



GRM30-45-35-ND-1-NA-R-NA-A-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: 1975 Lumens
 Efficacy: 96.36 lm/w
 CCT: 3444 K
 CRI (Ra): 93.6

Distribution

Total Luminaire Output: 1898 Lumens
 Luminaire Efficacy: 92.5 lm/w
 Maximum Candela: 727 Candela

Electrical Data at 120 VAC

Test Temperature: 25.5 °C
 Voltage: 120.0 VAC
 Current: 0.1715 A
 Power: 20.50 W
 Power Factor: 0.996
 Frequency: 60 Hz
 Current THD: 7.53 %



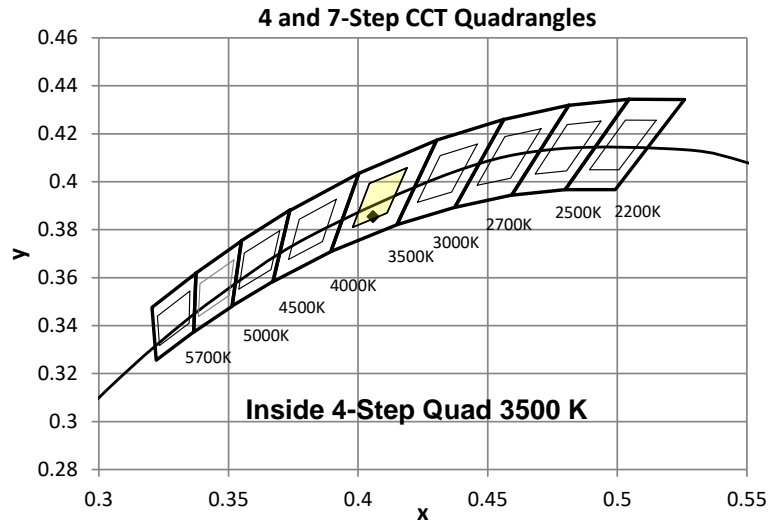
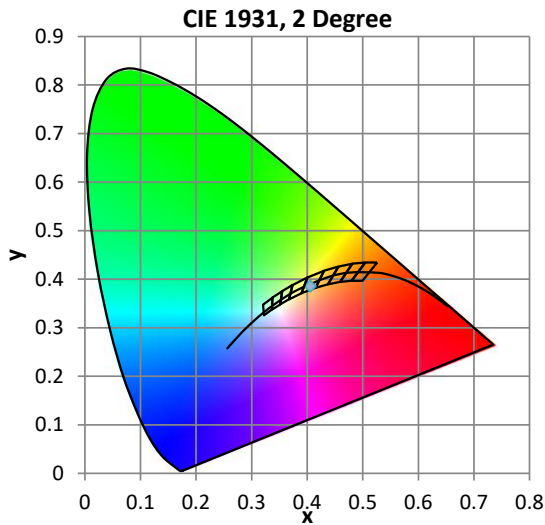
Color Quality - Integrating Sphere

Integrating Sphere Test Conditions

Temperature	Voltage	Current	Power	Power Factor	Frequency	Current THD
25.5 °C	120.0 VAC	0.1715 A	20.50 W	0.996	60 Hz	7.53 %

