



IES INDOOR REPORT

PHOTOMETRIC FILENAME : RND-3-L67-930-FFA-(L29)-DIM1-UNV_.IES

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002

[TEST] GEN FROM BALLABS TEST NO. 18642.0

[TESTLAB] BUILDING ACOUSTICS & LIGHTING LABORATORIES, INC

[ISSUEDATE] 01-04-2024

[MANUFAC] WILLIAMS INDOOR

[OTHER] H.E. WILLIAMS, INC - CARTHAGE, MO

[LUMINAIRE] 8-32LED 22"ARRAYS 3x3'SQ HOUSING w/3/4"DIA APERATURE

[MORE] ARRAYS ON WHITE INTERNAL REFLS & WHITE FROST ACRYLIC FLAT LENS

[LUMCAT] RND-3-L67-930-FFA-(L29)-DIM1-UNV

[LAMPCAT] HLM 90 CRI 3000K CCT

CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	2291
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	91
Total Luminaire Watts	25.1
Ballast Factor	1.00
CIE Type	Direct
Spacing Criterion (0-180)	1.16
Spacing Criterion (90-270)	1.16
Spacing Criterion (Diagonal)	1.32
Basic Luminous Shape	Circular w/ Sides
Luminous Length (0-180)	2.80 ft (Diameter)
Luminous Width (90-270)	2.80 ft (Diameter)
Luminous Height	0.17 ft



LUMINANCE DATA (cd/sq.m)

Angle In Degrees	Average 0-Deg	Average 45-Deg	Average 90-Deg
45	1198	1200	1198
55	1103	1108	1101
65	978	978	981
75	796	796	796
85	586	578	586

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CANDELA TABULATION

	<u>0.0</u>	<u>22.5</u>	<u>45.0</u>	<u>67.5</u>	<u>90.0</u>
0	856.848	856.848	856.848	856.848	856.848
5	845.288	846.689	845.288	846.689	845.288
10	828.824	829.524	829.524	829.524	830.575
15	806.054	806.054	807.805	807.805	809.206
20	771.724	772.775	772.775	773.475	773.475
25	734.241	735.992	735.992	735.992	735.992
30	658.575	658.575	659.276	658.575	658.575
35	612.335	613.385	614.787	614.787	613.385
40	564.693	565.744	565.744	564.693	564.693
45	522.656	523.357	523.357	522.656	522.656
50	461.002	462.404	463.104	462.404	462.404
55	402.151	403.903	403.903	403.903	401.450
60	336.644	336.644	337.344	337.344	337.344
65	275.691	274.289	275.691	275.691	276.391
70	215.788	216.489	215.788	215.788	216.489
75	151.682	150.631	151.682	150.631	151.682
80	97.735	97.735	97.035	97.735	97.735
85	54.648	54.648	53.947	53.947	54.648
90	22.770	22.770	21.719	22.770	22.770
95	0.000	0.000	0.000	0.000	0.000
100	0.000	0.000	0.000	0.000	0.000
105	0.000	0.000	0.000	0.000	0.000
110	0.000	0.000	0.000	0.000	0.000
115	0.000	0.000	0.000	0.000	0.000
120	0.000	0.000	0.000	0.000	0.000
125	0.000	0.000	0.000	0.000	0.000
130	0.000	0.000	0.000	0.000	0.000
135	0.000	0.000	0.000	0.000	0.000
140	0.000	0.000	0.000	0.000	0.000
145	0.000	0.000	0.000	0.000	0.000
150	0.000	0.000	0.000	0.000	0.000
155	0.000	0.000	0.000	0.000	0.000
160	0.000	0.000	0.000	0.000	0.000
165	0.000	0.000	0.000	0.000	0.000
170	0.000	0.000	0.000	0.000	0.000
175	0.000	0.000	0.000	0.000	0.000
180	0.000	0.000	0.000	0.000	0.000

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ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-20	307.63	N.A.	13.40
0-30	642.34	N.A.	28.00
0-40	1026.49	N.A.	44.80
0-60	1786.51	N.A.	78.00
0-80	2222.39	N.A.	97.00
0-90	2284.68	N.A.	99.70
10-90	2204.38	N.A.	96.20
20-40	718.86	N.A.	31.40
20-50	1119.47	N.A.	48.90
40-70	1033.36	N.A.	45.10
60-80	435.88	N.A.	19.00
70-80	162.53	N.A.	7.10
80-90	62.29	N.A.	2.70
90-110	6.16	N.A.	0.30
90-120	6.16	N.A.	0.30
90-130	6.16	N.A.	0.30
90-150	6.16	N.A.	0.30
90-180	6.16	N.A.	0.30
110-180	0.00	N.A.	0.00
0-180	2290.84	N.A.	100.00

