

IES INDOOR REPORT

PHOTOMETRIC FILENAME : RNDX-4-L200-935-FXA-(L240)-DIM-UNV_.IES

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002
[TEST] GEN from BALLABS TEST NO. 18643.0
[TESTLAB] BUILDING ACOUSTICS & LIGHTING LABORATORIES, INC
[ISSUE DATE] 8 Dec 2023
[MANUFAC] WILLIAMS INDOOR
[OTHER] H.E. WILLIAMS, INC - CARTHAGE, MO 64836
[LUMINAIRE] 4' RND LUMINAIRE
[MORE] WHITE FROSTED ACRYLIC CONVEX LENS
[LUMCAT] RNDx-4-L200-930-FXA-(L240) DIM-UNV
[LAMPCAT] HLM 90 CRI 4000K CCT
[SEARCH_SOURCETYPE] LED
[SEARCH_APPLICATION] INDOOR,ARCHITECTURAL,EDUCATION
[SEARCH_MOUNTING] SURFACE, SUSPENDED

CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	20377
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	121
Total Luminaire Watts	168.3
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)	3.81 ft (Diameter)
Luminous Width (90-270)	3.81 ft (Diameter)
Luminous Height	0.21 ft

LUMINANCE DATA (cd/sq.m)

Angle In Degrees	Average 0-Deg	Average 45-Deg	Average 90-Deg
45	5943	5931	5939
55	5457	5448	5466
65	4878	4852	4884
75	3853	3862	3862
85	2858	2903	2903

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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	7468.461	7468.461	7468.461	7468.461	7468.461
5	7210.203	7204.197	7204.197	7204.197	7198.191
10	7154.648	7144.137	7138.131	7138.131	7138.131
15	6906.900	6900.894	6897.891	6900.894	6900.894
20	6705.699	6696.690	6692.186	6692.186	6692.186
25	6250.745	6247.742	6243.237	6243.237	6247.742
30	5972.967	5966.961	5956.451	5956.451	5963.958
35	5448.944	5445.941	5438.433	5438.433	5445.941
40	5115.611	5105.100	5105.100	5105.100	5112.608
45	4771.767	4762.758	4762.758	4762.758	4768.764
50	4151.648	4141.137	4141.137	4154.651	4154.651
55	3653.150	3650.147	3647.144	3659.156	3659.156
60	3013.511	3009.006	3009.006	3013.511	3022.520
65	2515.013	2507.505	2501.499	2504.502	2518.016
70	1947.446	1947.446	1939.938	1939.938	1950.449
75	1333.332	1333.332	1336.335	1333.332	1336.335
80	881.381	887.387	890.390	890.390	887.387
85	474.474	474.474	481.982	484.985	481.982
90	187.688	187.688	190.691	190.691	190.691
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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Zone	Lumens	%Lamp	%Fixt
0-20	2642.09	N.A.	13.00
0-30	5544.28	N.A.	27.20
0-40	8983.87	N.A.	44.10
0-60	15849.42	N.A.	77.80
0-80	19770.14	N.A.	97.00
0-90	20325.18	N.A.	99.70
10-90	19636.58	N.A.	96.40
20-40	6341.77	N.A.	31.10
20-50	9970.48	N.A.	48.90
40-70	9334.62	N.A.	45.80
60-80	3920.72	N.A.	19.20
70-80	1451.66	N.A.	7.10
80-90	555.04	N.A.	2.70
90-110	51.90	N.A.	0.30
90-120	51.90	N.A.	0.30
90-130	51.90	N.A.	0.30
90-150	51.90	N.A.	0.30
90-180	51.90	N.A.	0.30
110-180	0.00	N.A.	0.00
0-180	20377.09	N.A.	100.00

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	688.61
10-20	1953.49
20-30	2902.18
30-40	3439.59
40-50	3628.71
50-60	3236.84
60-70	2469.06
70-80	1451.66
80-90	555.04
90-100	51.90
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	84	79	74	81	77	73	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	52	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

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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	17.1	18.7	17.4	19.0	19.3	UGR Viewed Endwise	17.1	18.7	17.4	19.0	19.4
	3H	18.9	20.4	19.2	20.7	21.1		18.9	20.4	19.2	20.7	21.1
	4H	19.5	20.9	19.9	21.3	21.6		19.5	20.9	19.9	21.3	21.6
	6H	20.0	21.3	20.4	21.7	22.1		20.0	21.3	20.4	21.7	22.1
	8H	20.2	21.4	20.6	21.8	22.2		20.2	21.4	20.6	21.8	22.2
	12H	20.3	21.5	20.7	21.9	22.3		20.3	21.5	20.7	21.9	22.3

