H.E. WILLIAMS, INC.

IES INDOOR REPORT
PHOTOMETRIC FILENAME : 76R-4-L96-835-(L78)-DIM-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] 24-APRIL-2020
[MANUFAC] H.E. WILLIAMS, INC - CARTHAGE, MO
[LUMINAIRE] 4' SURFACE STRIP LED LUMINAIRE
[MORE] WHITE REFLECTOR w/RADIAL RIBBED FROST ACRYLIC LENS
[LUMCAT] 76R-4-L94-835-(L78)-DIM-UNV
[LAMPCAT] HLM 80 CRI 3500K CCT

CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	7664
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	137
Total Luminaire Watts	56
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	13410	12290	12611
55	11434	10650	11214
65	9198	8822	9709
75	7135	7480	8389
85	3348	6743	7810

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CANDELA TABULATION

	0.0	22.5	45.0	67.5	90.0
0	2474.858	2474.858	2474.858	2474.858	2474.858
5	2495.608	2462.887	2456.502	2456.502	2449.319
10	2450.118	2422.185	2423.781	2430.165	2422.185
15	2367.915	2346.367	2363.925	2383.079	2380.684
20	2261.770	2252.991	2281.722	2316.838	2318.434
25	2114.922	2124.499	2176.375	2222.664	2234.635
30	1960.094	1976.854	2051.076	2110.932	2134.076
35	1766.958	1806.064	1904.228	1982.440	2009.575
40	1582.600	1624.899	1743.015	1852.353	1877.891
45	1363.925	1425.378	1569.033	1687.149	1719.073
50	1159.616	1235.434	1392.656	1522.744	1557.860
55	957.701	1031.922	1212.289	1347.166	1388.666
60	766.161	849.959	1035.115	1159.616	1206.703
65	581.803	670.390	851.556	1010.374	1044.692
70	429.369	507.581	697.525	851.556	892.258
75	291.301	378.292	570.630	708.699	739.026
80	162.011	268.156	456.504	581.803	624.900
85	57.462	181.165	362.330	478.850	514.764
90	0.000	119.713	282.522	396.648	419.792
95	0.000	76.616	222.665	324.820	359.936
100	0.000	51.077	170.790	268.954	296.887
105	0.000	34.318	134.876	217.079	248.204
110	0.000	15.962	106.943	177.973	207.502
115	0.000	10.375	85.395	150.040	170.790
120	0.000	0.000	67.837	122.905	144.453
125	0.000	0.000	52.674	98.164	114.924
130	0.000	0.000	41.500	77.414	91.780
135	0.000	0.000	33.520	59.856	73.424
140	0.000	0.000	17.558	45.491	55.866
145	0.000	0.000	6.385	35.116	40.702
150	0.000	0.000	0.000	30.327	34.318
155	0.000	0.000	0.000	28.731	30.327
160	0.000	0.000	0.000	16.760	27.933
165	0.000	0.000	0.000	5.587	9.577
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	901.81	N.A.	11.80
0-30	1903.76	N.A.	24.80
0-40	3090.33	N.A.	40.30
0-60	5359.57	N.A.	69.90
0-80	6770.31	N.A.	88.30
0-90	7133.29	N.A.	93.10
10-90	6899.33	N.A.	90.00
20-40	2188.52	N.A.	28.60
20-50	3391.00	N.A.	44.20
40-70	3101.37	N.A.	40.50
60-80	1410.74	N.A.	18.40
70-80	578.62	N.A.	7.60
80-90	362.98	N.A.	4.70
90-110	358.83	N.A.	4.70
90-120	441.53	N.A.	5.80
90-130	489.04	N.A.	6.40
90-150	524.57	N.A.	6.80
90-180	530.42	N.A.	6.90
110-180	171.58	N.A.	2.20
0-180	7663.71	N.A.	100.00

Total Luminaire Efficiency = N.A.%

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	233.96
10-20	667.85
20-30	1001.95
30-40	1186.57
40-50	1202.49
50-60	1066.76
60-70	832.12
70-80	578.62
80-90	362.98
90-100	222.14
100-110	136.69
110-120	82.69
120-130	47.51
130-140	25.13
140-150	10.40
150-160	4.85
160-170	1.00
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	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	18.0	19.5	18.4	19.9	20.4	21.0	22.5	21.5	22.9	23.4
	3H	19.2	20.5	19.7	21.0	21.5	23.2	24.6	23.7	25.1	25.6
	4H	19.6	20.9	20.1	21.3	21.9	24.3	25.6	24.8	26.1	26.6
	6H	19.8	21.0	20.3	21.5	22.0	25.4	26.6	25.9	27.1	27.6
	8H	19.8	21.0	20.4	21.5	22.1	26.0	27.1	26.5	27.6	28.2
	12H	19.8	20.9	20.4	21.5	22.1	26.6	27.7	27.1	28.2	28.8
4H	2H	18.9	20.2	19.4	20.7	21.2	21.3	22.6	21.8	23.1	23.6
	3H	20.4	21.5	20.9	22.0	22.6	23.8	24.9	24.3	25.4	26.0
	4H	20.9	21.9	21.4	22.4	23.0	25.0	26.0	25.5	26.6	27.2
	6H	21.2	22.1	21.7	22.6	23.3	26.3	27.2	26.9	27.8	28.4
	8H	21.3	22.1	21.8	22.7	23.3	27.0	27.8	27.5	28.4	29.0
	12H	21.3	22.1	21.9	22.7	23.3	27.7	28.5	28.3	29.1	29.7
8H	4H	21.6	22.4	22.2	23.0	23.6	25.2	26.0	25.7	26.6	27.2
	6H	22.1	22.8	22.7	23.4	24.1	26.6	27.3	27.2	27.9	28.6
	8H	22.3	22.9	22.9	23.5	24.2	27.4	28.1	28.0	28.7	29.3
	12H	22.4	23.0	23.0	23.6	24.3	28.4	28.9	29.0	29.5	30.2
12H	4H	21.8	22.6	22.4	23.2	23.8	25.2	25.9	25.8	26.5	27.2
	6H	22.4	23.1	23.1	23.7	24.3	26.7	27.3	27.3	27.9	28.6
	8H	22.7	23.3	23.3	23.9	24.6	27.5	28.1	28.1	28.7	29.4

