H.E. WILLIAMS, INC.

IES INDOOR REPORT
PHOTOMETRIC FILENAME : PT-24-L49-940-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-L49-940-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	4367
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	119
Total Luminaire Watts	36.7
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	1873	1976	2077
55	1679	1837	1985
65	1475	1748	1987
75	1142	1754	2171
85	689	2301	2636

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CANDELA TABULATION

	0.0	22.5	45.0	67.5	90.0
0	1670.750	1670.750	1670.750	1670.750	1670.750
5	1645.238	1642.970	1642.970	1637.301	1634.466
10	1640.135	1640.135	1642.970	1645.238	1645.238
15	1597.049	1599.316	1602.151	1606.119	1608.954
20	1491.599	1497.268	1504.072	1513.143	1515.977
25	1407.126	1412.229	1425.835	1437.741	1443.410
30	1233.078	1195.093	1350.433	1305.645	1298.842
35	1137.266	1148.038	1173.550	1195.093	1203.597
40	1011.974	1025.581	1053.927	1082.274	1093.046
45	924.667	936.572	975.691	1011.974	1025.581
50	803.343	822.052	865.139	903.123	916.163
55	672.382	692.791	735.878	778.965	794.839
60	548.224	569.767	618.523	662.744	679.185
65	435.404	463.751	515.908	567.499	586.208
70	320.884	354.333	416.128	470.554	489.263
75	206.363	247.749	316.915	371.908	392.317
80	113.386	167.245	246.616	300.474	316.915
85	41.953	95.812	140.032	157.607	160.442
90	0.000	0.000	0.000	0.000	0.000

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ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-20	605.64	N.A.	13.90
0-30	1255.19	N.A.	28.70
0-40	1987.41	N.A.	45.50
0-60	3394.07	N.A.	77.70
0-80	4236.59	N.A.	97.00
0-90	4367.19	N.A.	100.00
10-90	4210.14	N.A.	96.40
20-40	1381.77	N.A.	31.60
20-50	2128.61	N.A.	48.70
40-70	1916.00	N.A.	43.90
60-80	842.52	N.A.	19.30
70-80	333.18	N.A.	7.60
80-90	130.60	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	4367.19	N.A.	100.00

Total Luminaire Efficiency = N.A.%

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	157.05
10-20	448.59
20-30	649.55
30-40	732.22
40-50	746.84
50-60	659.82
60-70	509.34
70-80	333.18
80-90	130.60
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	13.4	15.1	13.8	15.4	15.7	14.5	16.1	14.8	16.4	16.7
	3H	15.1	16.6	15.5	16.9	17.3	16.6	18.1	17.0	18.5	18.8
	4H	15.7	17.1	16.1	17.4	17.8	17.6	19.0	18.0	19.4	19.8
	6H	16.0	17.4	16.5	17.7	18.1	18.7	20.0	19.1	20.3	20.7
	8H	16.2	17.4	16.6	17.8	18.2	19.1	20.3	19.5	20.7	21.1
	12H	16.2	17.4	16.7	17.8	18.2	19.4	20.6	19.9	21.0	21.4
4H	2H	14.2	15.6	14.6	16.0	16.4	15.0	16.4	15.4	16.8	17.1
	3H	16.1	17.3	16.6	17.7	18.1	17.5	18.7	17.9	19.0	19.4
	4H	16.8	17.9	17.3	18.3	18.8	18.6	19.7	19.1	20.1	20.6
	6H	17.4	18.3	17.8	18.8	19.2	19.9	20.8	20.3	21.3	21.7
	8H	17.5	18.4	18.0	18.9	19.3	20.4	21.3	20.9	21.7	22.2
	12H	17.7	18.5	18.2	18.9	19.4	20.8	21.6	21.3	22.1	22.6
8H	4H	17.4	18.3	17.9	18.8	19.2	19.0	19.9	19.4	20.3	20.8
	6H	18.2	18.9	18.7	19.4	19.9	20.4	21.2	20.9	21.7	22.1
	8H	18.5	19.1	19.0	19.6	20.1	21.1	21.8	21.6	22.3	22.7
	12H	18.7	19.3	19.2	19.8	20.3	21.7	22.2	22.2	22.7	23.3
12H	4H	17.6	18.4	18.1	18.9	19.3	19.0	19.8	19.5	20.3	20.8
	6H	18.4	19.1	19.0	19.6	20.1	20.5	21.2	21.1	21.7	22.2
	8H	18.8	19.4	19.3	19.9	20.5	21.3	21.8	21.8	22.3	22.9