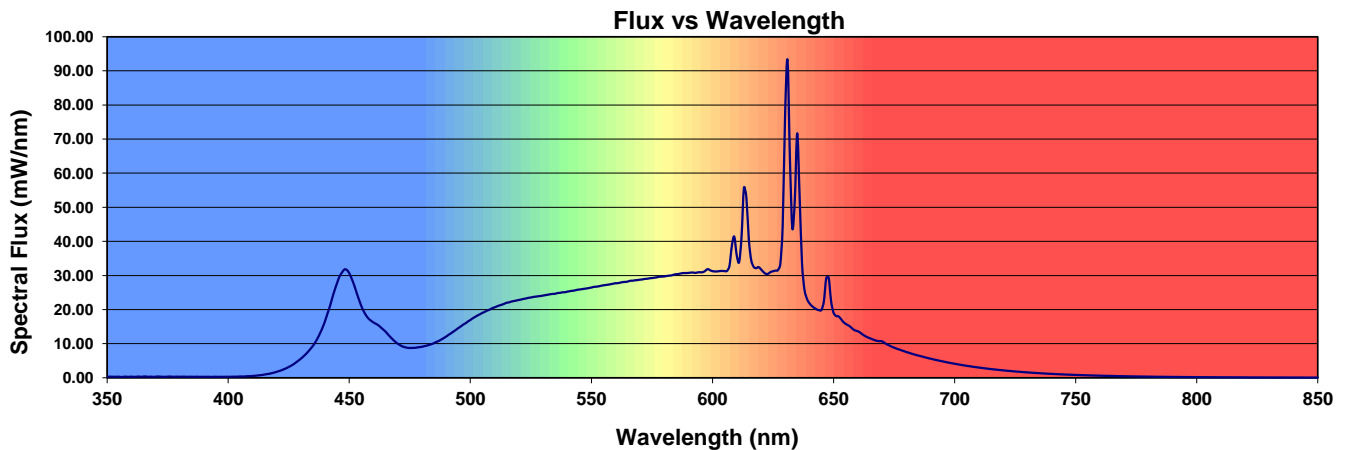
Summary of Results

Total Output:	1975 Lumens	Chromaticity (x):	0.4058
Efficacy:	96.4 lm/w	Chromaticity (y):	0.3855
CCT:	3444 K	Chromaticity (u'):	0.2382
CRI (Ra):	93.6	Chromaticity (v'):	0.5091
CRI (R9):	66.2	TM-30 Rf:	91
Peak Wavelength:	631 nm	TM-30 Rg:	102
Dominant Wavelength:	582 nm	TM-30 Rcs,h1:	-5%
S/P Ratio:	1.59	Duv:	-0.0024



Color Rendering Index Detail

Ra (CRI)	R1	R2	R3	R4	R5	R6	R7	R8	R9	R10	R11	R12	R13	R14	R15
93.6	95.7	95.8	94.2	94.3	95.0	94.5	93.1	86.6	66.2	88.5	94.4	81.5	95.6	95.8	92.6





