



# GRM30-45-35-ND-1-R-NA-2-NA-C4-SN-AW

**Luminaire Description:** White rectangular metal housing with diffuse plastic lens  
**Lamp:** 112 White LEDs  
**Mounting:** Pendant  
**Ballast/Driver:** Signify North America / XI020C056V054BST2

Luminaire



### Luminaire Characteristics

Luminous Length: 48.00 in.  
Luminous Width: 2.000 in.

### Summary of Results

#### Integrating Sphere

Luminous Flux: 2281 Lumens  
Efficacy: 111.15 lm/w  
CCT: 3444 K  
CRI (Ra): 93.6

#### Distribution

Total Luminaire Output: 2212 Lumens  
Luminaire Efficacy: 107.8 lm/w  
Maximum Candela: 806 Candela

#### Electrical Data at 120 VAC

Test Temperature: 26.0 °C  
Voltage: 120.0 VAC  
Current: 0.1717 A  
Power: 20.52 W  
Power Factor: 0.996  
Frequency: 60 Hz  
Current THD: 7.74 %



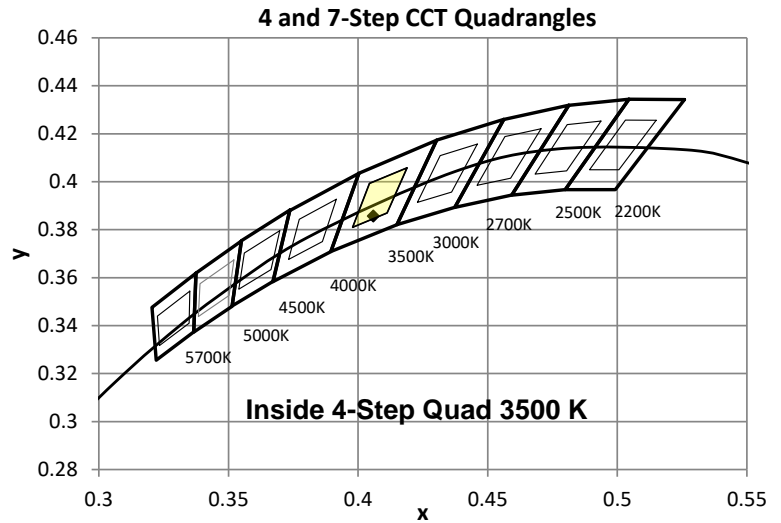
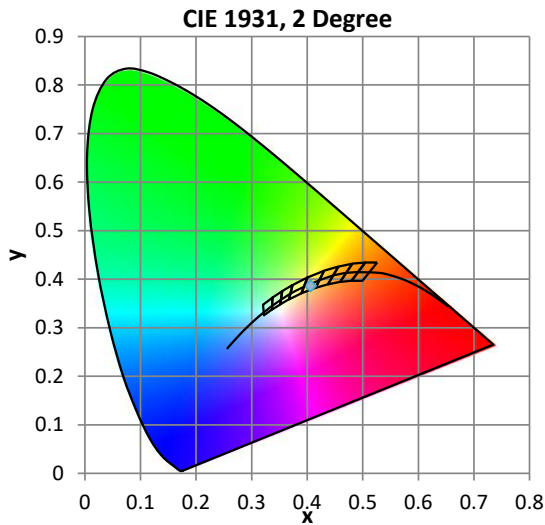
## Color Quality - Integrating Sphere

### Integrating Sphere Test Conditions

Temperature	Voltage	Current	Power	Power Factor	Frequency	Current THD
26.0 °C	120.0 VAC	0.1717 A	20.52 W	0.996	60 Hz	7.74 %

