H.E. WILLIAMS, INC.

IES INDOOR REPORT
PHOTOMETRIC FILENAME : PT-24-L110-835-RA-DIM-UNV_.IES

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002
[TEST] GEN FROM BALLABS TEST NO. 19235.0
[TESTLAB] BUILDING ACOUSTICS & LIGHTING LABORATORIES, INC
[ISSUEDATE] 2023-06-27
[MANUFAC] WILLIAMS INDOOR
[OTHER] H.E. WILLIAMS, INC - CARTHAGE, MO
[LUMINAIRE] 2x4' RECESSED LED LUMINAIRE
[MORE] WHITE REFLECTOR w/RIBBED FROSTED ACRYLIC CENTER DIFFUSER
[MORE] 0-10V DRIVER
[LUMCAT] PT-24-L110-835-RA-DIM-UNV
[LAMPCAT] 22 INCH HLM LED ARRAYS
[_SEARCH_SOURCETYPE] LED
[_SEARCH_APPLICATION] Indoor, Architectural, Office, Direct
[_SEARCH_MOUNTING] Recessed

CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	11086
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	132
Total Luminaire Watts	83.7
Ballast Factor	1.00
CIE Type	Direct
Spacing Criterion (0-180)	1.14
Spacing Criterion (90-270)	1.18
Spacing Criterion (Diagonal)	1.28
Basic Luminous Shape	Rectangular
Luminous Length (0-180)	3.92 ft
Luminous Width (90-270)	1.92 ft
Luminous Height	0.00 ft

LUMINANCE DATA (cd/sq.m)

Angle In Degrees	Average 0-Deg	Average 45-Deg	Average 90-Deg
45	4754	5016	5273
55	4262	4664	5038
65	3746	4438	5043
75	2899	4452	5511
85	1750	5841	6693

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CANDELA TABULATION

	0.0	22.5	45.0	67.5	90.0
0	4241.264	4241.264	4241.264	4241.264	4241.264
5	4176.500	4170.744	4170.744	4156.352	4149.156
10	4163.548	4163.548	4170.744	4176.500	4176.500
15	4054.170	4059.927	4067.123	4077.197	4084.393
20	3786.483	3800.874	3818.145	3841.171	3848.367
25	3572.045	3584.997	3619.538	3649.761	3664.152
30	3130.217	3033.791	3428.127	3314.432	3297.161
35	2886.995	2914.340	2979.103	3033.791	3055.379
40	2568.936	2603.477	2675.436	2747.395	2774.739
45	2347.303	2377.525	2476.829	2568.936	2603.477
50	2039.318	2086.811	2196.189	2292.614	2325.715
55	1706.867	1758.678	1868.056	1977.433	2017.730
60	1391.687	1446.376	1570.145	1682.401	1724.138
65	1105.290	1177.249	1309.654	1440.619	1488.112
70	814.576	899.488	1056.358	1194.519	1242.012
75	523.862	628.922	804.502	944.102	995.913
80	287.836	424.558	626.043	762.765	804.502
85	106.499	243.221	355.477	400.092	407.288
90	0.000	0.000	0.000	0.000	0.000

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ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-20	1537.45	N.A.	13.90
0-30	3186.36	N.A.	28.70
0-40	5045.12	N.A.	45.50
0-60	8615.98	N.A.	77.70
0-80	10754.75	N.A.	97.00
0-90	11086.29	N.A.	100.00
10-90	10687.61	N.A.	96.40
20-40	3507.67	N.A.	31.60
20-50	5403.56	N.A.	48.70
40-70	4863.84	N.A.	43.90
60-80	2138.77	N.A.	19.30
70-80	845.78	N.A.	7.60
80-90	331.54	N.A.	3.00
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	11086.29	N.A.	100.00

Total Luminaire Efficiency = N.A.%

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	398.68
10-20	1138.77
20-30	1648.91
30-40	1858.77
40-50	1895.89
50-60	1674.97
60-70	1292.98
70-80	845.78
80-90	331.54
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

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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	74	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	60	52	46	58	51	46	56	50	45	43
6	70	57	48	41	68	56	47	41	54	46	41	52	46	40	51	45	40	38
7	65	52	43	37	63	51	42	37	49	42	36	48	41	36	46	40	36	34
8	61	47	39	33	59	46	38	33	45	38	32	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	27	25