Maximum UGR = 30.2

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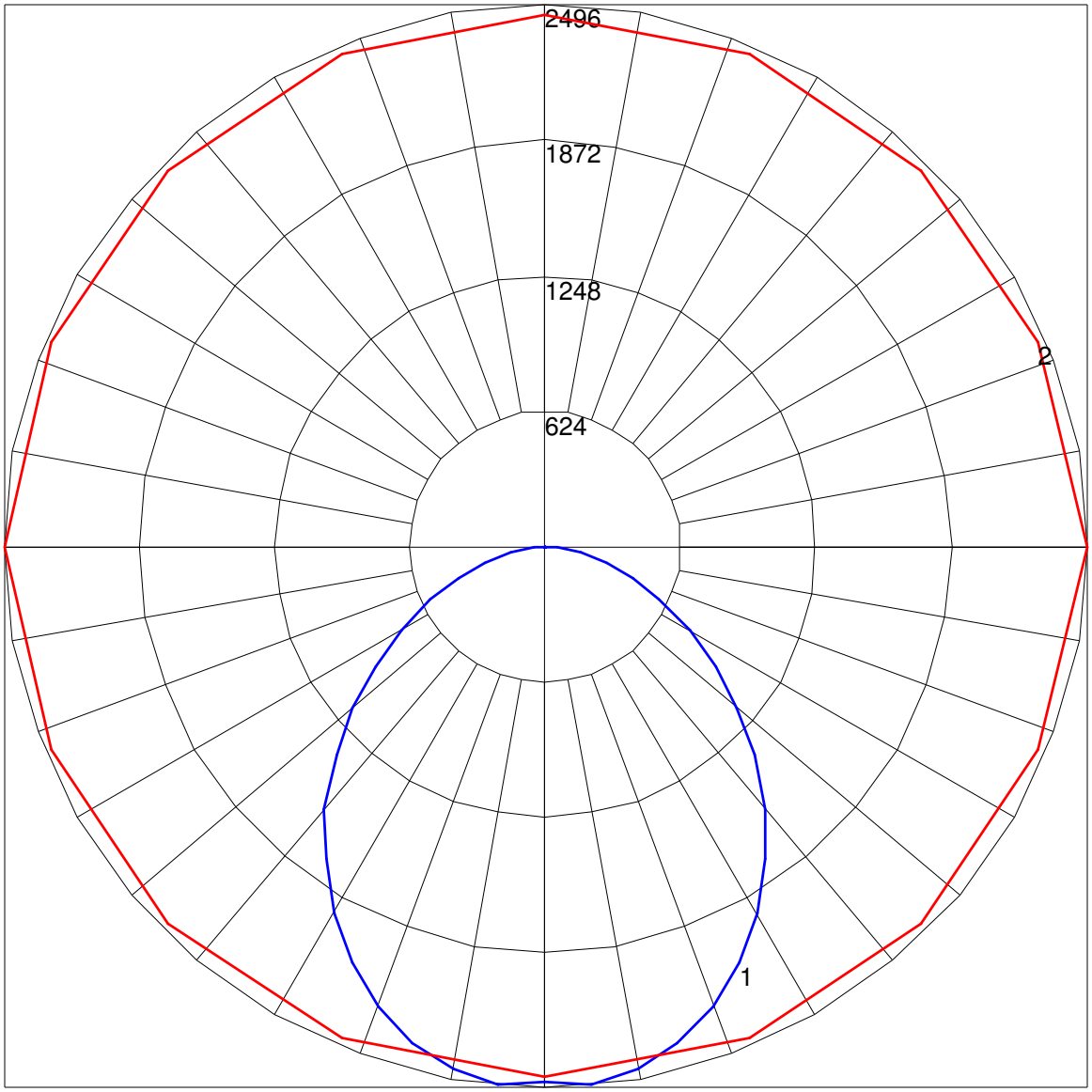
POLAR GRAPH



Maximum Candela = 2495.608 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.)

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