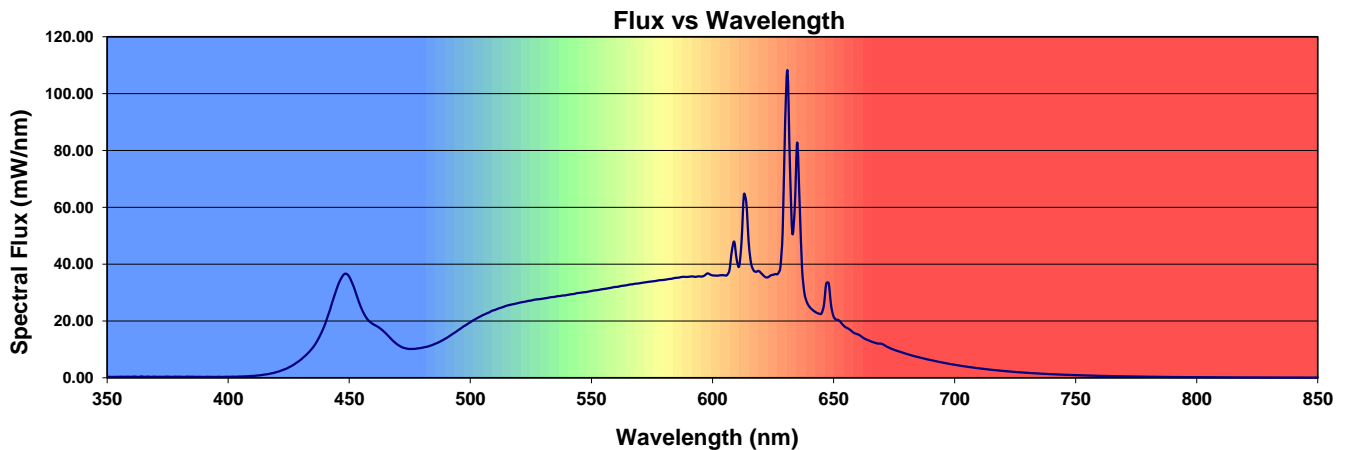
### Summary of Results

<b>Total Output:</b>	2281 Lumens	<b>Chromaticity (x):</b>	0.4059
<b>Efficacy:</b>	111.1 lm/w	<b>Chromaticity (y):</b>	0.3857
<b>CCT:</b>	3444 K	<b>Chromaticity (u'):</b>	0.2381
<b>CRI (Ra):</b>	93.6	<b>Chromaticity (v'):</b>	0.5093
<b>CRI (R9):</b>	65.4	<b>TM-30 Rf:</b>	91
<b>Peak Wavelength:</b>	631 nm	<b>TM-30 Rg:</b>	102
<b>Dominant Wavelength:</b>	582 nm	<b>TM-30 Rcs,h1:</b>	-5%
<b>S/P Ratio:</b>	1.59	<b>Duv:</b>	-0.0023



### Color Rendering Index Detail

Ra (CRI)	R1	R2	R3	R4	R5	R6	R7	R8	R9	R10	R11	R12	R13	R14	R15
93.6	95.6	95.8	94.3	94.3	94.9	94.5	93.0	86.3	65.4	88.5	94.5	81.3	95.5	95.9	92.7





