



HCB02-4-BS35-ND-R-SM-SN-AW

Luminaire Description: White rectangular metal housing with diffuse plastic lens
Lamp: White LED array
Mounting: Surface – Ceiling
Ballast/Driver: One (1) Philips Advance XI040C110V054BST1

Luminaire



Luminaire Characteristics

Luminous Length: 44.00 in.
Luminous Width: 3.000 in.

Summary of Results

Integrating Sphere

Luminous Flux: 2535 Lumens
Efficacy: 71.07 lm/w
CCT: 3443 K
CRI (Ra): 83.8

Distribution

Total Luminaire Output: 2433 Lumens
Luminaire Efficacy: 68.1 lm/w
Maximum Candela: 910 Candela

Electrical Data at 120 VAC

Test Temperature: 24.5 °C
Voltage: 120.1 VAC
Current: 0.2980 A
Power: 35.67 W
Power Factor: 0.997
Frequency: 60 Hz
Current THD: 6.62 %



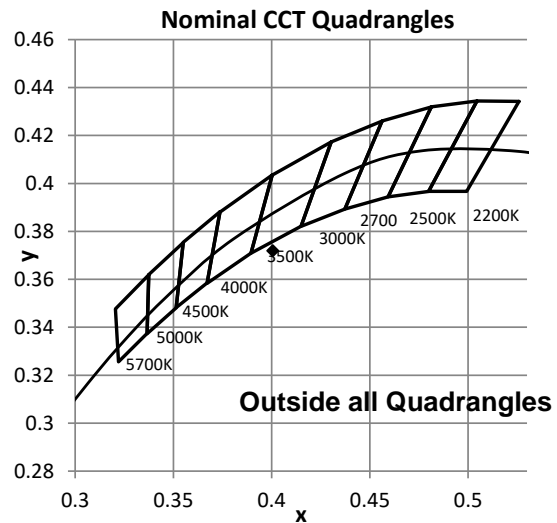
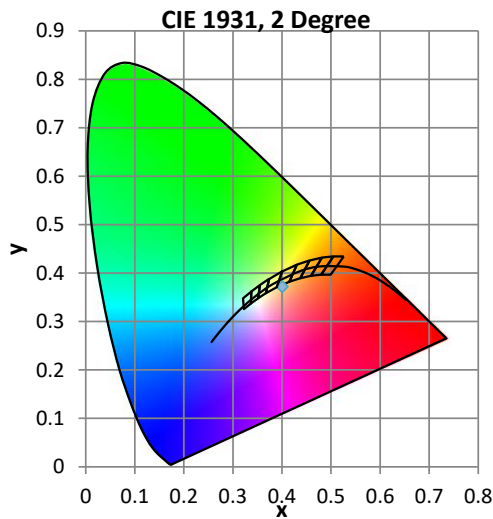
Color Quality - Integrating Sphere

Integrating Sphere Test Conditions

Temperature	Voltage	Current	Power	Power Factor	Frequency	Current THD
24.5 °C	120.1 VAC	0.2980 A	35.67 W	0.997	60 Hz	6.62 %

