H.E. WILLIAMS, INC.

IES INDOOR REPORT
PHOTOMETRIC FILENAME : PT-22-L52-930-SA-DIM-UNV_.IES

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002
[TEST] BALLABS TEST NO. 20789.0
[TESTLAB] BUILDING ACOUSTICS & LIGHTING LABORATORIES, INC
[ISSUEDATE] 2023-06-23
[MANUFAC] WILLIAMS INDOOR
[OTHER] H.E. WILLIAMS, INC - CARTHAGE, MO
[LUMINAIRE] 1-84 LED 22"ARRAY 2x2 LUMINAIRE
[MORE] WHITE REFLECTOR w/FROST SQUARED RIBBED LENS
[MORE] ADVANCE #C1042C092V045CNN1
[LUMCAT] PT-22-L52-930-SA-DIM-UNV
[LAMPCAT] HLM 80 CRI 3500K CCT

CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	4558
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	110
Total Luminaire Watts	41.6
Ballast Factor	1.00
CIE Type	Direct
Spacing Criterion (0-180)	1.18
Spacing Criterion (90-270)	1.14
Spacing Criterion (Diagonal)	1.28
Basic Luminous Shape	Rectangular
Luminous Length (0-180)	1.92 ft
Luminous Width (90-270)	1.98 ft
Luminous Height	0.00 ft

LUMINANCE DATA (cd/sq.m)

Angle In Degrees	Average 0-Deg	Average 45-Deg	Average 90-Deg
45	4074	4014	3958
55	3661	3694	3797
65	3205	3495	3925
75	2498	3519	4549
85	1300	3276	4413

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CANDELA TABULATION

	0.0	22.5	45.0	67.5	90.0
0	1806.341	1806.341	1806.341	1806.341	1806.341
5	1806.341	1794.687	1787.195	1788.027	1786.363
10	1768.049	1758.893	1751.401	1748.071	1745.574
15	1705.618	1698.959	1690.635	1683.976	1682.311
20	1634.863	1624.042	1604.064	1599.902	1595.740
25	1531.644	1527.481	1504.174	1492.520	1485.028
30	1414.273	1407.614	1391.798	1373.485	1360.998
35	1281.919	1283.584	1263.606	1245.293	1237.801
40	1146.235	1150.398	1130.420	1117.933	1112.939
45	1016.379	1013.881	1001.395	997.233	987.244
50	878.198	880.695	869.041	879.030	870.706
55	740.849	748.341	747.509	768.319	768.319
60	605.998	610.993	632.635	660.937	673.424
65	477.806	490.292	521.092	561.880	585.188
70	347.949	369.592	421.202	473.644	501.946
75	228.082	266.373	321.312	382.078	415.375
80	120.700	163.986	225.584	285.518	316.318
85	39.956	66.593	100.722	123.197	135.684
90	0.000	0.000	0.000	0.000	0.000

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ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-20	646.43	N.A.	14.20
0-30	1340.32	N.A.	29.40
0-40	2130.64	N.A.	46.70
0-60	3581.83	N.A.	78.60
0-80	4445.51	N.A.	97.50
0-90	4557.81	N.A.	100.00
10-90	4387.97	N.A.	96.30
20-40	1484.22	N.A.	32.60
20-50	2259.41	N.A.	49.60
40-70	1973.91	N.A.	43.30
60-80	863.68	N.A.	18.90
70-80	340.96	N.A.	7.50
80-90	112.30	N.A.	2.50
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	4557.81	N.A.	100.00

Total Luminaire Efficiency = N.A.%

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	169.84
10-20	476.59
20-30	693.90
30-40	790.32
40-50	775.19
50-60	675.99
60-70	522.72
70-80	340.96
80-90	112.30
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	109	104	99	95	106	101	97	94	97	94	91	93	91	88	90	87	85	83
2	99	91	84	78	96	89	82	77	85	80	75	82	77	73	79	75	72	70
3	90	80	72	65	88	78	71	64	75	69	63	72	67	62	70	65	61	59
4	83	71	62	55	80	69	61	55	67	60	54	65	58	53	62	57	53	51
5	76	63	55	48	74	62	54	48	60	53	47	58	52	47	56	51	46	44
6	71	57	48	42	69	56	48	42	55	47	41	53	46	41	51	45	41	39
7	66	52	43	37	64	51	43	37	50	42	37	48	42	37	47	41	36	34
8	61	48	39	33	60	47	39	33	46	38	33	44	38	33	43	37	33	31
9	57	44	36	30	56	43	35	30	42	35	30	41	34	30	40	34	30	28
10	54	41	33	27	52	40	32	27	39	32	27	38	32	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	16.3	17.9	16.7	18.2	18.5	16.7	18.3	17.0	18.6	18.9
	3H	17.9	19.4	18.3	19.7	20.1	18.9	20.4	19.3	20.7	21.1
	4H	18.5	19.9	18.9	20.2	20.6	20.0	21.4	20.4	21.7	22.1
	6H	18.9	20.1	19.3	20.5	20.9	21.0	22.3	21.4	22.7	23.1
	8H	19.0	20.2	19.4	20.6	21.0	21.4	22.6	21.8	23.0	23.4
	12H	19.0	20.2	19.4	20.6	21.0	21.7	22.8	22.1	23.2	23.7
4H	2H	17.0	18.3	17.4	18.7	19.1	17.3	18.7	17.7	19.0	19.4
	3H	18.8	20.0	19.3	20.4	20.8	19.8	20.9	20.2	21.3	21.7
	4H	19.6	20.6	20.0	21.0	21.5	21.0	22.1	21.5	22.5	22.9
	6H	20.1	21.0	20.5	21.5	21.9	22.2	23.2	22.7	23.6	24.1
	8H	20.2	21.1	20.7	21.5	22.0	22.7	23.6	23.2	24.0	24.5
	12H	20.3	21.1	20.8	21.6	22.0	23.0	23.8	23.5	24.3	24.7
8H	4H	20.1	21.0	20.5	21.4	21.9	21.3	22.2	21.8	22.7	23.1
	6H	20.8	21.5	21.3	22.0	22.5	22.7	23.5	23.2	23.9	24.4
	8H	21.0	21.6	21.5	22.1	22.6	23.3	23.9	23.8	24.5	24.9
	12H	21.1	21.7	21.6	22.2	22.8	23.7	24.3	24.2	24.8	25.3
12H	4H	20.2	21.0	20.7	21.5	21.9	21.4	22.2	21.8	22.6	23.1
	6H	20.9	21.6	21.5	22.1	22.6	22.8	23.5	23.3	23.9	24.4
	8H	21.2	21.8	21.7	22.3	22.9	23.4	24.0	23.9	24.5	25.0