Maximum UGR = 23.3

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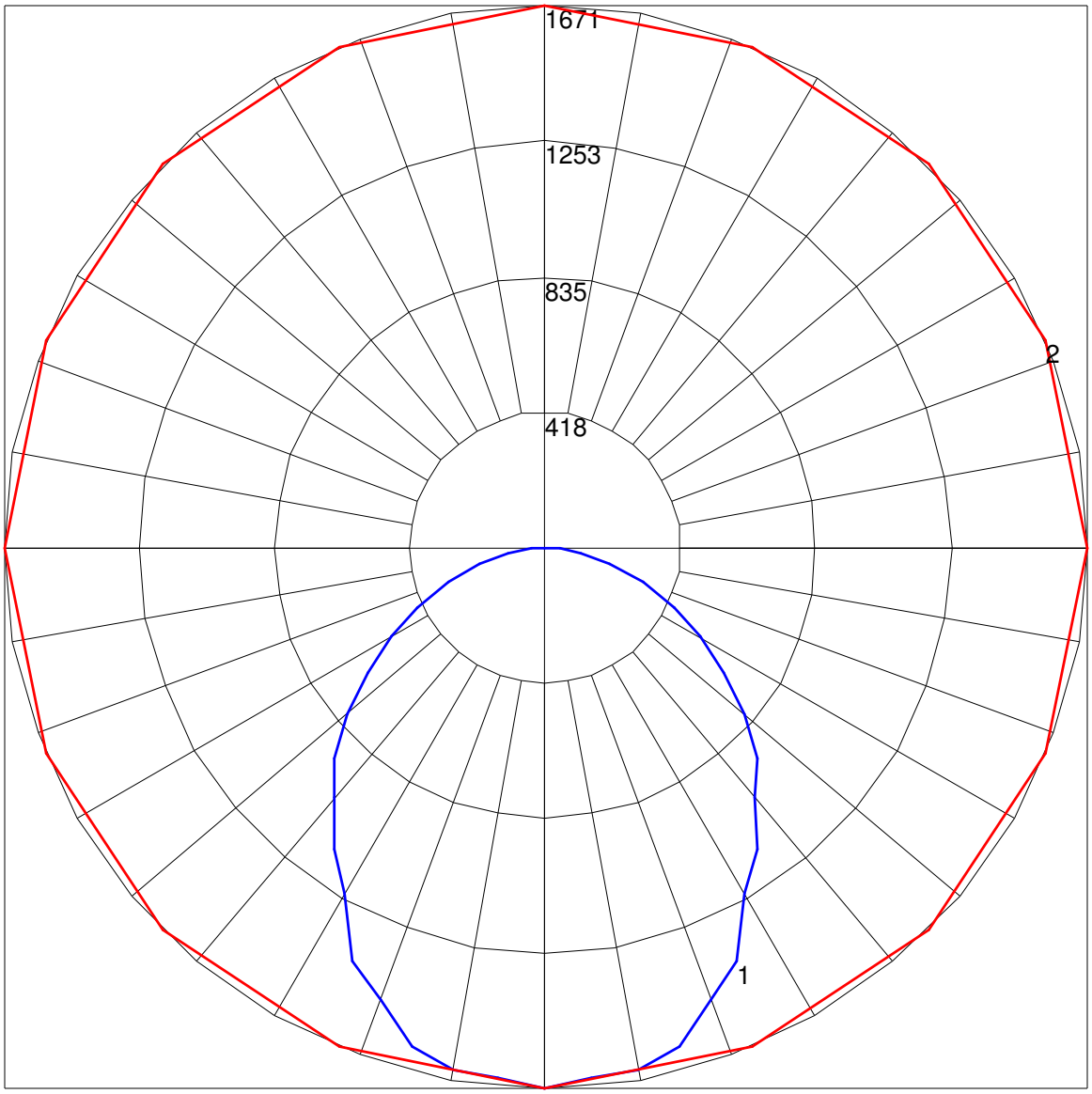
POLAR GRAPH



Maximum Candela = 1670.75 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.)