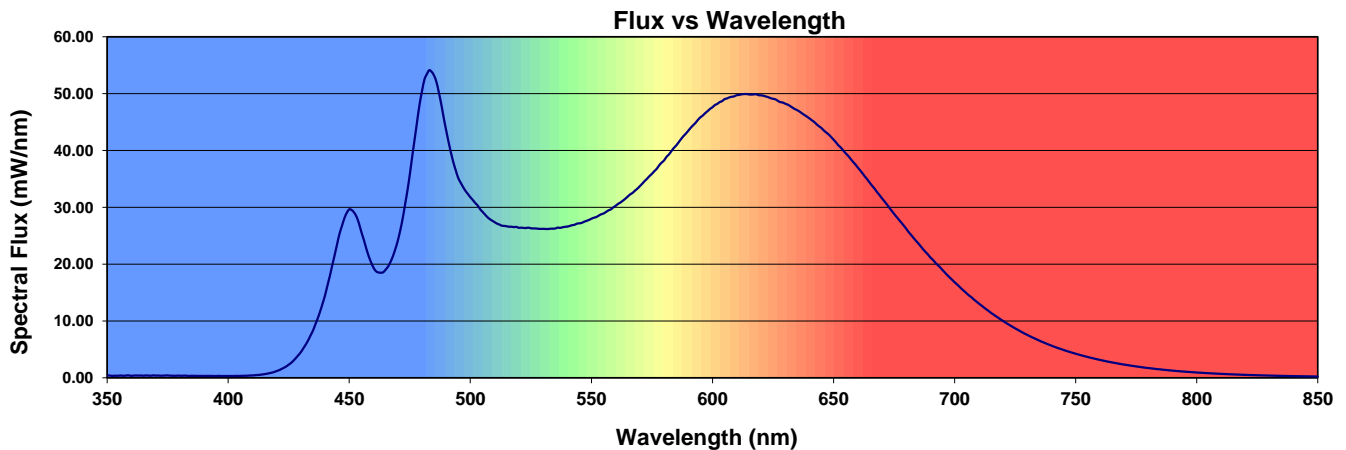
Summary of Results

Total Output:	2535 Lumens	Chromaticity (x):	0.4006
Efficacy:	71.1 lm/w	Chromaticity (y):	0.3719
CCT:	3443 K	Chromaticity (u'):	0.2405
CRI (Ra):	83.8	Chromaticity (v'):	0.5025
CRI (R9):	94.3	TM-30 Rf:	83.6
Peak Wavelength:	483 nm	TM-30 Rg:	94.2
Dominant Wavelength:	585 nm	Duv:	-0.0077
S/P Ratio:	1.93		



Color Rendering Index Detail

Ra (CRI)	R1	R2	R3	R4	R5	R6	R7	R8	R9	R10	R11	R12	R13	R14	R15
83.8	89.6	83.1	77.1	90.0	85.8	73.4	83.4	88.4	94.3	61.2	89.2	55.9	86.2	87.6	92.7





Distribution - Goniophotometer

Distribution Test Conditions

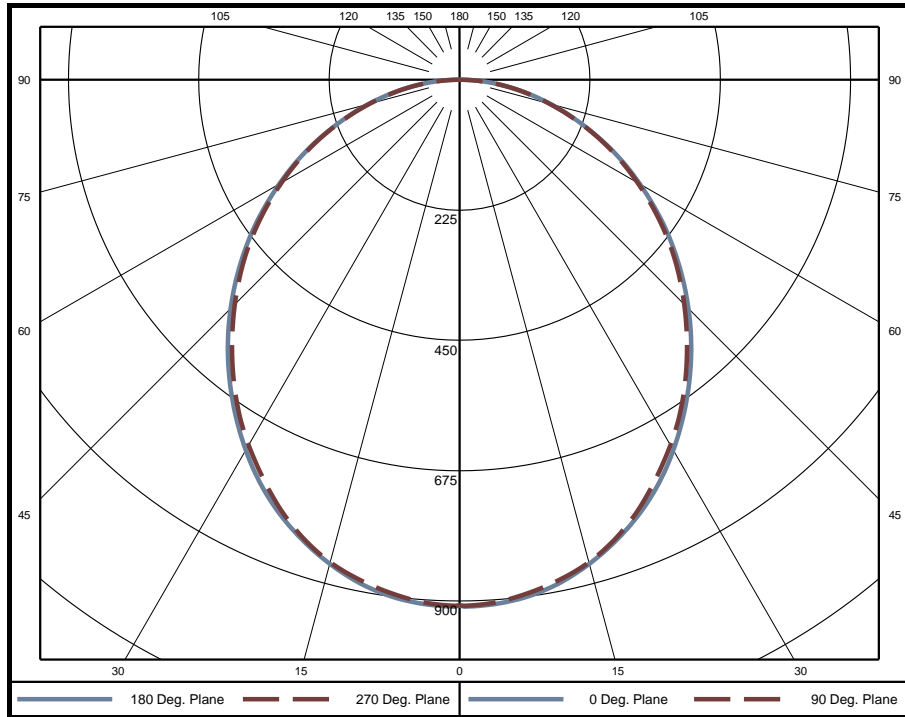
Temperature	Voltage	Current	Power	Power Factor	Frequency	Current THD
24.5 °C	120.1 VAC	0.2985 A	35.73 W	0.997	60 Hz	6.61 %