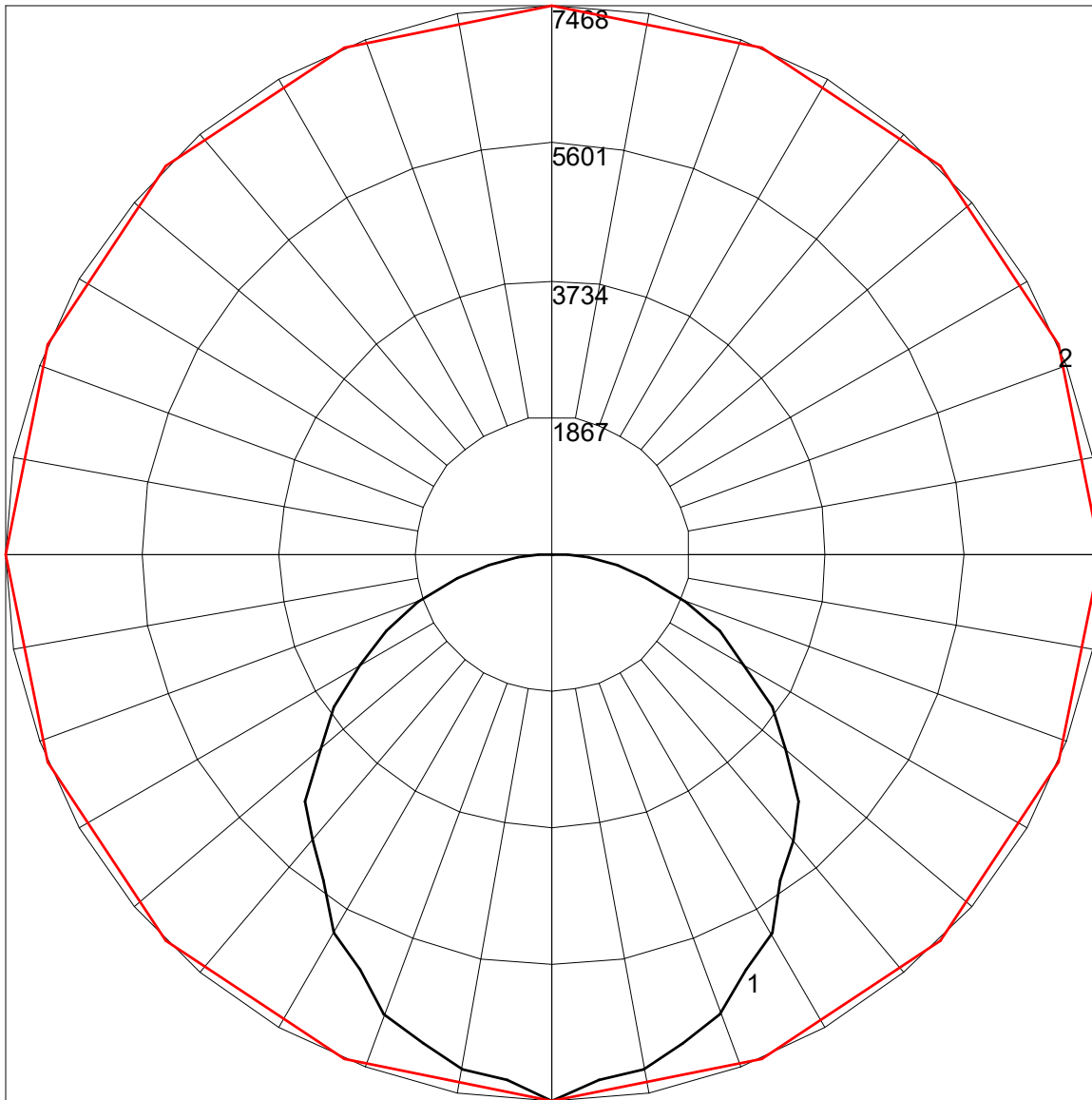
4H	2H	17.7	19.1	18.1	19.4	19.8		17.7	19.1	18.1	19.5	19.8
	3H	19.7	20.9	20.1	21.3	21.7		19.7	20.9	20.1	21.3	21.7
	4H	20.4	21.5	20.9	21.9	22.4		20.4	21.5	20.9	21.9	22.4
	6H	21.1	22.0	21.5	22.4	22.9		21.1	22.0	21.5	22.4	22.9
	8H	21.3	22.2	21.7	22.6	23.1		21.3	22.2	21.7	22.6	23.1
	12H	21.5	22.3	21.9	22.7	23.2		21.5	22.3	22.0	22.8	23.2

8H	4H	20.7	21.6	21.2	22.1	22.5		20.7	21.6	21.2	22.1	22.5
	6H	21.5	22.2	22.0	22.7	23.2		21.5	22.2	22.0	22.7	23.2
	8H	21.8	22.5	22.3	23.0	23.4		21.8	22.5	22.3	23.0	23.5
	12H	22.0	22.6	22.5	23.1	23.7		22.1	22.7	22.6	23.2	23.7

12H	4H	20.7	21.6	21.2	22.0	22.5		20.7	21.6	21.2	22.0	22.5
	6H	21.6	22.2	22.1	22.7	23.2		21.6	22.2	22.1	22.7	23.2
	8H	21.9	22.5	22.4	23.0	23.5		21.9	22.5	22.4	23.0	23.6

Maximum UGR = 23.7

POLAR GRAPH



Maximum Candela = 7468.461 Located At Horizontal Angle = 0, Vertical Angle = 0
1 - Vertical Plane Through Horizontal Angles (90 - 270)
2 - Horizontal Cone Through Vertical Angle (0) (Through Max. Cd.)