H.E. WILLIAMS, INC.

IES INDOOR REPORT
PHOTOMETRIC FILENAME : PT-24-L38-850-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-L38-850-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	4009
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	141
Total Luminaire Watts	28.5
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	1719	1814	1907
55	1541	1687	1822
65	1354	1605	1824
75	1048	1610	1993
85	633	2112	2420

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CANDELA TABULATION

	0.0	22.5	45.0	67.5	90.0
0	1533.726	1533.726	1533.726	1533.726	1533.726
5	1510.306	1508.224	1508.224	1503.020	1500.418
10	1505.622	1505.622	1508.224	1510.306	1510.306
15	1466.069	1468.151	1470.753	1474.396	1476.998
20	1369.268	1374.472	1380.717	1389.044	1391.646
25	1291.723	1296.407	1308.897	1319.826	1325.031
30	1131.949	1097.080	1239.679	1198.565	1192.319
35	1043.995	1053.883	1077.303	1097.080	1104.886
40	928.979	941.469	967.491	993.513	1003.401
45	848.831	859.761	895.671	928.979	941.469
50	737.458	754.633	794.186	829.055	841.025
55	617.237	635.973	675.526	715.079	729.652
60	503.262	523.038	567.796	608.390	623.483
65	399.695	425.717	473.597	520.957	538.131
70	294.567	325.273	382.000	431.962	449.136
75	189.439	227.431	290.924	341.406	360.142
80	104.087	153.529	226.390	275.831	290.924
85	38.512	87.954	128.548	144.681	147.283
90	0.000	0.000	0.000	0.000	0.000

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ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-20	555.97	N.A.	13.90
0-30	1152.25	N.A.	28.70
0-40	1824.42	N.A.	45.50
0-60	3115.71	N.A.	77.70
0-80	3889.13	N.A.	97.00
0-90	4009.02	N.A.	100.00
10-90	3864.85	N.A.	96.40
20-40	1268.44	N.A.	31.60
20-50	1954.04	N.A.	48.70
40-70	1758.86	N.A.	43.90
60-80	773.42	N.A.	19.30
70-80	305.85	N.A.	7.60
80-90	119.89	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	4009.02	N.A.	100.00

Total Luminaire Efficiency = N.A.%

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	144.17
10-20	411.80
20-30	596.28
30-40	672.17
40-50	685.59
50-60	605.70
60-70	467.57
70-80	305.85
80-90	119.89
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	13.2	14.8	13.5	15.1	15.4	14.2	15.8	14.5	16.1	16.4
	3H	14.8	16.3	15.2	16.6	17.0	16.3	17.8	16.7	18.2	18.5
	4H	15.4	16.8	15.8	17.1	17.5	17.3	18.7	17.7	19.1	19.5
	6H	15.7	17.1	16.2	17.4	17.8	18.4	19.7	18.8	20.0	20.4
	8H	15.9	17.1	16.3	17.5	17.9	18.8	20.0	19.2	20.4	20.8
	12H	15.9	17.1	16.4	17.5	17.9	19.1	20.3	19.6	20.7	21.1
4H	2H	13.9	15.3	14.3	15.7	16.1	14.7	16.1	15.1	16.5	16.8
	3H	15.8	17.0	16.3	17.4	17.8	17.2	18.4	17.6	18.8	19.2
	4H	16.5	17.6	17.0	18.0	18.5	18.3	19.4	18.8	19.8	20.3
	6H	17.1	18.0	17.5	18.5	18.9	19.6	20.5	20.0	21.0	21.4
	8H	17.2	18.1	17.7	18.6	19.0	20.1	21.0	20.6	21.4	21.9
	12H	17.4	18.2	17.9	18.6	19.1	20.5	21.3	21.0	21.8	22.3
8H	4H	17.1	18.0	17.6	18.5	18.9	18.7	19.6	19.1	20.0	20.5
	6H	17.9	18.6	18.4	19.1	19.6	20.1	20.9	20.6	21.4	21.8
	8H	18.2	18.8	18.7	19.3	19.8	20.8	21.5	21.3	22.0	22.4
	12H	18.4	19.0	18.9	19.5	20.0	21.4	21.9	21.9	22.4	23.0
12H	4H	17.3	18.1	17.8	18.6	19.0	18.7	19.5	19.2	20.0	20.5
	6H	18.1	18.8	18.7	19.3	19.8	20.2	20.9	20.8	21.4	21.9
	8H	18.5	19.1	19.0	19.6	20.2	21.0	21.5	21.5	22.0	22.6