Summary of Results

Spacing Criteria
 0-180: 1.21
 90-270: 1.20

Total Lumen Output: 2433 Lumens
Luminaire Efficacy: 68.1 lm/w
Maximum Candela: 910 Candela

Polar Plot



Zonal Lumen Summary

Zone	Lumens	% of Luminaire	Zone	Lumens	% of Luminaire	Zone	Lumens	% of Luminaire
0-5	21.6	0.9%	60-65	157.6	6.5%	120-125	0	0.0%
5-10	64.0	2.6%	65-70	130.7	5.4%	125-130	0	0.0%
10-15	103.7	4.3%	70-75	101.1	4.2%	130-135	0	0.0%
15-20	139.3	5.7%	75-80	70.9	2.9%	135-140	0	0.0%
20-25	168.9	6.9%	80-85	41.4	1.7%	140-145	0	0.0%
25-30	191.7	7.9%	85-90	13.3	0.5%	145-150	0	0.0%
30-35	207.3	8.5%	90-95	0	0.0%	150-155	0	0.0%
35-40	215.5	8.9%	95-100	0	0.0%	155-160	0	0.0%
40-45	216.4	8.9%	100-105	0	0.0%	160-165	0	0.0%
45-50	210.7	8.7%	105-110	0	0.0%	165-170	0	0.0%
50-55	198.7	8.2%	110-115	0	0.0%	170-175	0	0.0%
55-60	180.5	7.4%	115-120	0	0.0%	175-180	0	0.0%

Zone	Lumens	% of Luminaire
0-40	1112	45.7%
0-60	1918	78.8%
0-90	2433	100.0%
90-180	0	0.0%



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	907.2	907.2	907.2	907.2	907.2	907.2	907.2	907.2	907.2	907.2	907.2	907.2	907.2	907.2	907.2	907.2
5	905.3	899.7	901.7	901.5	901.7	901.5	901.7	899.7	905.3	899.7	901.7	901.5	901.7	901.5	901.7	899.7
10	891.0	885.0	886.5	886.2	885.3	886.2	886.5	885.0	891.0	885.0	886.5	886.2	885.3	886.2	886.5	885.0
15	865.1	859.8	862.4	862.0	862.1	862.0	862.4	859.8	865.1	859.8	862.4	862.0	862.1	862.0	862.4	859.8
20	830.7	826.1	828.1	827.0	826.4	827.0	828.1	826.1	830.7	826.1	828.1	827.0	826.4	827.0	828.1	826.1
25	788.9	784.3	783.6	780.7	779.7	780.7	783.6	784.3	788.9	784.3	783.6	780.7	779.7	780.7	783.6	784.3
30	737.8	733.6	732.0	729.2	728.1	729.2	732.0	733.6	737.8	733.6	732.0	729.2	728.1	729.2	732.0	733.6
35	681.3	677.6	676.6	673.3	672.1	673.3	676.6	677.6	681.3	677.6	676.6	673.3	672.1	673.3	676.6	677.6
40	621.6	618.5	616.8	612.2	610.8	612.2	616.8	618.5	621.6	618.5	616.8	612.2	610.8	612.2	616.8	618.5
45	558.4	556.4	554.5	549.8	548.7	549.8	554.5	556.4	558.4	556.4	554.5	549.8	548.7	549.8	554.5	556.4
50	493.2	492.3	490.9	486.8	486.0	486.8	490.9	492.3	493.2	492.3	490.9	486.8	486.0	486.8	490.9	492.3
55	426.8	426.8	425.0	421.4	420.5	421.4	425.0	426.8	426.8	426.8	425.0	421.4	420.5	421.4	425.0	426.8
60	358.7	359.8	358.5	355.2	354.4	355.2	358.5	359.8	358.7	359.8	358.5	355.2	354.4	355.2	358.5	359.8
65	292.3	292.5	292.1	289.9	289.4	289.9	292.1	292.5	292.3	292.5	292.1	289.9	289.4	289.9	292.1	292.5
70	225.4	226.9	226.1	224.6	224.2	224.6	226.1	226.9	225.4	226.9	226.1	224.6	224.2	224.6	226.1	226.9
75	162.6	163.0	162.2	161.4	161.1	161.4	162.2	163.0	162.6	163.0	162.2	161.4	161.1	161.4	162.2	163.0
80	103.9	104.4	103.6	103.4	103.0	103.4	103.6	104.4	103.9	104.4	103.6	103.4	103.0	103.4	103.6	104.4
85	49.9	49.8	49.5	49.2	49.0	49.2	49.5	49.8	49.9	49.8	49.5	49.2	49.0	49.2	49.5	49.8
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)

