



**IES INDOOR REPORT**  
**PHOTOMETRIC FILENAME : RND-4-L200-835-FXA-DIM-UNV.IES**

**DESCRIPTION INFORMATION (From Photometric File)**

IESNA:LM-63-2002  
 [TEST]GEN FROM BALLABS TEST NO. 18646.0  
 [TESTLAB] BUILDING ACOUSTICS & LIGHTING LABORATORIES, INC  
 [ISSUE DATE] 07-OCT-2018  
 [MANUFAC] WILLIAMS INDOOR  
 [OTHER] H.E. WILLIAMS, INC - CARTHAGE, MO  
 [LUMINAIRE] 16-32LED 22"ARRAYS 4x4'RECESSED LUMINAIRE w/WHITE REFL  
 [MORE] ARRAYS ON WHITE INTERNAL REFLS & 46"DIA WHITE FROST ACRYLIC  
 [MORE] CONVEX LENS  
 [LUMCAT] RND-4-L200-835-FXA-DIM-UNV  
 [LAMPCAT] HLM 80 CRI 3500K CCT

**CHARACTERISTICS**

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	20167
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	98
Total Luminaire Watts	205
Ballast Factor	1.00
CIE Type	Direct
Spacing Criterion (0-180)	1.20
Spacing Criterion (90-270)	1.20
Spacing Criterion (Diagonal)	1.34
Basic Luminous Shape	Circular w/ Sides
Luminous Length (0-180)	3.80 ft (Diameter)
Luminous Width (90-270)	3.80 ft (Diameter)
Luminous Height	0.23 ft

**LUMINANCE DATA (cd/sq.m)**

Angle In Degrees	Average 0-Deg	Average 45-Deg	Average 90-Deg
45	5787	5776	5787
55	5332	5332	5313
65	4746	4736	4729
75	3804	3783	3804
85	2869	2869	2901

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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	7308.488	7308.488	7308.488	7308.488	7308.488
5	7148.222	7139.116	7139.116	7135.473	7139.116
10	7051.698	7051.698	7051.698	7038.950	7038.950
15	6780.339	6780.339	6783.981	6783.981	6780.339
20	6640.106	6623.715	6620.073	6620.073	6607.324
25	6286.793	6286.793	6275.866	6283.150	6275.866
30	5858.810	5855.168	5847.883	5847.883	5847.883
35	5454.503	5454.503	5454.503	5454.503	5454.503
40	5055.660	5055.660	5050.196	5042.911	5055.660
45	4651.352	4651.352	4642.246	4634.962	4651.352
50	4074.031	4074.031	4074.031	4066.746	4074.031
55	3582.306	3573.200	3582.306	3573.200	3569.558
60	2984.952	2977.667	2977.667	2984.952	2964.918
65	2465.909	2460.445	2460.445	2460.445	2456.803
70	1917.727	1917.727	1917.727	1917.727	1917.727
75	1336.763	1336.763	1329.478	1336.763	1336.763
80	888.747	885.105	885.105	885.105	892.389
85	495.367	495.367	495.367	484.440	500.831
90	211.260	211.260	211.260	203.975	211.260
95	27.318	40.066	40.066	40.066	32.782
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	2605.22	N.A.	12.90
0-30	5494.00	N.A.	27.20
0-40	8911.61	N.A.	44.20
0-60	15646.52	N.A.	77.60
0-80	19522.09	N.A.	96.80
0-90	20089.44	N.A.	99.60
10-90	19409.23	N.A.	96.20
20-40	6306.39	N.A.	31.30
20-50	9863.13	N.A.	48.90
40-70	9165.9	N.A.	45.40
60-80	3875.57	N.A.	19.20
70-80	1444.58	N.A.	7.20
80-90	567.34	N.A.	2.80
90-110	77.84	N.A.	0.40
90-120	77.84	N.A.	0.40
90-130	77.84	N.A.	0.40
90-150	77.84	N.A.	0.40
90-180	77.84	N.A.	0.40
110-180	0.00	N.A.	0.00
0-180	20167.27	N.A.	100.00

Total Luminaire Efficiency = N.A. %

**ZONAL LUMEN SUMMARY**

Zone	Lumens
0-10	680.21
10-20	1925.01
20-30	2888.78
30-40	3417.61
40-50	3556.74
50-60	3178.17
60-70	2430.99
70-80	1444.58
80-90	567.34
90-100	77.84
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

