



IES INDOOR REPORT
PHOTOMETRIC FILENAME : RND-2-L22-930-FCA-(L13)-DIM1-UNV_.IES

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002
[TEST]GEN FROM BALLABS TEST NO. 18641.0
[TESTLAB] BUILDING ACOUSTICS & LIGHTING LABORATORIES, INC
[ISSUE DATE] 01-04-2024
[MANUFAC] WILLIAMS INDOOR
[OTHER] H.E. WILLIAMS, INC - CARTHAGE, MO
[LUMINAIRE] 3-32LED 22"ARRAYS 2x2'RECESSED LUMINAIRE w/WHITE REFL
[MORE] ARRAYS ON WHITE INTERNAL REFLS & 2"DIA WHITE FROST ACRYLIC
[MORE] CONCAVE LENS
[LUMCAT] RND-2-L22-930-FCA-(L13)-DIM-UNV
[LAMPCAT] HLM 90 CRI 3000K CCT

CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	1062
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	69
Total Luminaire Watts	15.3
Ballast Factor	1.00
CIE Type	Direct
Spacing Criterion (0-180)	1.26
Spacing Criterion (90-270)	1.26
Spacing Criterion (Diagonal)	1.36
Basic Luminous Shape	Circular w/ Sides
Luminous Length (0-180)	1.81 ft (Diameter)
Luminous Width (90-270)	1.81 ft (Diameter)
Luminous Height	0.10 ft



LUMINANCE DATA (cd/sq.m)

Angle In Degrees	Average 0-Deg	Average 45-Deg	Average 90-Deg
45	1353	1342	1348
55	1222	1244	1218
65	1091	1103	1078
75	912	906	870
85	634	622	622

IES INDOOR REPORT
PHOTOMETRIC FILENAME : RND-2-L22-930-FCA-(L13)-DIM1-UNV_.IES

CANDELA TABULATION

	<u>0.0</u>	<u>22.5</u>	<u>45.0</u>	<u>67.5</u>	<u>90.0</u>
0	377.717	377.717	377.717	377.717	377.717
5	378.672	377.717	376.762	376.762	375.807
10	373.419	372.942	371.509	371.987	371.509
15	364.346	364.346	363.391	362.914	362.914
20	351.453	351.453	350.976	350.498	350.021
25	336.650	335.695	336.173	334.263	335.695
30	318.982	316.594	317.549	314.684	317.549
35	297.016	295.106	295.106	292.719	296.061
40	272.185	271.230	270.275	267.888	271.230
45	246.399	245.922	244.489	241.624	245.444
50	216.793	217.271	217.271	216.793	216.316
55	185.754	188.142	189.097	188.620	185.277
60	158.058	158.058	159.969	158.058	155.671
65	127.975	127.020	129.407	127.497	126.542
70	98.846	95.981	100.756	97.891	96.936
75	72.105	68.763	71.628	69.718	68.763
80	45.364	43.932	43.932	42.022	42.977
85	24.353	23.398	23.876	22.921	23.876
90	10.505	10.028	8.595	8.595	7.640

IES INDOOR REPORT**PHOTOMETRIC FILENAME : RND-2-L22-930-FCA-(L13)-DIM1-UNV_.IES****ZONAL LUMEN SUMMARY**

Zone	Lumens	%Lamp	%Fixt
0-20	138.36	N.A.	13.00
0-30	292.92	N.A.	27.60
0-40	477.27	N.A.	44.90
0-60	833.85	N.A.	78.50
0-80	1034.98	N.A.	97.40
0-90	1062.15	N.A.	100.00
10-90	1026.32	N.A.	96.60
20-40	338.91	N.A.	31.90
20-50	527.47	N.A.	49.70
40-70	483.31	N.A.	45.50
60-80	201.13	N.A.	18.90
70-80	74.39	N.A.	7.00
80-90	27.17	N.A.	2.60
90-110	0.00	N.A.	0.00
90-120	0.00	N.A.	0.00
90-130	0.00	N.A.	0.00
90-150	0.00	N.A.	0.00
90-180	0.00	N.A.	0.00
110-180	0.00	N.A.	0.00
0-180	1062.15	N.A.	100.00