Maximum UGR = 23.0

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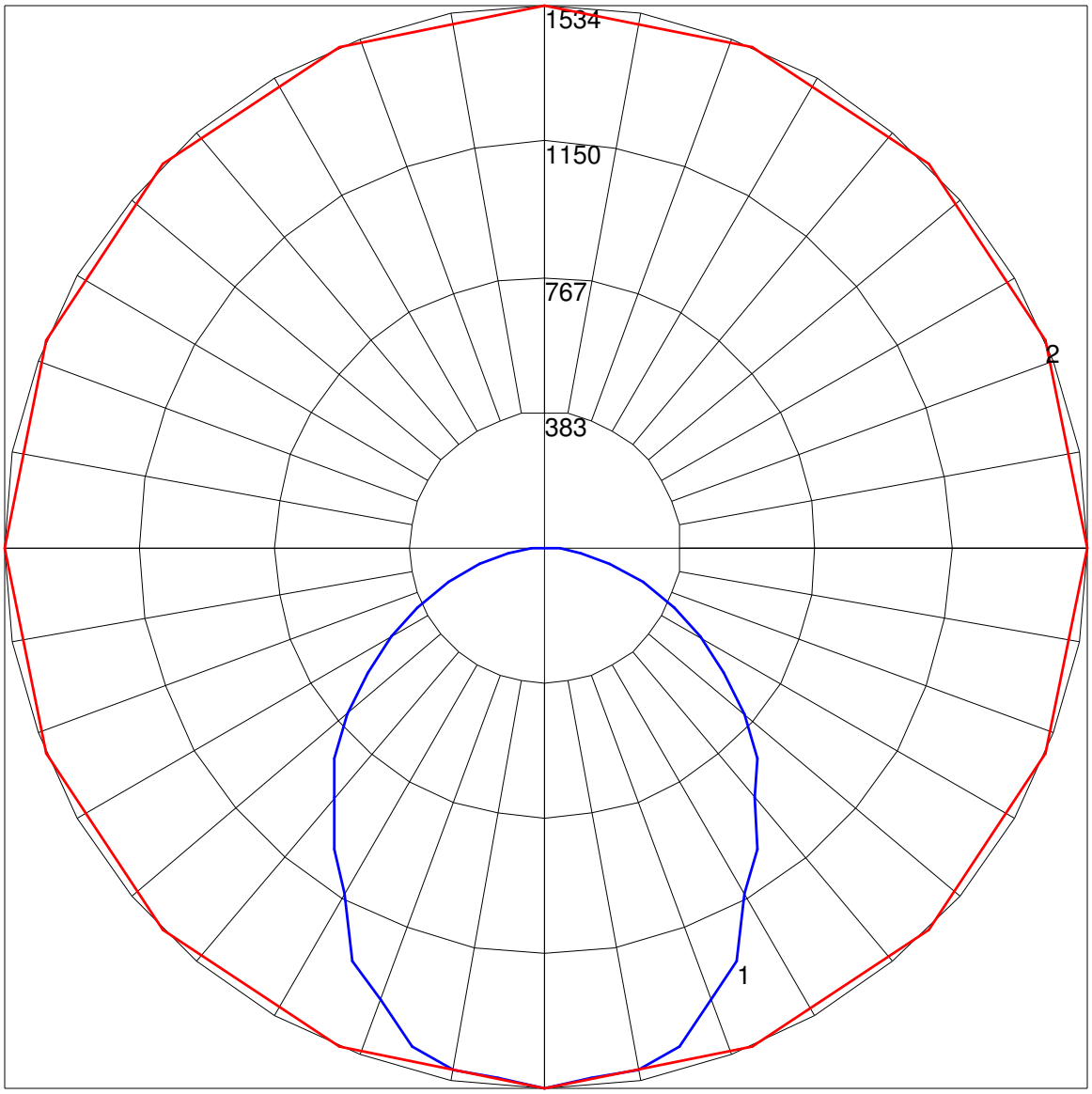
POLAR GRAPH



Maximum Candela = 1533.726 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.)