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	80.30
10-20	227.33
20-30	334.71
30-40	384.15
40-50	400.61
50-60	359.40
60-70	273.35
70-80	162.53
80-90	62.29
90-100	6.16
100-110	0.00
110-120	0.00
120-130	0.00
130-140	0.00
140-150	0.00
150-160	0.00
160-170	0.00
170-180	0.00

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COEFFICIENTS OF UTILIZATION - ZONAL CAVITY METHOD

Effective Floor Cavity Reflectance 0.20

RC	80				70				50			30			10			0
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	0
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100
1	108	103	99	95	106	101	97	93	97	93	90	93	90	88	89	87	85	83
2	98	90	83	77	96	88	82	76	85	79	75	81	77	73	78	74	71	69
3	90	79	71	64	87	78	70	64	75	68	63	72	66	61	69	64	60	58
4	82	70	61	55	80	69	61	54	66	59	53	64	58	53	62	56	52	50
5	76	63	54	47	74	62	53	47	59	52	46	57	51	46	56	50	45	43
6	70	57	48	41	68	56	47	41	54	46	41	52	45	40	50	44	40	38
7	65	51	43	36	63	51	42	36	49	41	36	47	41	36	46	40	35	33
8	60	47	38	33	59	46	38	32	45	37	32	44	37	32	42	36	32	30
9	57	43	35	29	55	42	35	29	41	34	29	40	34	29	39	33	29	27
10	53	40	32	27	52	39	32	27	38	31	26	37	31	26	36	30	26	24

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UGR TABLE - CORRECTED

Reflectances

Ceiling Cavity	70	70	50	50	30	70	70	50	50	30
Walls	50	30	50	30	30	50	30	50	30	30
Floor Cavity	20	20	20	20	20	20	20	20	20	20

Room Size UGR Viewed Crosswise

X=2H	Y=2H	11.5	13.2	11.9	13.5	13.8	11.5	13.2	11.9	13.5	13.8
	3H	13.3	14.8	13.7	15.1	15.5	13.3	14.8	13.7	15.1	15.5
	4H	13.9	15.3	14.3	15.7	16.1	13.9	15.3	14.3	15.7	16.1
	6H	14.4	15.7	14.8	16.1	16.5	14.4	15.7	14.8	16.1	16.5
	8H	14.6	15.8	15.0	16.2	16.6	14.6	15.9	15.0	16.2	16.6
	12H	14.8	15.9	15.2	16.3	16.7	14.8	15.9	15.2	16.3	16.8

