H.E. WILLIAMS, INC.

IES INDOOR REPORT
PHOTOMETRIC FILENAME : PT-24-L49-835-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-L49-835-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	5078
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	138
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	2178	2298	2415
55	1952	2137	2308
65	1716	2033	2310
75	1328	2039	2524
85	802	2676	3066

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CANDELA TABULATION

	0.0	22.5	45.0	67.5	90.0
0	1942.732	1942.732	1942.732	1942.732	1942.732
5	1913.067	1910.430	1910.430	1903.838	1900.542
10	1907.134	1907.134	1910.430	1913.067	1913.067
15	1857.033	1859.670	1862.966	1867.581	1870.877
20	1734.417	1741.010	1748.920	1759.468	1762.764
25	1636.193	1642.126	1657.948	1671.791	1678.383
30	1433.811	1389.644	1570.271	1518.192	1510.281
35	1322.403	1334.928	1364.593	1389.644	1399.532
40	1176.714	1192.536	1225.497	1258.458	1270.983
45	1075.194	1089.038	1134.524	1176.714	1192.536
50	934.120	955.874	1005.975	1050.143	1065.305
55	781.839	805.571	855.672	905.773	924.232
60	637.469	662.520	719.213	770.632	789.750
65	506.284	539.245	599.894	659.883	681.637
70	373.121	412.015	483.870	547.156	568.910
75	239.957	288.081	368.506	432.451	456.183
80	131.845	194.471	286.762	349.389	368.506
85	48.783	111.409	162.828	183.264	186.560
90	0.000	0.000	0.000	0.000	0.000

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ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-20	704.24	N.A.	13.90
0-30	1459.53	N.A.	28.70
0-40	2310.94	N.A.	45.50
0-60	3946.59	N.A.	77.70
0-80	4926.27	N.A.	97.00
0-90	5078.13	N.A.	100.00
10-90	4895.51	N.A.	96.40
20-40	1606.71	N.A.	31.60
20-50	2475.13	N.A.	48.70
40-70	2227.91	N.A.	43.90
60-80	979.67	N.A.	19.30
70-80	387.42	N.A.	7.60
80-90	151.86	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	5078.13	N.A.	100.00

Total Luminaire Efficiency = N.A.%

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	182.62
10-20	521.62
20-30	755.29
30-40	851.42
40-50	868.42
50-60	767.23
60-70	592.26
70-80	387.42
80-90	151.86
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	13.9	15.6	14.3	15.9	16.2	15.0	16.6	15.3	16.9	17.2
	3H	15.6	17.1	16.0	17.4	17.8	17.1	18.6	17.5	19.0	19.3
	4H	16.2	17.6	16.6	17.9	18.3	18.1	19.5	18.5	19.9	20.3
	6H	16.5	17.9	17.0	18.2	18.6	19.2	20.5	19.6	20.8	21.2
	8H	16.7	17.9	17.1	18.3	18.7	19.6	20.8	20.0	21.2	21.6
	12H	16.7	17.9	17.2	18.3	18.7	19.9	21.1	20.4	21.5	21.9
4H	2H	14.7	16.1	15.1	16.5	16.9	15.5	16.9	15.9	17.3	17.6
	3H	16.6	17.8	17.1	18.2	18.6	18.0	19.2	18.4	19.6	19.9
	4H	17.3	18.4	17.8	18.8	19.3	19.1	20.2	19.6	20.6	21.1
	6H	17.9	18.8	18.3	19.3	19.7	20.4	21.3	20.8	21.8	22.2
	8H	18.0	18.9	18.5	19.4	19.8	20.9	21.8	21.4	22.2	22.7
	12H	18.2	19.0	18.7	19.4	19.9	21.3	22.1	21.8	22.6	23.1
8H	4H	17.9	18.8	18.4	19.3	19.7	19.5	20.4	19.9	20.8	21.3
	6H	18.7	19.4	19.2	19.9	20.4	20.9	21.7	21.4	22.2	22.6
	8H	19.0	19.6	19.5	20.1	20.6	21.6	22.3	22.1	22.8	23.2
	12H	19.2	19.8	19.7	20.3	20.8	22.2	22.7	22.7	23.2	23.8
12H	4H	18.1	18.9	18.6	19.4	19.8	19.5	20.3	20.0	20.8	21.3
	6H	18.9	19.6	19.5	20.1	20.6	21.0	21.7	21.6	22.2	22.7
	8H	19.3	19.9	19.8	20.4	21.0	21.8	22.3	22.3	22.8	23.4

