H.E. WILLIAMS, INC.

IES INDOOR REPORT
PHOTOMETRIC FILENAME : 76R-4-L72-935-DRV-UNV_.IES

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002
[TEST] GEN FROM BALLABS TEST NO. 20990.0
[TESTLAB] BUILDING ACOUSTICS & LIGHTING LABORATORIES, INC
[ISSUEDATE] 16-AUG-2023
[MANUFAC] WILLIAMS INDOOR
[OTHER] H.E. WILLIAMS, INC - CARTHAGE, MO
[LUMINAIRE] 48 INCH LENSED LED SURFACE LUMINAIRE
[MORE] WHITE REFLECTOR w/RADIAL RIBBED FROST ACRYLIC LENS
[MORE] 0-10V DIMMING DRIVER
[LUMCAT] 76R-4-L72-935-DRV-UNV
[LAMPCAT] HLMX 90 CRI 3500K CCT

CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	5769
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	115
Total Luminaire Watts	50.2
Ballast Factor	1.00
CIE Type	Direct
Spacing Criterion (0-180)	1.20
Spacing Criterion (90-270)	1.28
Spacing Criterion (Diagonal)	1.36
Basic Luminous Shape	Rectangular w/Sides
Luminous Length (0-180)	3.98 ft
Luminous Width (90-270)	0.38 ft
Luminous Height	0.15 ft

LUMINANCE DATA (cd/sq.m)

Angle In Degrees	Average 0-Deg	Average 45-Deg	Average 90-Deg
45	10095	9252	9494
55	8608	8018	8442
65	6924	6642	7309
75	5371	5631	6315
85	2520	5076	5880

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CANDELA TABULATION

	0.0	22.5	45.0	67.5	90.0
0	1863.081	1863.081	1863.081	1863.081	1863.081
5	1878.702	1854.069	1849.262	1849.262	1843.855
10	1844.456	1823.428	1824.630	1829.436	1823.428
15	1782.574	1766.352	1779.570	1793.989	1792.186
20	1702.667	1696.058	1717.687	1744.122	1745.324
25	1592.120	1599.330	1638.382	1673.228	1682.240
30	1475.565	1488.182	1544.056	1589.116	1606.539
35	1330.171	1359.610	1433.509	1492.387	1512.814
40	1191.386	1223.229	1312.147	1394.457	1413.682
45	1026.767	1073.029	1181.173	1270.091	1294.123
50	872.962	930.038	1048.396	1146.326	1172.762
55	720.960	776.834	912.615	1014.150	1045.392
60	576.768	639.852	779.238	872.962	908.410
65	437.983	504.672	641.054	760.613	786.447
70	323.230	382.109	525.099	641.054	671.694
75	219.292	284.779	429.572	533.510	556.341
80	121.962	201.869	343.658	437.983	470.426
85	43.258	136.382	272.763	360.480	387.516
90	0.000	90.120	212.683	298.598	316.021
95	0.000	57.677	167.623	244.526	270.961
100	0.000	38.451	128.571	202.470	223.498
105	0.000	25.834	101.535	163.418	186.849
110	0.000	12.016	80.507	133.978	156.208
115	0.000	7.810	64.286	112.950	128.571
120	0.000	0.000	51.068	92.523	108.745
125	0.000	0.000	39.653	73.898	86.515
130	0.000	0.000	31.242	58.278	69.092
135	0.000	0.000	25.234	45.060	55.274
140	0.000	0.000	13.218	34.246	42.056
145	0.000	0.000	4.806	26.435	30.641
150	0.000	0.000	0.000	22.830	25.834
155	0.000	0.000	0.000	21.629	22.830
160	0.000	0.000	0.000	12.617	21.028
165	0.000	0.000	0.000	4.206	7.210
170	0.000	0.000	0.000	0.000	0.000
175	0.000	0.000	0.000	0.000	0.000
180	0.000	0.000	0.000	0.000	0.000