Distribution - Goniophotometer

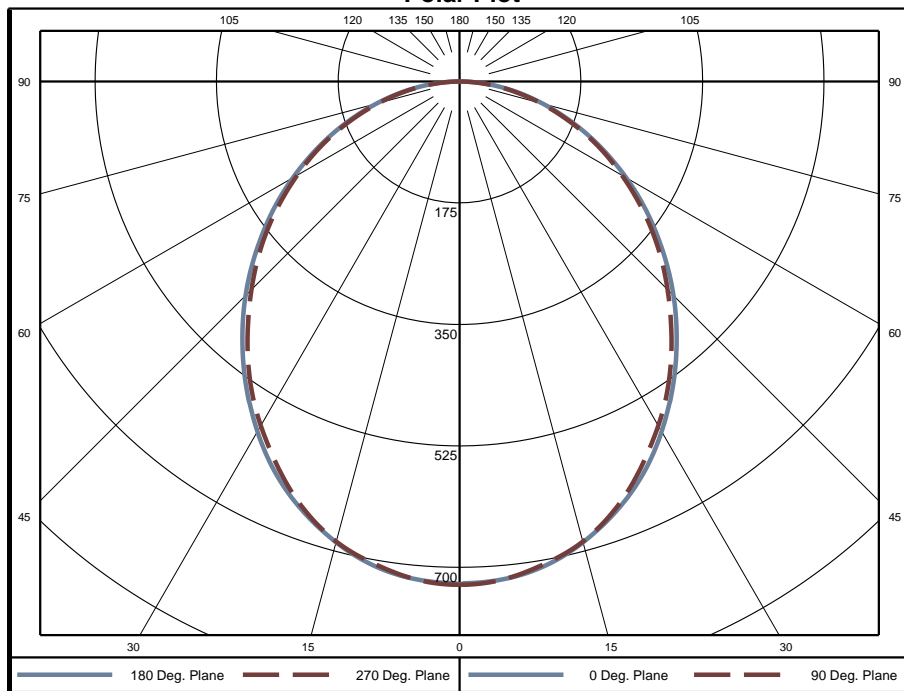
Distribution Test Conditions

Temperature	Voltage	Current	Power	Power Factor	Frequency	Current THD
25.5 °C	120.1 VAC	0.1715 A	20.51 W	0.996	60 Hz	7.51 %

Summary of Results

Spacing Criteria	Total Lumen Output:	1898 Lumens
0-180: 1.20	Luminaire Efficacy:	92.5 lm/w
90-270: 1.18	Maximum Candela:	727 Candela
Corrected UGR (Room Dimension: X=4H, Y=8H, Reflectances: 70/50/20%, S/H: 1)		
Crosswise: 24.2	Endwise: 24.2	

Polar Plot



Zonal Lumen Summary

Zone	Lumens	% of Luminaire	Zone	Lumens	% of Luminaire	Zone	Lumens	% of Luminaire
0-5	17.3	0.9%	60-65	121.0	6.4%	120-125	0	0.0%
5-10	51.1	2.7%	65-70	100.0	5.3%	125-130	0	0.0%
10-15	82.7	4.4%	70-75	76.9	4.1%	130-135	0	0.0%
15-20	110.9	5.8%	75-80	53.7	2.8%	135-140	0	0.0%
20-25	134.1	7.1%	80-85	31.0	1.6%	140-145	0	0.0%
25-30	151.7	8.0%	85-90	9.7	0.5%	145-150	0	0.0%
30-35	163.4	8.6%	90-95	0	0.0%	150-155	0	0.0%
35-40	169.0	8.9%	95-100	0	0.0%	155-160	0	0.0%
40-45	168.9	8.9%	100-105	0	0.0%	160-165	0	0.0%
45-50	163.7	8.6%	105-110	0	0.0%	165-170	0	0.0%
50-55	153.6	8.1%	110-115	0	0.0%	170-175	0	0.0%
55-60	139.1	7.3%	115-120	0	0.0%	175-180	0	0.0%

Zone	Lumens	% of Luminaire
0-40	880	46.4%
0-60	1506	79.3%
0-90	1898	100.0%
90-180	0	0.0%



Candela Tabulation
Horizontal Angle (Degrees)