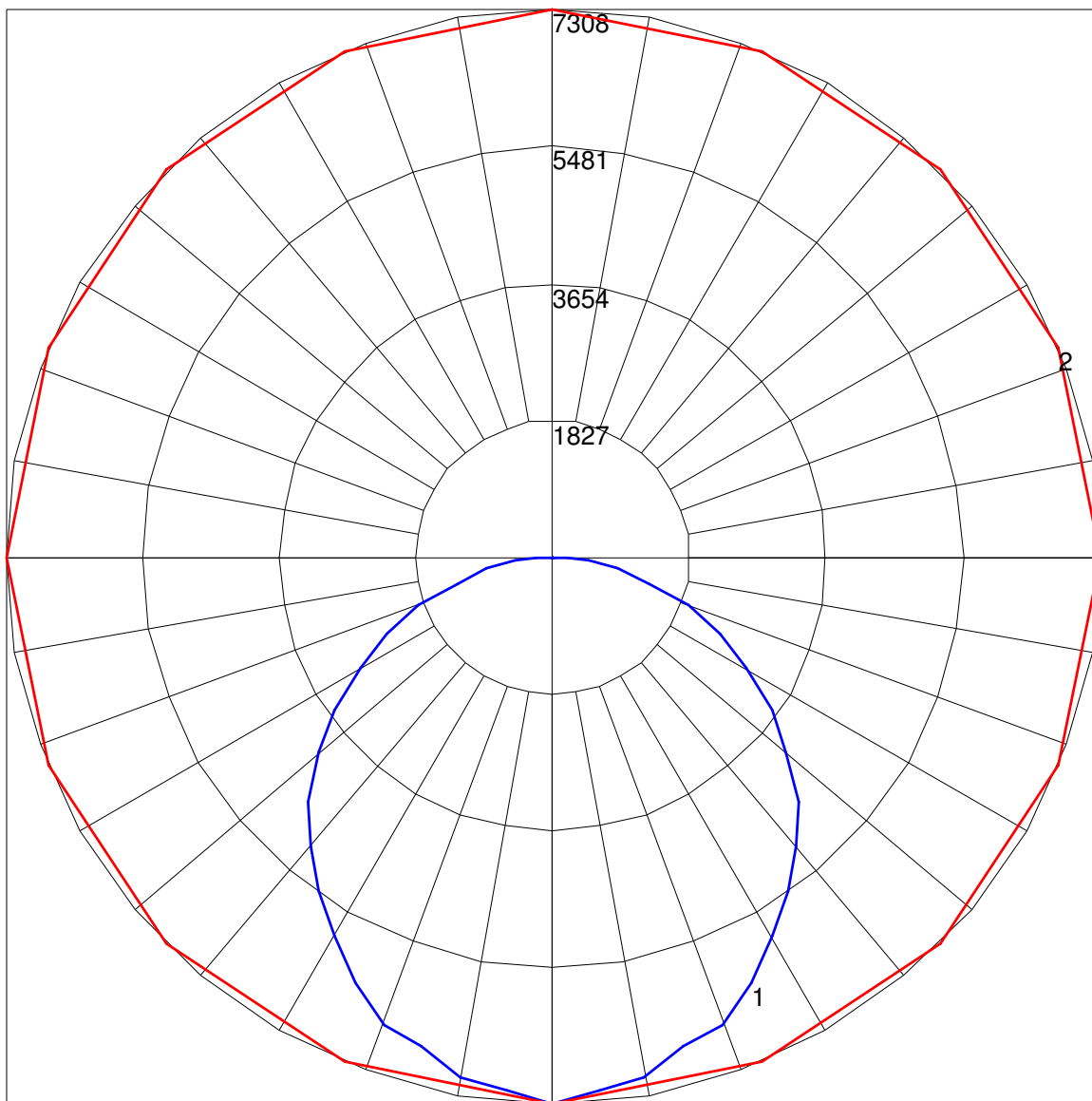
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**COEFFICIENTS OF UTILIZATION - ZONAL CAVITY METHOD**

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	105	101	97	93	97	93	90	93	90	87	89	87	85	83
2	98	90	83	77	96	88	82	76	84	79	74	81	76	72	78	74	71	69
3	90	79	71	64	87	77	70	63	74	68	62	71	66	61	69	64	60	58
4	82	70	61	54	80	69	60	54	66	59	53	64	57	52	61	56	51	49
5	75	62	53	47	73	61	53	46	59	52	46	57	50	45	55	49	45	43
6	70	56	47	41	68	55	47	41	53	46	40	52	45	40	50	44	39	37
7	65	51	42	36	63	50	42	36	49	41	36	47	40	35	46	40	35	33
8	60	47	38	32	59	46	38	32	44	37	32	43	36	32	42	36	31	29
9	56	43	34	29	55	42	34	29	41	34	29	40	33	28	39	33	28	26
10	53	39	31	26	51	39	31	26	38	31	26	37	30	26	36	30	26	24

POLAR GRAPH



Maximum Candela = 7308.488 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.)