## Distribution - Goniophotometer

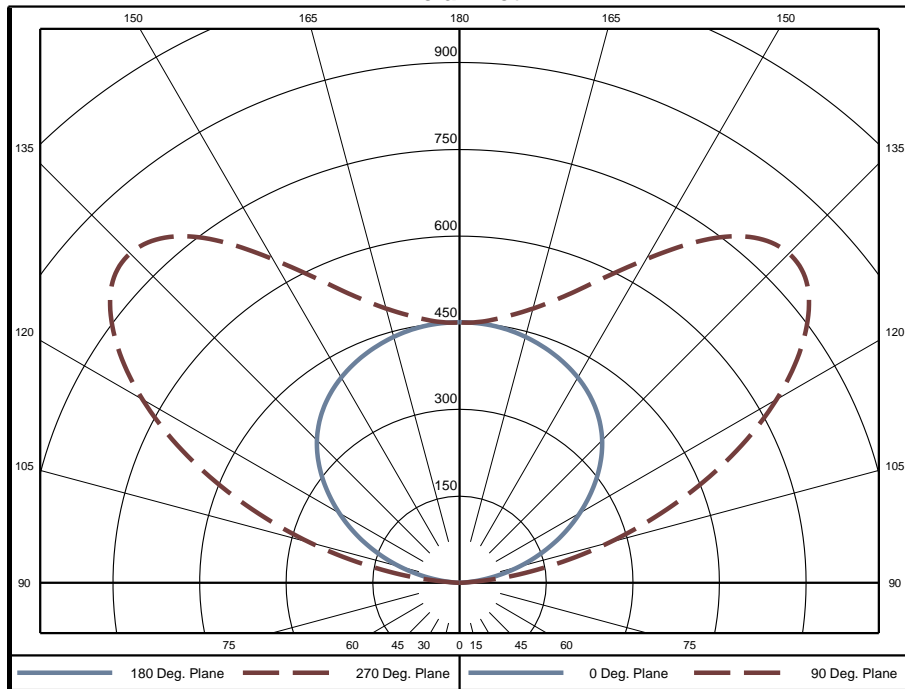
### Distribution Test Conditions

Temperature	Voltage	Current	Power	Power Factor	Frequency	Current THD
24.3 °C	120.1 VAC	0.1715 A	20.51 W	0.996	60 Hz	7.74 %

### Summary of Results

<b>Total Lumen Output:</b>	2212 Lumens
<b>Luminaire Efficacy:</b>	107.8 lm/w
<b>Maximum Candela:</b>	806 Candela

### Polar Plot



### Zonal Lumen Summary

Zone	Lumens	% of Luminaire	Zone	Lumens	% of Luminaire	Zone	Lumens	% of Luminaire
0-5	0	0.0%	60-65	0	0.0%	120-125	214.7	9.7%
5-10	0	0.0%	65-70	0	0.0%	125-130	222.7	10.1%
10-15	0	0.0%	70-75	0	0.0%	130-135	218.7	9.9%
15-20	0	0.0%	75-80	0	0.0%	135-140	203.7	9.2%
20-25	0	0.0%	80-85	0	0.0%	140-145	180.7	8.2%
25-30	0	0.0%	85-90	0	0.0%	145-150	153.9	7.0%
30-35	0	0.0%	90-95	7.5	0.3%	150-155	127.0	5.7%
35-40	0	0.0%	95-100	39.5	1.8%	155-160	101.6	4.6%
40-45	0	0.0%	100-105	81.8	3.7%	160-165	77.6	3.5%
45-50	0	0.0%	105-110	125.1	5.7%	165-170	54.7	2.5%
50-55	0	0.0%	110-115	164.2	7.4%	170-175	32.5	1.5%
55-60	0	0.0%	115-120	194.9	8.8%	175-180	10.8	0.5%

Zone	Lumens	% of Luminaire
0-40	0	0.0%
0-60	0	0.0%
0-90	0	0.0%
90-180	2212	100.0%



**Candela Tabulation**  
Horizontal Angle (Degrees)

	0	22.5	45	67.5	90	112.5	135	157.5	180	202.5	225	247.5	270	292.5	315	337.5
0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
15	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
20	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
25	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
30	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
35	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
40	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
45	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
50	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
55	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
60	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
65	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
70	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
75	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
80	0.0	0.0	0.0	0.0	0.0	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	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	0.0	0.0	0.0	0.0	0.0
95	21.1	26.5	44.1	47.4	40.8	47.4	44.1	26.5	21.1	26.5	44.1	47.4	40.8	47.4	44.1	26.5
100	60.2	71.0	120.4	148.5	146.4	148.5	120.4	71.0	60.2	71.0	120.4	148.5	146.4	148.5	120.4	71.0
105	105.6	123.2	209.1	265.2	267.0	265.2	209.1	123.2	105.6	123.2	209.1	265.2	267.0	265.2	209.1	123.2
110	151.5	175.6	297.0	386.1	393.5	386.1	297.0	175.6	151.5	175.6	297.0	386.1	393.5	386.1	297.0	175.6
115	196.9	225.0	373.8	501.8	519.5	501.8	373.8	225.0	196.9	225.0	373.8	501.8	519.5	501.8	373.8	225.0
120	239.7	269.7	435.2	599.8	633.0	599.8	435.2	269.7	239.7	269.7	435.2	599.8	633.0	599.8	435.2	269.7
125	280.4	309.6	478.9	673.6	725.4	673.6	478.9	309.6	280.4	309.6	478.9	673.6	725.4	673.6	478.9	309.6
130	317.4	344.5	506.1	717.2	787.7	717.2	506.1	344.5	317.4	344.5	506.1	717.2	787.7	717.2	506.1	344.5
135	349.0	374.3	518.3	725.6	806.1	725.6	518.3	374.3	349.0	374.3	518.3	725.6	806.1	725.6	518.3	374.3
140	374.2	397.5	516.7	700.5	781.3	700.5	516.7	397.5	374.2	397.5	516.7	700.5	781.3	700.5	516.7	397.5
145	394.1	415.1	506.8	651.4	721.5	651.4	506.8	415.1	394.1	415.1	506.8	651.4	721.5	651.4	506.8	415.1
150	409.8	428.1	494.4	595.8	646.9	595.8	494.4	428.1	409.8	428.1	494.4	595.8	646.9	595.8	494.4	428.1
155	422.4	437.2	483.3	547.4	579.9	547.4	483.3	437.2	422.4	437.2	483.3	547.4	579.9	547.4	483.3	437.2
160	432.5	443.2	473.5	509.9	527.3	509.9	473.5	443.2	432.5	443.2	473.5	509.9	527.3	509.9	473.5	443.2
165	440.6	446.4	465.0	483.5	491.3	483.5	465.0	446.4	440.6	446.4	465.0	483.5	491.3	483.5	465.0	446.4
170	446.5	448.8	457.0	464.9	468.1	464.9	457.0	448.8	446.5	448.8	457.0	464.9	468.1	464.9	457.0	448.8
175	449.9	449.9	452.0	453.6	453.8	453.6	452.0	449.9	449.9	449.9	452.0	453.6	453.8	453.6	452.0	449.9
180	451.1	451.1	451.1	451.1	451.1	451.1	451.1	451.1	451.1	451.1	451.1	451.1	451.1	451.1	451.1	451.1