Vertical 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	724.6	724.6	724.6	724.6	724.6	724.6	724.6	724.6	724.6	724.6	724.6	724.6	724.6	724.6	724.6	724.6
	5	719.6	718.8	720.4	721.1	719.8	721.1	720.4	718.8	719.6	718.8	720.4	721.1	719.8	721.1	720.4	718.8
	10	708.2	706.7	707.8	707.8	705.6	707.8	707.8	706.7	708.2	706.7	707.8	707.8	705.6	707.8	707.8	706.7
	15	687.1	686.3	687.4	687.5	686.0	687.5	687.4	686.3	687.1	686.3	687.4	687.5	686.0	687.5	687.4	686.3
	20	658.8	658.3	659.2	657.8	655.3	657.8	659.2	658.3	658.8	658.3	659.2	657.8	655.3	657.8	659.2	658.3
	25	624.4	623.6	621.6	618.2	615.8	618.2	621.6	623.6	624.4	623.6	621.6	618.2	615.8	618.2	621.6	623.6
	30	582.1	581.8	578.7	574.8	572.4	574.8	578.7	581.8	582.1	581.8	578.7	574.8	572.4	574.8	578.7	581.8
	35	535.7	535.4	532.2	528.3	526.0	528.3	532.2	535.4	535.7	535.4	532.2	528.3	526.0	528.3	532.2	535.4
	40	486.4	486.7	482.9	477.5	474.8	477.5	482.9	486.7	486.4	486.7	482.9	477.5	474.8	477.5	482.9	486.7
	45	435.7	436.0	432.3	426.5	423.7	426.5	432.3	436.0	435.7	436.0	432.3	426.5	423.7	426.5	432.3	436.0
	50	383.0	383.8	380.7	376.0	373.5	376.0	380.7	383.8	383.0	383.8	380.7	376.0	373.5	376.0	380.7	383.8
	55	330.3	331.2	328.1	324.0	321.7	324.0	328.1	331.2	330.3	331.2	328.1	324.0	321.7	324.0	328.1	331.2
	60	277.0	278.1	276.0	272.0	269.9	272.0	276.0	278.1	277.0	278.1	276.0	272.0	269.9	272.0	276.0	278.1
	65	224.5	225.5	223.9	221.5	219.9	221.5	223.9	225.5	224.5	225.5	223.9	221.5	219.9	221.5	223.9	225.5
	70	173.3	174.2	172.2	170.4	168.9	170.4	172.2	174.2	173.3	174.2	172.2	170.4	168.9	170.4	172.2	174.2
	75	124.8	125.0	123.3	122.0	120.9	122.0	123.3	125.0	124.8	125.0	123.3	122.0	120.9	122.0	123.3	125.0
80	79.6	79.6	77.8	77.3	76.4	77.3	77.8	79.6	79.6	79.6	77.8	77.3	76.4	77.3	77.8	79.6	
85	37.9	37.3	36.2	35.6	35.0	35.6	36.2	37.3	37.9	37.3	36.2	35.6	35.0	35.6	36.2	37.3	
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	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	
100	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	
105	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	
110	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	
115	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	
120	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	
125	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	
130	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	
135	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	
140	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	
145	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	
150	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	
155	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	
160	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	
165	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	
170	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	
175	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	
180	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	

Average Luminance (cd/m²)
Horizontal Angle (Degrees)

Vertical Angle (Degrees)	0	45	90	
	0	11700	11700	11700
	45	9948	9871	9674
	55	9297	9235	9056
	65	8575	8555	8400
	75	7787	7690	7544
	85	7027	6707	6490