UGR Viewed Endwise

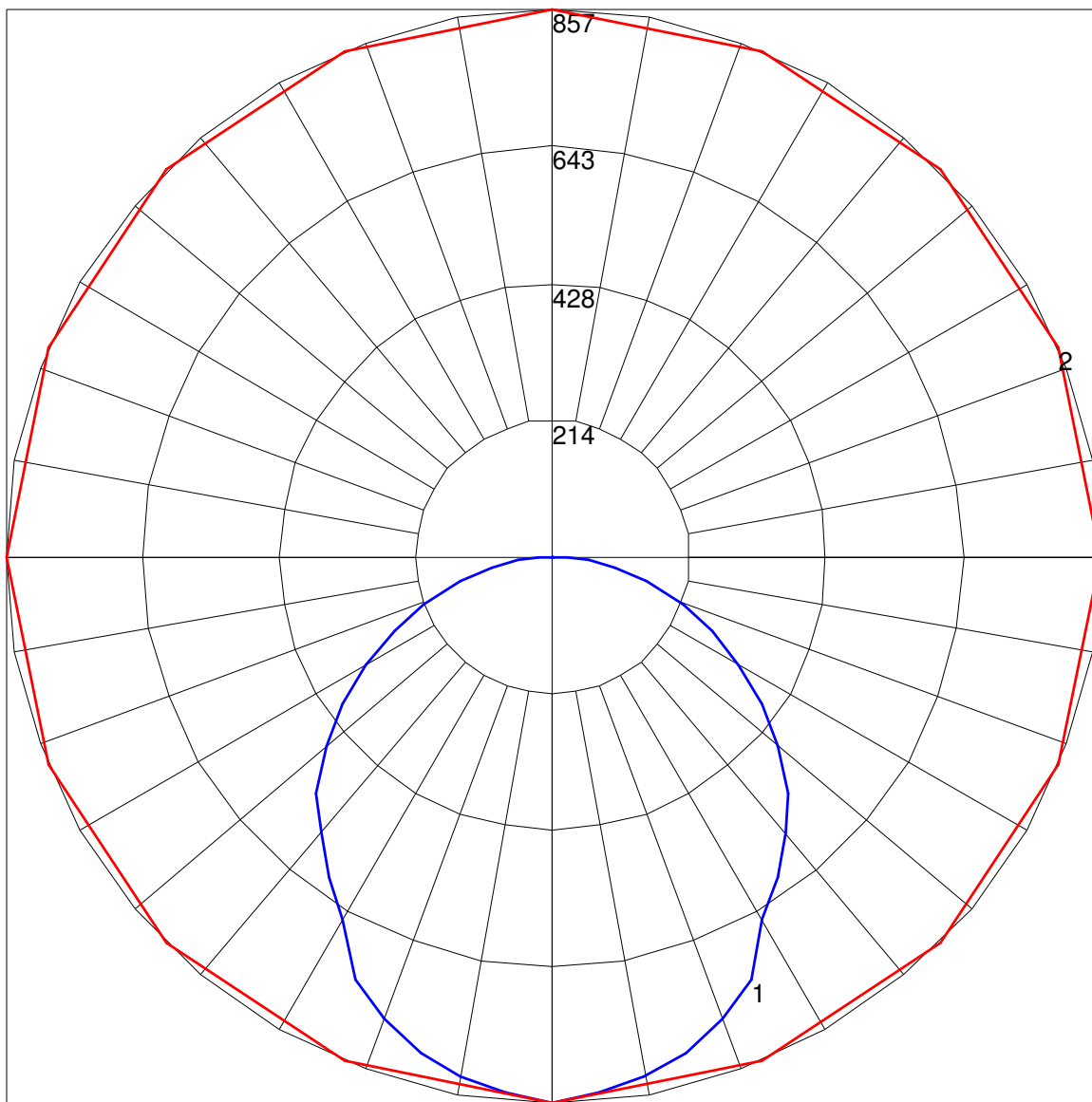
4H	2H	12.1	13.5	12.5	13.9	14.2	12.1	13.5	12.5	13.9	14.2
	3H	14.1	15.3	14.5	15.7	16.1	14.1	15.3	14.5	15.7	16.1
	4H	14.9	15.9	15.3	16.4	16.8	14.9	15.9	15.3	16.4	16.8
	6H	15.5	16.4	15.9	16.9	17.3	15.5	16.4	15.9	16.9	17.3
	8H	15.7	16.6	16.2	17.0	17.5	15.7	16.6	16.2	17.0	17.5
	12H	15.9	16.7	16.4	17.2	17.6	15.9	16.7	16.4	17.2	17.7

8H	4H	15.1	16.0	15.6	16.5	16.9	15.1	16.0	15.6	16.5	16.9
	6H	15.9	16.6	16.4	17.1	17.6	15.9	16.6	16.4	17.1	17.6
	8H	16.2	16.9	16.7	17.4	17.9	16.2	16.9	16.7	17.4	17.9
	12H	16.5	17.1	17.0	17.6	18.1	16.5	17.1	17.0	17.6	18.1

12H	4H	15.2	16.0	15.7	16.5	16.9	15.2	16.0	15.7	16.5	16.9
	6H	16.0	16.6	16.5	17.1	17.6	16.0	16.6	16.5	17.1	17.6
	8H	16.3	16.9	16.8	17.4	18.0	16.3	16.9	16.8	17.4	18.0

Maximum UGR = 18.1

POLAR GRAPH



Maximum Candela = 856.848 Located At Horizontal Angle = 0, Vertical Angle = 0
1 - Vertical Plane Through Horizontal Angles (0 - 180) (Through Max. Cd.)
2 - Horizontal Cone Through Vertical Angle (0) (Through Max. Cd.)