	0	45	90
0	10650	10650	10650
45	9273	9209	9111
55	8738	8702	8608
65	8122	8117	8042
75	7377	7361	7311
85	6721	6667	6607

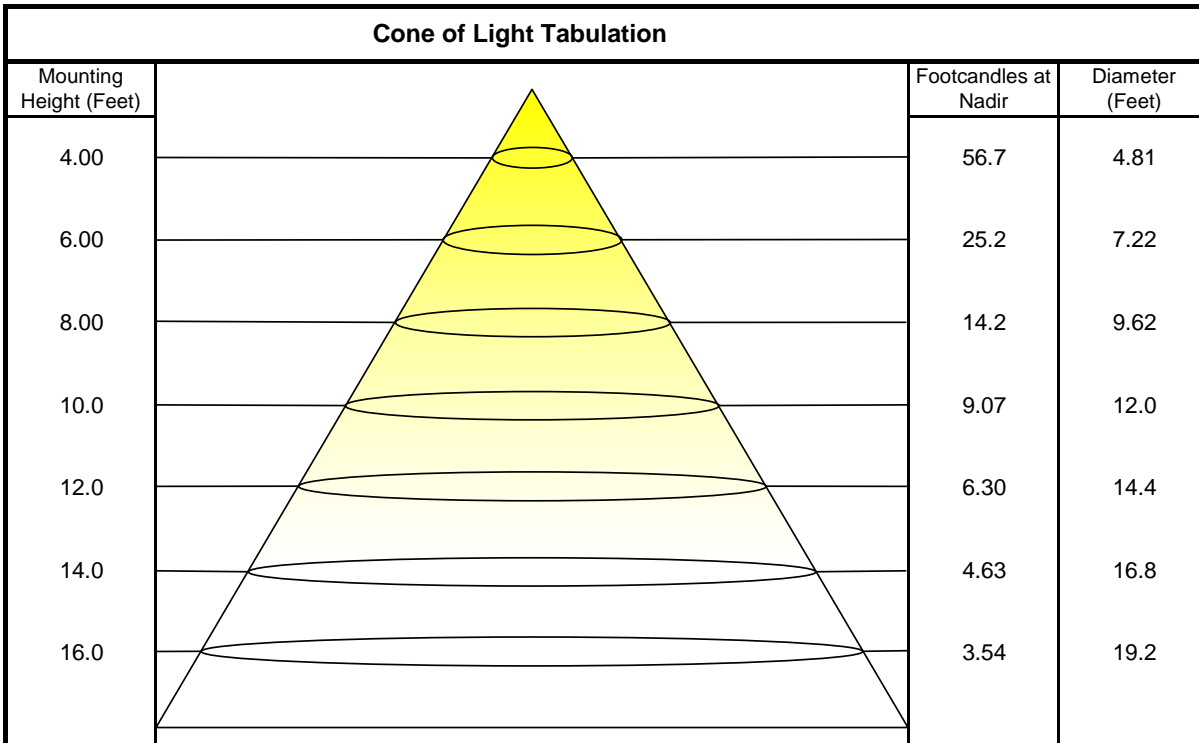


Coefficients of Utilization - Zonal Cavity Method

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	99	96	106	102	98	94	97	94	91	93	91	88	90	88	86	83
2	99	91	84	78	96	89	82	77	85	80	75	82	77	73	79	75	72	70
3	90	80	71	65	88	78	70	64	75	68	63	72	67	62	70	65	61	59
4	83	71	62	55	80	69	61	55	67	60	54	64	58	53	62	57	52	50
5	76	63	54	47	74	62	54	47	60	52	47	58	51	46	56	50	46	44
6	70	57	48	42	68	56	47	41	54	47	41	52	46	41	51	45	40	38
7	65	52	43	37	63	51	43	37	49	42	36	48	41	36	46	40	36	34
8	61	47	39	33	59	46	38	33	45	38	33	44	37	32	43	37	32	30
9	57	43	35	30	55	43	35	30	42	34	29	41	34	29	40	33	29	27
10	53	40	32	27	52	40	32	27	39	32	27	38	31	27	37	31	26	25