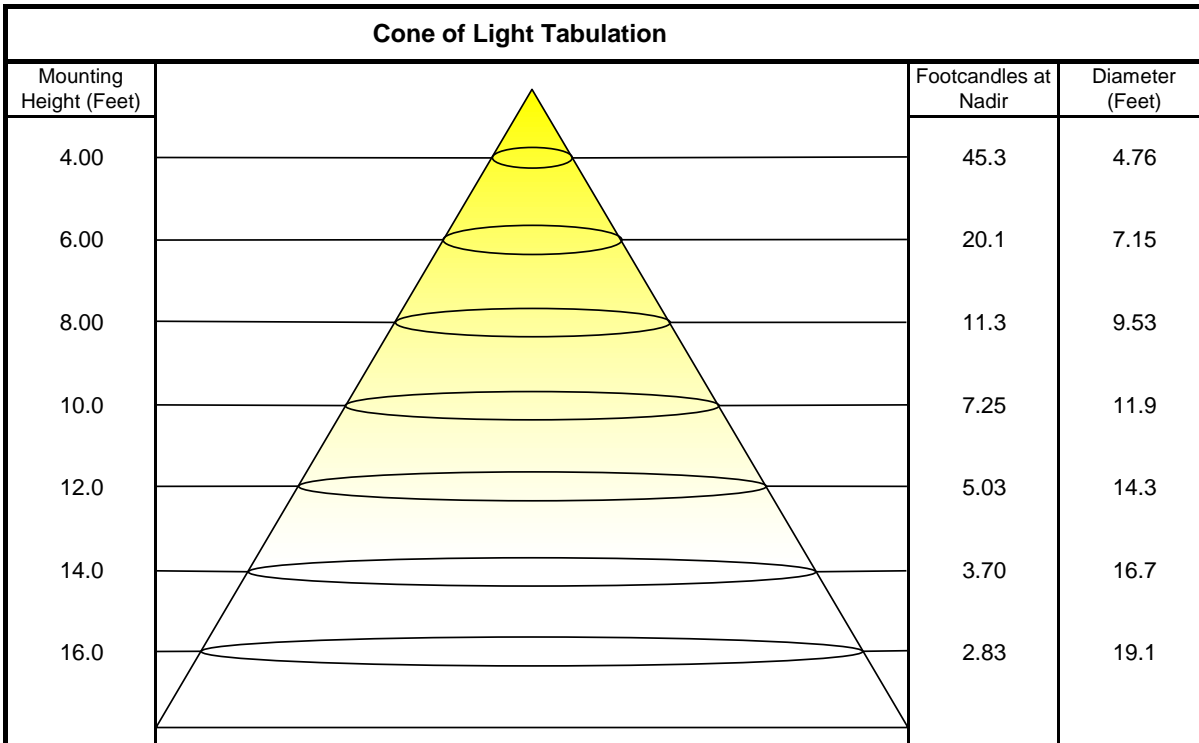


Coefficients of Utilization - Zonal Cavity Method

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	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100
1	109	104	100	96	106	102	98	94	97	94	91	94	91	88	90	88	86	84
2	99	91	84	78	96	89	83	77	85	80	75	82	78	74	79	75	72	70
3	90	80	72	65	88	78	71	65	75	69	64	73	67	62	70	65	61	59
4	83	71	62	55	81	70	61	55	67	60	54	65	59	54	63	57	53	51
5	76	63	55	48	74	62	54	48	60	53	47	58	52	47	56	51	46	44
6	71	57	48	42	69	56	48	42	54	47	41	53	46	41	51	45	41	39
7	65	52	43	37	64	51	43	37	50	42	37	48	41	36	47	41	36	34
8	61	48	39	33	59	47	39	33	45	38	33	44	38	33	43	37	33	31
9	57	44	36	30	56	43	35	30	42	35	30	41	34	30	40	34	29	28
10	54	40	32	27	52	40	32	27	39	32	27	38	31	27	37	31	27	25