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	35.83
10-20	102.53
20-30	154.56
30-40	184.36
40-50	188.56
50-60	168.02
60-70	126.74
70-80	74.39
80-90	27.17
90-100	0.00
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

IES INDOOR REPORT
PHOTOMETRIC FILENAME : RND-2-L22-930-FCA-(L13)-DIM1-UNV_.IES

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	109	104	99	95	106	101	97	94	97	94	91	93	90	88	90	87	85	83
2	99	90	83	78	96	88	82	77	85	79	75	81	77	73	78	75	71	69
3	90	79	71	64	87	78	70	64	75	68	63	72	66	62	69	65	61	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	60	52	46	58	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	42	36	63	50	42	36	49	41	36	47	41	36	46	40	35	33
8	60	47	38	32	59	46	38	32	45	37	32	44	37	32	42	36	32	30
9	56	43	35	29	55	42	34	29	41	34	29	40	34	29	39	33	29	27
10	53	40	32	26	52	39	32	26	38	31	26	37	31	26	36	30	26	24

IES INDOOR REPORT

PHOTOMETRIC FILENAME : RND-2-L22-930-FCA-(L13)-DIM1-UNV_.IES

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	11.9	13.5	12.2	13.8	14.2	11.9	13.5	12.2	13.8	14.2
	3H	13.6	15.1	14.0	15.4	15.8	13.6	15.1	14.0	15.4	15.8
	4H	14.2	15.6	14.6	16.0	16.4	14.2	15.6	14.6	16.0	16.3
	6H	14.7	16.0	15.1	16.4	16.8	14.7	16.0	15.1	16.3	16.7
	8H	14.9	16.2	15.3	16.6	16.9	14.8	16.1	15.3	16.5	16.9
	12H	15.1	16.2	15.5	16.6	17.1	15.0	16.2	15.4	16.5	17.0