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ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-20	678.88	N.A.	11.80
0-30	1433.16	N.A.	24.80
0-40	2326.41	N.A.	40.30
0-60	4034.7	N.A.	69.90
0-80	5096.71	N.A.	88.30
0-90	5369.96	N.A.	93.10
10-90	5193.84	N.A.	90.00
20-40	1647.52	N.A.	28.60
20-50	2552.76	N.A.	44.20
40-70	2334.72	N.A.	40.50
60-80	1062.01	N.A.	18.40
70-80	435.58	N.A.	7.60
80-90	273.25	N.A.	4.70
90-110	270.13	N.A.	4.70
90-120	332.38	N.A.	5.80
90-130	368.15	N.A.	6.40
90-150	394.90	N.A.	6.80
90-180	399.30	N.A.	6.90
110-180	129.17	N.A.	2.20
0-180	5769.26	N.A.	100.00

Total Luminaire Efficiency = N.A.%

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	176.12
10-20	502.76
20-30	754.27
30-40	893.25
40-50	905.24
50-60	803.06
60-70	626.42
70-80	435.58
80-90	273.25
90-100	167.23
100-110	102.90
110-120	62.25
120-130	35.77
130-140	18.92
140-150	7.83
150-160	3.65
160-170	0.75
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	117	117	117	117	114	114	114	114	107	107	107	101	101	101	96	96	96	93
1	106	101	96	92	102	98	93	90	92	89	85	87	84	82	82	80	78	75
2	96	87	80	74	93	85	78	73	80	75	70	76	71	67	72	68	65	62
3	88	77	68	61	84	74	67	60	70	64	58	67	61	57	63	59	55	52
4	80	68	59	52	77	66	58	51	63	55	50	59	53	48	57	51	47	45
5	74	61	51	45	71	59	51	44	56	49	43	53	47	42	51	45	41	39
6	68	55	46	39	66	53	45	39	51	43	38	48	42	37	46	40	36	34
7	63	49	41	34	61	48	40	34	46	39	33	44	38	33	42	36	32	30
8	59	45	37	31	57	44	36	30	42	35	30	40	34	29	39	33	29	27
9	55	41	33	28	53	41	33	27	39	32	27	37	31	26	36	30	26	24
10	51	38	30	25	50	37	30	25	36	29	24	35	28	24	33	28	24	22

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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	17.0	18.5	17.4	18.9	19.4	20.0	21.5	20.5	21.9	22.4
	3H	18.2	19.5	18.7	20.0	20.5	22.2	23.6	22.7	24.1	24.6
	4H	18.6	19.9	19.1	20.3	20.9	23.3	24.6	23.8	25.1	25.6
	6H	18.8	20.0	19.3	20.5	21.0	24.4	25.6	24.9	26.1	26.6
	8H	18.8	20.0	19.4	20.5	21.1	24.9	26.1	25.5	26.6	27.2
	12H	18.8	19.9	19.4	20.5	21.1	25.6	26.7	26.1	27.2	27.8
4H	2H	17.9	19.2	18.4	19.7	20.2	20.3	21.6	20.8	22.1	22.6
	3H	19.4	20.5	19.9	21.0	21.6	22.8	23.9	23.3	24.4	25.0
	4H	19.9	20.9	20.4	21.4	22.0	24.0	25.0	24.5	25.6	26.2
	6H	20.2	21.1	20.7	21.6	22.3	25.3	26.2	25.9	26.8	27.4
	8H	20.3	21.1	20.8	21.7	22.3	26.0	26.8	26.5	27.4	28.0
	12H	20.3	21.1	20.9	21.7	22.3	26.7	27.5	27.3	28.1	28.7
8H	4H	20.6	21.4	21.2	22.0	22.6	24.2	25.0	24.7	25.6	26.2
	6H	21.1	21.8	21.7	22.4	23.1	25.6	26.3	26.2	26.9	27.6
	8H	21.3	21.9	21.9	22.5	23.2	26.4	27.1	27.0	27.7	28.3
	12H	21.4	22.0	22.0	22.6	23.3	27.4	27.9	28.0	28.5	29.2
12H	4H	20.8	21.6	21.4	22.2	22.8	24.2	24.9	24.8	25.5	26.2
	6H	21.4	22.1	22.1	22.7	23.3	25.7	26.3	26.3	26.9	27.6
	8H	21.7	22.3	22.3	22.9	23.6	26.5	27.1	27.1	27.7	28.4