Maximum UGR = 25.3

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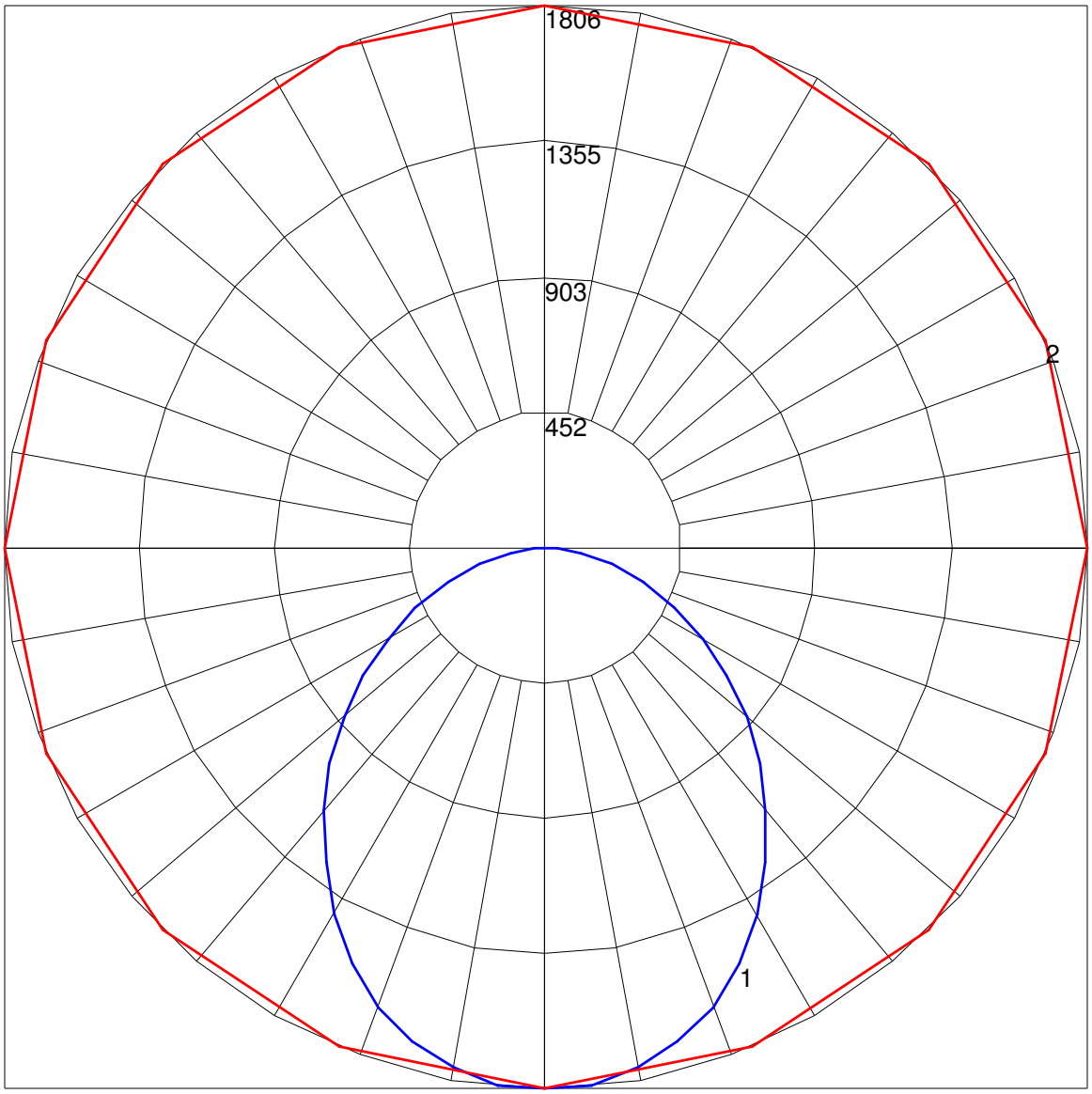
POLAR GRAPH



Maximum Candela = 1806.341 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.)