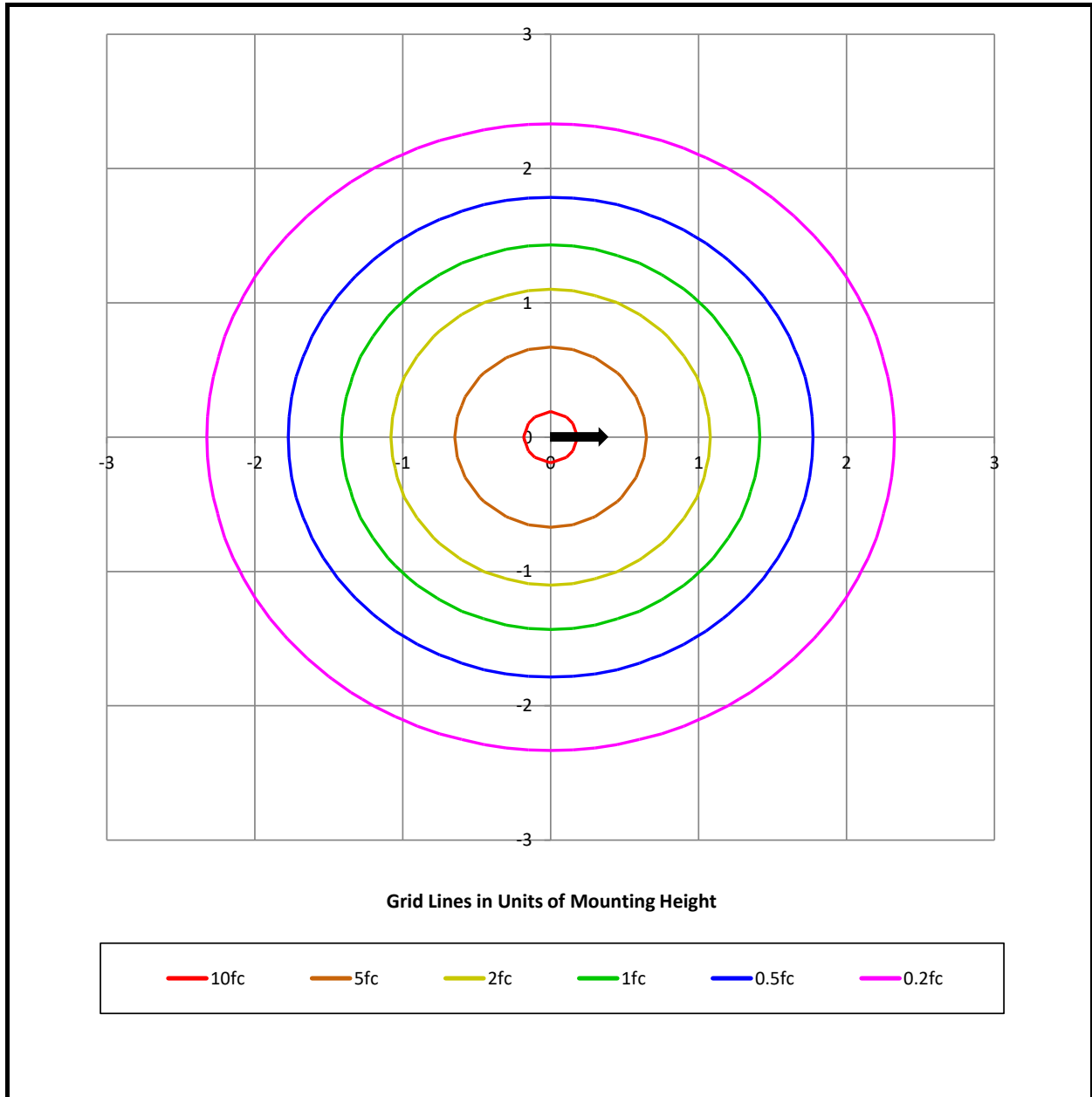
Beam and Field Information	
CIE Type:	Direct
Center Beam Intensity:	724.6 Candela
Central Cone Intensity:	723 Candela
Beam Flux:	1265.2 Lumens
Beam Angle (0-180):	103.9 Degrees
Beam Angle (90-270):	102.2 Degrees
Field Angle (0-180):	161.6 Degrees
Field Angle (90-270):	160.9 Degrees