Maximum UGR = 23.8

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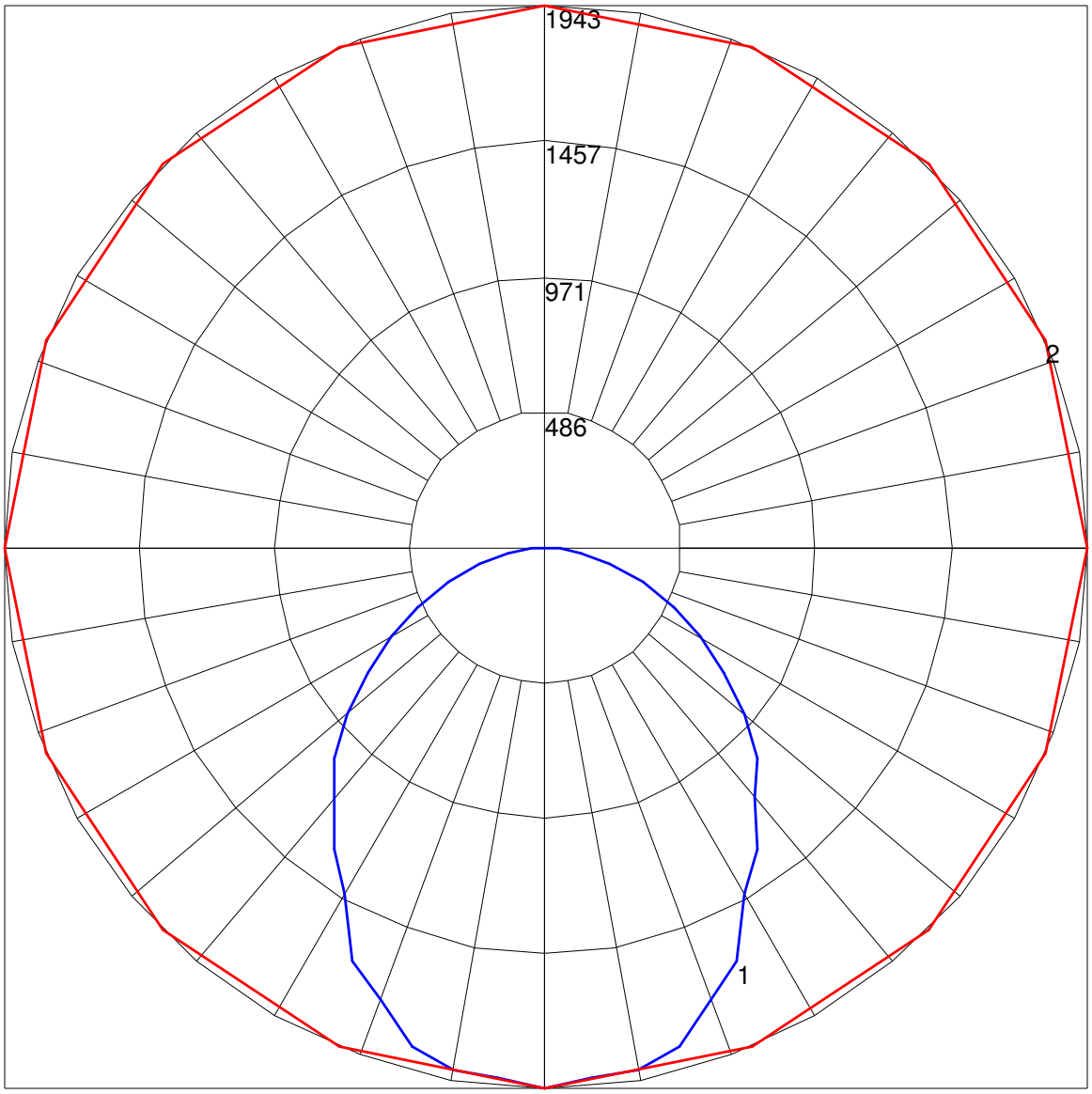
POLAR GRAPH



Maximum Candela = 1942.732 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.)