Vertical Angle (Degrees)



### Coefficients of Utilization - Zonal Cavity Method

Effective Floor Cavity Reflectance 20%

Ceiling Cavity Reflectance	80				70				50			30			10			0
Wall Reflectance	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	0
Room Cavity Ratio (RCR)	** Values are expressed as percent of total lumen output delivered to the task surface **																	
0	95	95	95	95	81	81	81	81	56	56	56	32	32	32	10	10	10	0
1	87	83	79	76	74	71	68	65	48	47	45	28	27	26	9	9	8	0
2	79	72	66	62	67	62	57	53	42	40	37	24	23	22	8	7	7	0
3	72	63	57	51	61	54	49	44	37	34	31	21	20	18	7	6	6	0
4	65	56	48	43	56	48	42	37	33	29	26	19	17	16	6	6	5	0
5	60	49	42	36	51	42	36	32	29	25	22	17	15	13	5	5	4	0
6	55	44	36	31	47	38	32	27	26	22	19	15	13	11	5	4	4	0
7	50	39	32	27	43	34	28	23	23	19	17	14	11	10	4	4	3	0
8	47	35	28	23	40	30	24	20	21	17	14	12	10	9	4	3	3	0
9	43	32	25	20	37	27	22	18	19	15	13	11	9	8	4	3	3	0
10	40	29	22	18	34	25	19	16	17	14	11	10	8	7	3	3	2	0

Up Light Beam and Field Information	
CIE Type:	Indirect
Center Beam Intensity:	451.1 Candela
Central Cone Intensity:	451 Candela
Beam Flux:	2211.6 Lumens
Beam Angle (0-180):	123.4 Degrees
Beam Angle (90-270):	153.4 Degrees
Field Angle (0-180):	163.5 Degrees
Field Angle (90-270):	169.6 Degrees