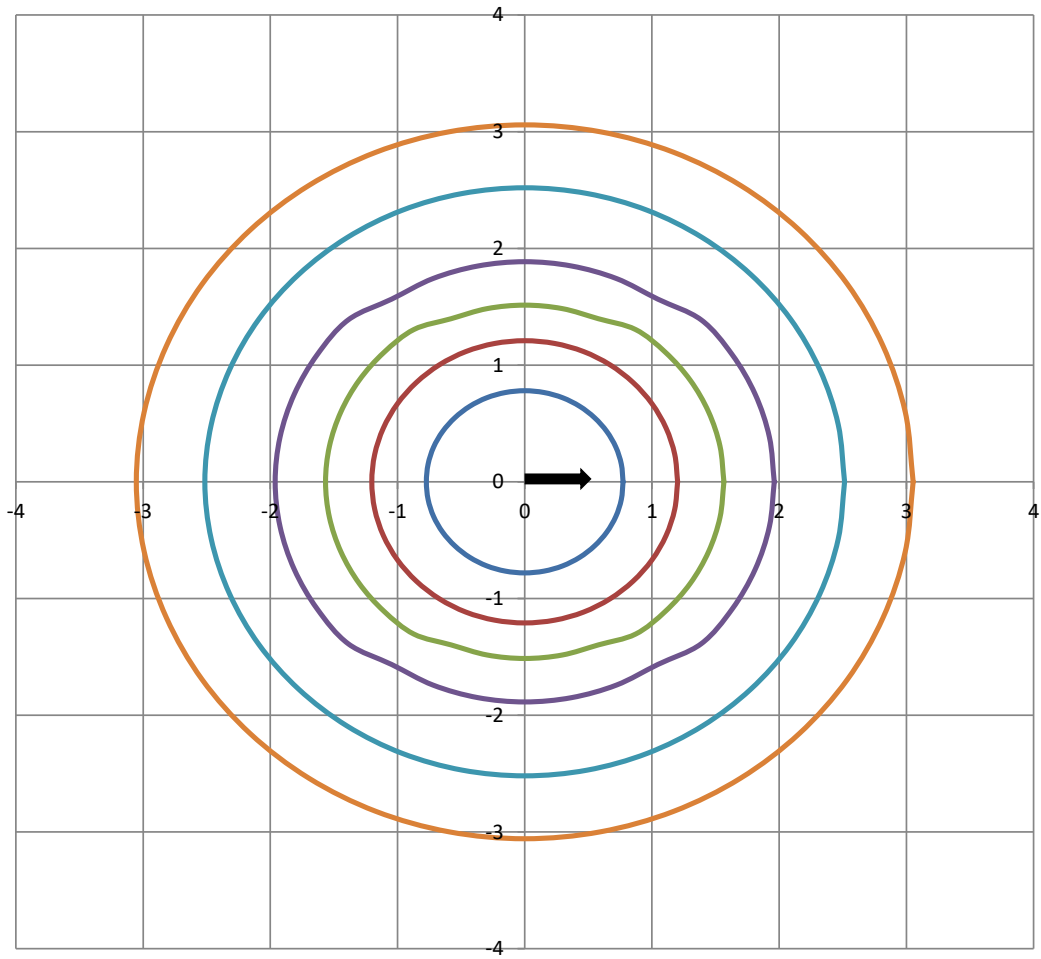
Beam and Field Information	
CIE Type:	Direct
Center Beam Intensity:	907.2 Candela
Central Cone Intensity:	905 Candela
Beam Flux:	1651.2 Lumens
Beam Angle (0-180):	106.0 Degrees
Beam Angle (90-270):	105.0 Degrees
Field Angle (0-180):	162.3 Degrees
Field Angle (90-270):	162.2 Degrees





ISOFootcandle Plot

Mounting Height - 8 Feet



Grid Lines in Units of Mounting Height

