NR	790	10	NR	920	0	NR
405	7	NR	535	604	NR	665	430	NR	795	9	NR	925	0	NR
410	17	NR	540	623	NR	670	378	NR	800	8	NR	930	0	NR
415	34	NR	545	645	NR	675	331	NR	805	7	NR	935	0	NR
420	68	NR	550	667	NR	680	290	NR	810	6	NR	940	0	NR
425	128	NR	555	693	NR	685	251	NR	815	5	NR	945	0	NR
430	214	NR	560	719	NR	690	218	NR	820	4	NR	950	0	NR
435	339	NR	565	754	NR	695	188	NR	825	4	NR	955	0	NR
440	507	NR	570	791	NR	700	162	NR	830	3	NR	960	0	NR
445	573	NR	575	830	NR	705	139	NR	835	3	NR	965	0	NR
450	356	NR	580	873	NR	710	119	NR	840	3	NR	970	0	NR
455	217	NR	585	913	NR	715	102	NR	845	2	NR	975	0	NR
460	168	NR	590	948	NR	720	88	NR	850	2	NR	980	0	NR
465	113	NR	595	974	NR	725	76	NR	855	2	NR	985	0	NR
470	85	NR	600	994	NR	730	65	NR	860	1	NR	990	0	NR
475	85	NR	605	998	NR	735	55	NR	865	1	NR	995	0	NR
480	94	NR	610	994	NR	740	47	NR	870	1	NR	1000	0	NR
485	120	NR	615	973	NR	745	41	NR	875	1	NR			

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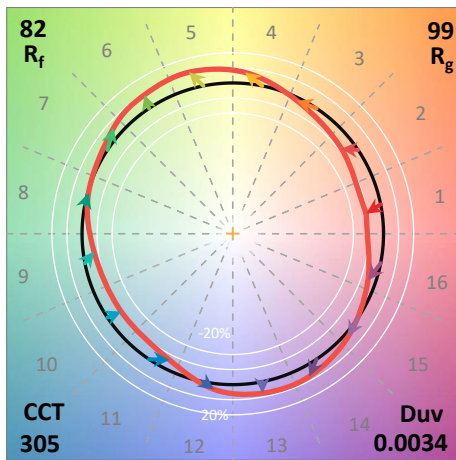
TM-30-18

Summary

$R_f = 81.5$
 $R_g = 99.2$
 $CIE R_a = 81.0$
 $R_9 = 7.1$



Color Vector Graphics



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

CES01 = 86	CES26 = 74	CES51 = 89	CES76 = 70
CES02 = 63	CES27 = 88	CES52 = 92	CES77 = 86
CES03 = 31	CES28 = 89	CES53 = 81	CES78 = 72
CES04 = 70	CES29 = 67	CES54 = 87	CES79 = 90
CES05 = 50	CES30 = 68	CES55 = 85	CES80 = 88
CES06 = 51	CES31 = 71	CES56 = 78	CES81 = 78
CES07 = 42	CES32 = 70	CES57 = 76	CES82 = 95
CES08 = 41	CES33 = 71	CES58 = 78	CES83 = 90
CES09 = 29	CES34 = 82	CES59 = 92	CES84 = 94
CES10 = 76	CES35 = 90	CES60 = 95	CES85 = 86
CES11 = 59	CES36 = 93	CES61 = 93	CES86 = 72
CES12 = 65	CES37 = 87	CES62 = 83	CES87 = 85
CES13 = 43	CES38 = 75	CES63 = 77	CES88 = 83
CES14 = 74	CES39 = 94	CES64 = 83	CES89 = 75
CES15 = 71	CES40 = 89	CES65 = 77	CES90 = 81
CES16 = 47	CES41 = 85	CES66 = 80	CES91 = 96
CES17 = 50	CES42 = 86	CES67 = 79	CES92 = 73
CES18 = 56	CES43 = 81	CES68 = 84	CES93 = 84
CES19 = 72	CES44 = 99	CES69 = 91	CES94 = 64
CES20 = 66	CES45 = 87	CES70 = 78	CES95 = 80
CES21 = 87	CES46 = 82	CES71 = 76	CES96 = 84
CES22 = 79	CES47 = 77	CES72 = 92	CES97 = 87
CES23 = 92	CES48 = 71	CES73 = 71	CES98 = 81
CES24 = 91	CES49 = 81	CES74 = 93	CES99 = 74
CES25 = 72	CES50 = 89	CES75 = 74	



Color Rendition by Hue-Angle Bin



Measure Comparisons



(END OF REPORT)