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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					UGR Viewed Endwise				
X=2H	Y=2H	16.8	18.4	17.1	18.7	19.0	17.8	19.4	18.1	19.7	20.0
	3H	18.4	19.9	18.8	20.2	20.6	19.9	21.4	20.3	21.8	22.1
	4H	19.0	20.4	19.4	20.7	21.1	20.9	22.3	21.3	22.7	23.1
	6H	19.3	20.7	19.8	21.0	21.4	22.0	23.3	22.4	23.6	24.0
	8H	19.5	20.7	19.9	21.1	21.5	22.4	23.6	22.8	24.0	24.4
	12H	19.5	20.7	20.0	21.1	21.5	22.7	23.9	23.2	24.3	24.7
4H	2H	17.5	18.9	17.9	19.3	19.7	18.3	19.7	18.7	20.1	20.4
	3H	19.4	20.6	19.9	21.0	21.4	20.8	22.0	21.2	22.4	22.8
	4H	20.1	21.2	20.6	21.6	22.1	21.9	23.0	22.4	23.4	23.9
	6H	20.7	21.6	21.1	22.1	22.5	23.2	24.1	23.6	24.6	25.0
	8H	20.8	21.7	21.3	22.2	22.6	23.7	24.6	24.2	25.0	25.5
	12H	21.0	21.8	21.5	22.2	22.7	24.1	24.9	24.6	25.4	25.9
8H	4H	20.7	21.6	21.2	22.1	22.5	22.3	23.2	22.7	23.6	24.1
	6H	21.5	22.2	22.0	22.7	23.2	23.7	24.5	24.2	25.0	25.4
	8H	21.8	22.4	22.3	22.9	23.4	24.4	25.1	24.9	25.6	26.0
	12H	22.0	22.6	22.5	23.1	23.6	25.0	25.5	25.5	26.0	26.6
12H	4H	20.9	21.7	21.4	22.2	22.6	22.3	23.1	22.8	23.6	24.1
	6H	21.7	22.4	22.3	22.9	23.4	23.8	24.5	24.4	25.0	25.5
	8H	22.1	22.7	22.6	23.2	23.8	24.6	25.1	25.1	25.6	26.2

Maximum UGR = 26.6

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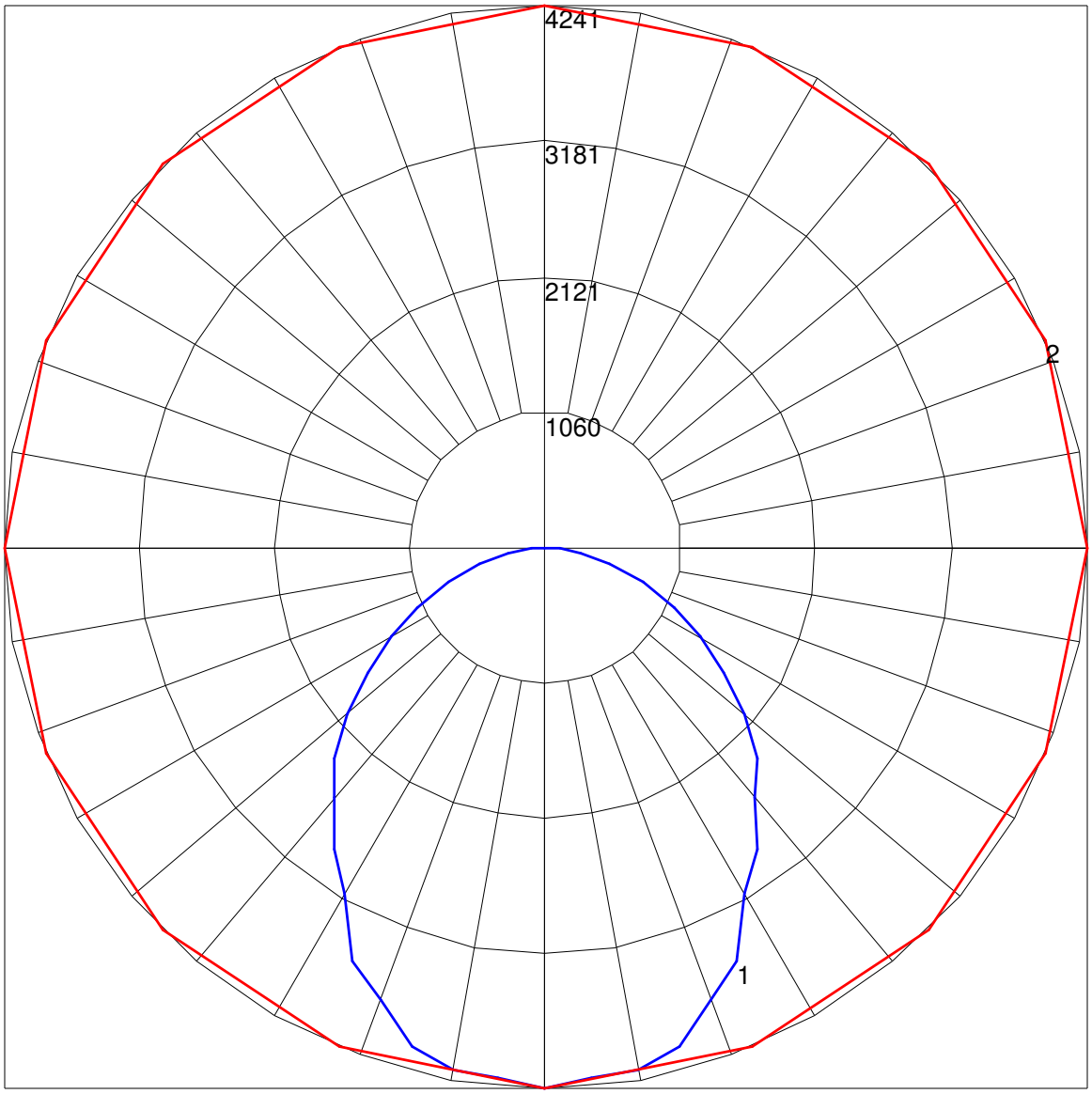
POLAR GRAPH



Maximum Candela = 4241.264 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.)