Maximum UGR = 29.2

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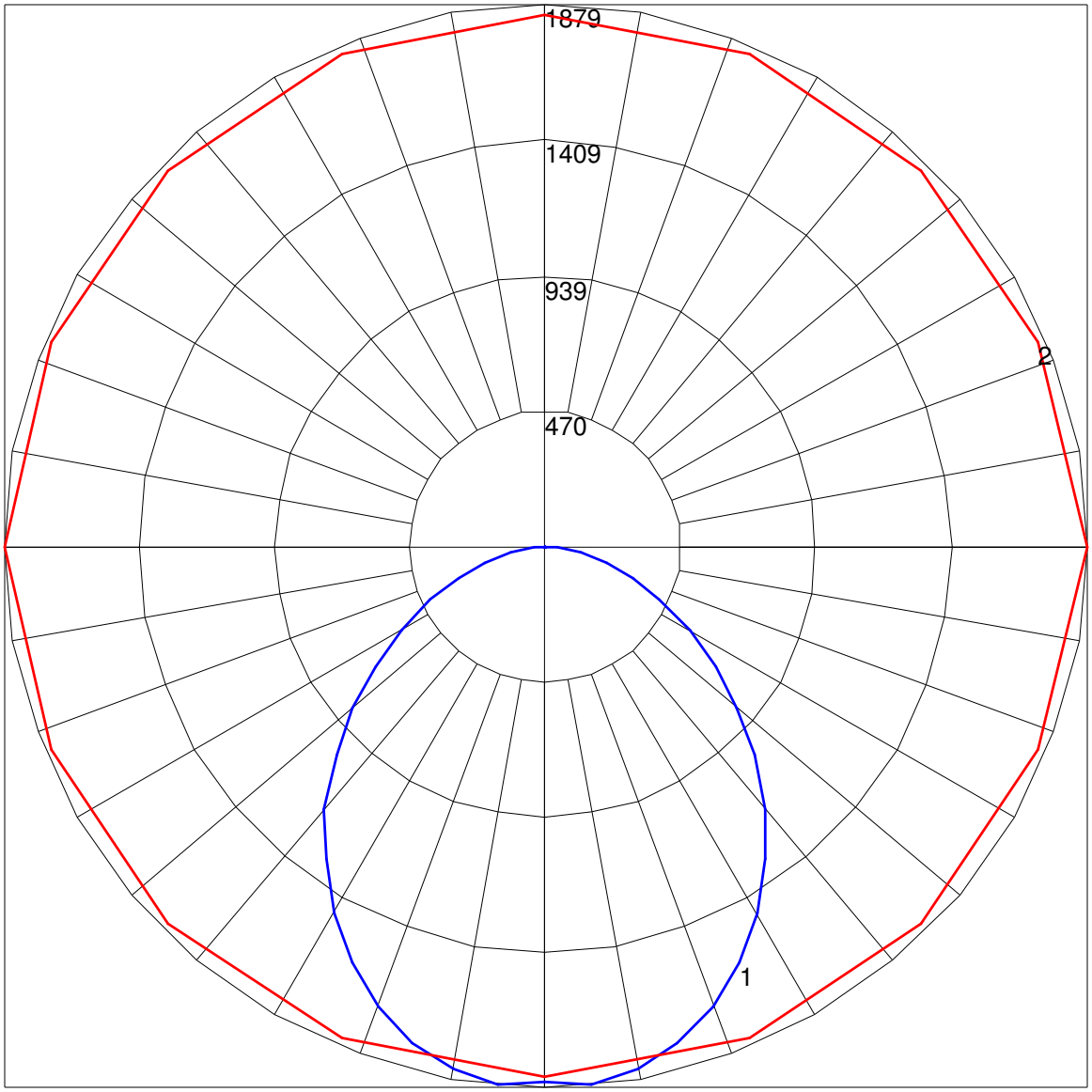
POLAR GRAPH



Maximum Candela = 1878.702 Located At Horizontal Angle = 0, Vertical Angle = 5
1 - Vertical Plane Through Horizontal Angles (0 - 180) (Through Max. Cd.)
2 - Horizontal Cone Through Vertical Angle (5) (Through Max. Cd.)