ISOFootcandle Plot

Mounting Height - 8 Feet



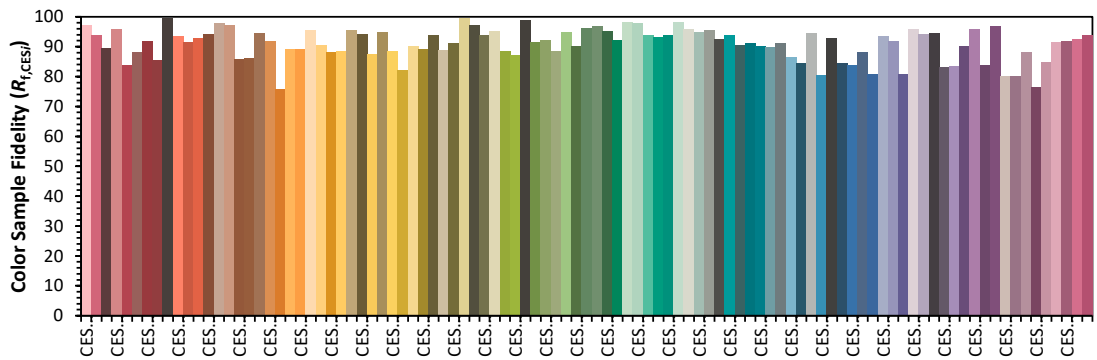
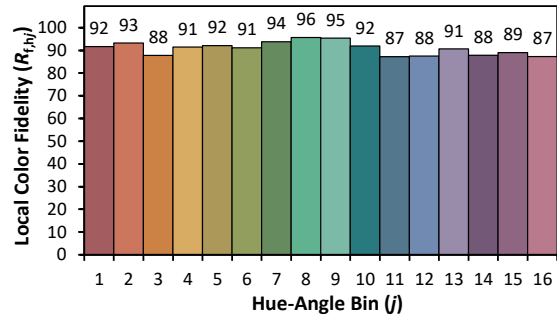
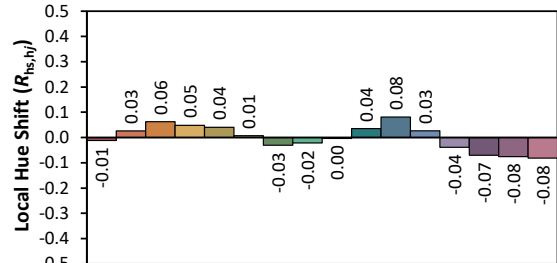
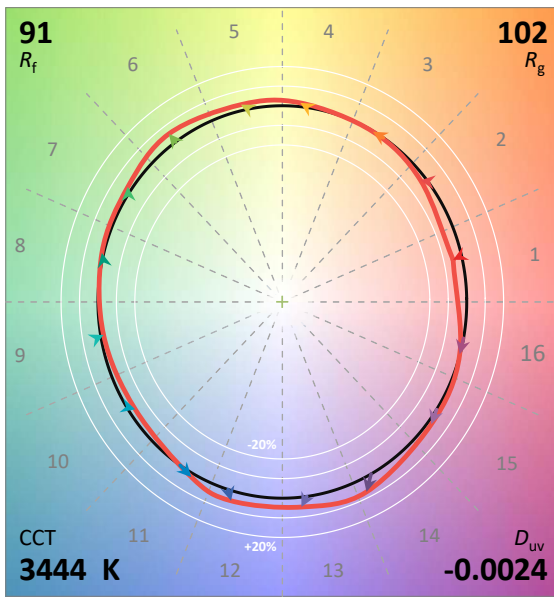
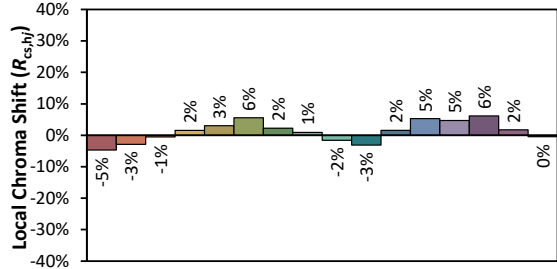
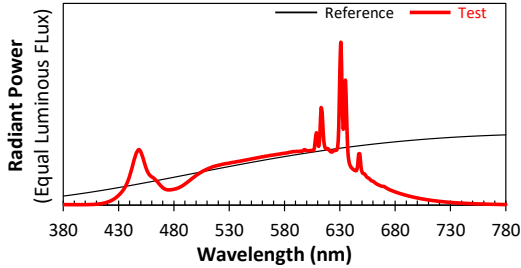
ANSI/IES TM-30-18 Color Rendition Report

Source: Test Number: 13542729.04

Manufacturer: BARTCO LIGHTING INC

Date: 2020-10-15

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



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

x 0.4058
y 0.3855
u' 0.2382
v' 0.5091

CIE 13.3-1995 (CRI)	
R _a	94
R _g	66

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