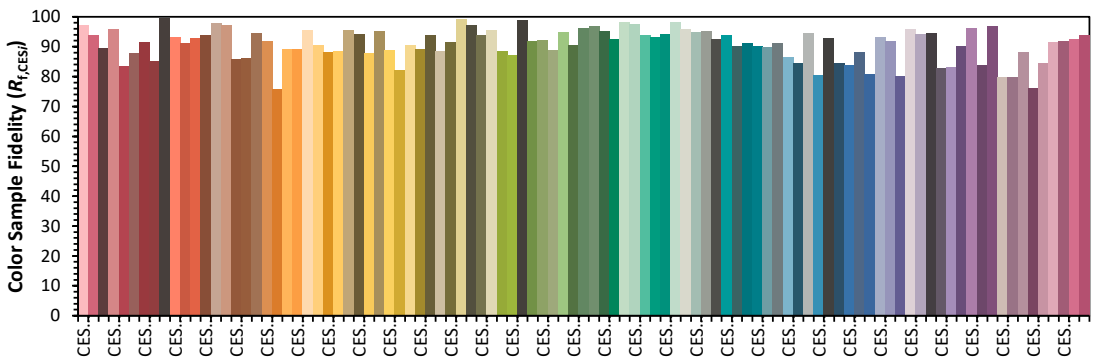
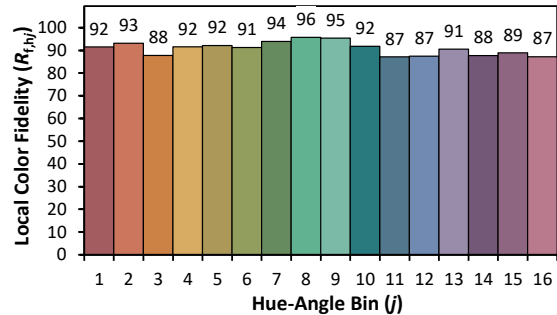
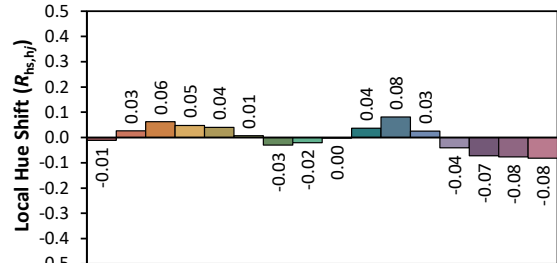
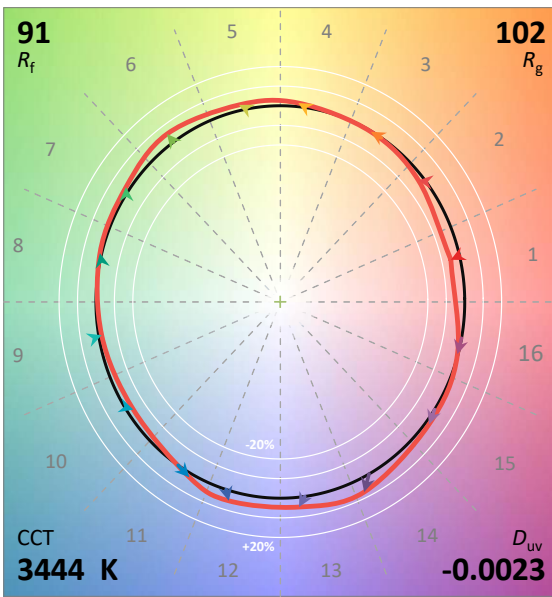
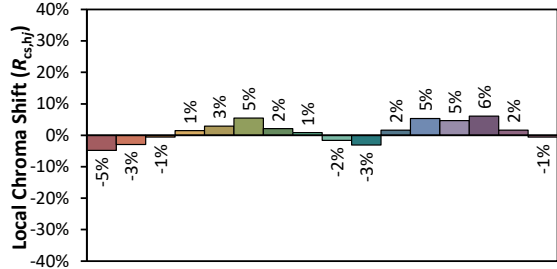
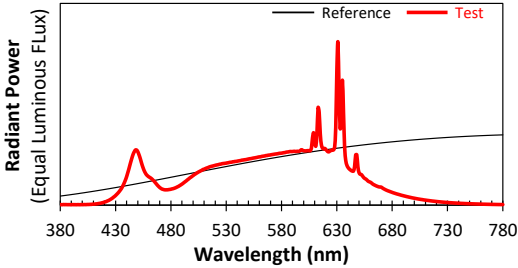
# ANSI/IES TM-30-18 Color Rendition Report

Source: Test Number: 13542729.03

Manufacturer: BARTCO LIGHTING INC

Date: 2020-10-15

Model: GRM30-45-35-ND-1-R-NA-2-NA-C4-S



Notes: This is a recommended method for displaying ANSI/IES TM-30-18 information.

x 0.4059  
y 0.3857  
u' 0.2381  
v' 0.5093

CIE 13.3-1995 (CRI)	
R <sub>a</sub>	94
R <sub>g</sub>	65

Colors are for visual orientation purposes only. Created with the IES TM-30-18 Calculator Version 2.00.