UGR Viewed Endwise

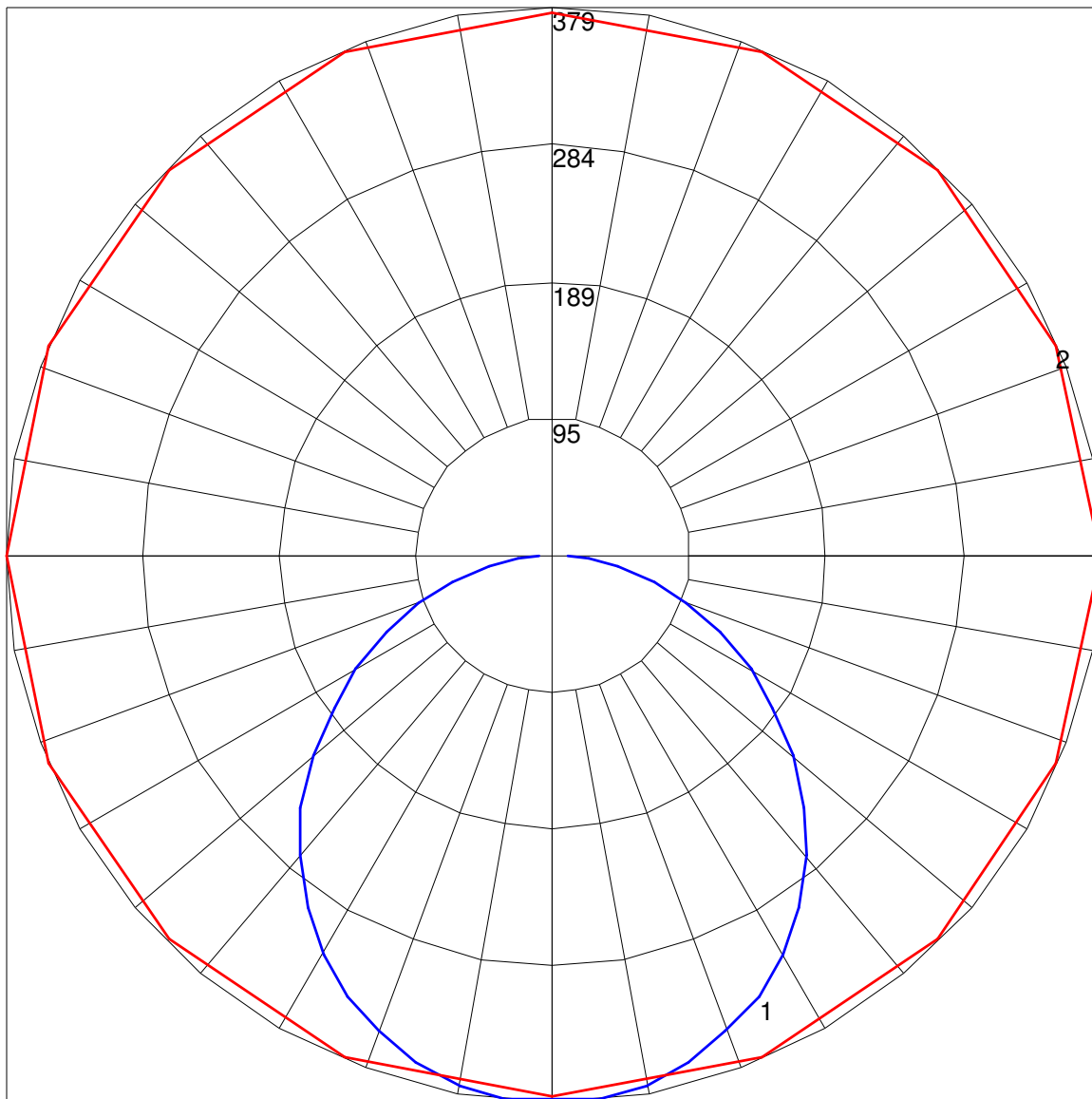
4H	2H	12.5	13.9	12.9	14.2	14.6	12.5	13.9	12.9	14.2	14.6
	3H	14.4	15.6	14.8	16.0	16.4	14.4	15.6	14.8	16.0	16.4
	4H	15.2	16.2	15.6	16.7	17.1	15.2	16.2	15.6	16.6	17.1
	6H	15.8	16.7	16.2	17.2	17.6	15.7	16.7	16.2	17.1	17.6
	8H	16.0	16.9	16.5	17.3	17.8	15.9	16.8	16.4	17.3	17.7
	12H	16.2	17.0	16.7	17.5	17.9	16.1	16.9	16.6	17.4	17.9

8H	4H	15.5	16.3	15.9	16.8	17.3	15.5	16.3	15.9	16.8	17.2
	6H	16.2	16.9	16.7	17.4	17.9	16.1	16.9	16.6	17.4	17.8
	8H	16.5	17.1	17.0	17.7	18.1	16.4	17.1	16.9	17.6	18.1
	12H	16.8	17.3	17.3	17.8	18.4	16.7	17.3	17.2	17.7	18.3

12H	4H	15.5	16.3	16.0	16.8	17.2	15.5	16.3	16.0	16.8	17.2
	6H	16.3	16.9	16.8	17.4	17.9	16.2	16.9	16.7	17.3	17.9
	8H	16.6	17.2	17.1	17.7	18.2	16.5	17.1	17.0	17.6	18.2

Maximum UGR = 18.4

POLAR GRAPH



Maximum Candela = 378.672 Located At Horizontal Angle = 0, Vertical Angle = 5
1 - Vertical Plane Through Horizontal Angles (0 - 180) (Through Max. Cd.)
2 - Horizontal Cone Through Vertical Angle (5) (Through Max. Cd.)