



## IES INDOOR REPORT

PHOTOMETRIC FILENAME : DIG-S14-L28-840-WPR-DIM-UNV\_.IES

### DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002

[TEST] GEN from BALLABS TEST NO. 20960.0

[TESTLAB] BUILDING ACOUSTICS & LIGHTING LABORATORIES, INC

[ISSUEDATE] 01-05-2023

[MANUFAC] WILLIAMS INDOOR

[OTHER] H.E. WILLIAMS, INC - CARTHAGE, MO 64836

[LUMINAIRE] 1X4' RECESSED LED TROFFER

[MORE] WITH PERFORATED CENTER BASKET W/OVERLAY

[LUMCAT] DIG-S14-L28-840-WPR-DIM-UNV

[LAMPCAT] HLM 80 CRI, 4000K CCT

[\_SEARCH\_SOURCETYPE] LED

[\_SEARCH\_APPLICATION] Indoor, Architectural, Classroom, Commercial, Educational, Office, Direct, Indirect

[\_SEARCH\_MOUNTING] Ceiling, Recessed

### CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	2811
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	90
Total Luminaire Watts	31.2
Ballast Factor	1.00
CIE Type	Direct
Spacing Criterion (0-180)	1.22
Spacing Criterion (90-270)	1.32
Spacing Criterion (Diagonal)	1.40
Basic Luminous Shape	Rectangular
Luminous Length (0-180)	3.90 ft
Luminous Width (90-270)	0.90 ft
Luminous Height	0.00 ft

### LUMINANCE DATA (cd/sq.m)

Angle In Degrees	Average 0-Deg	Average 45-Deg	Average 90-Deg
45	2772	3206	3104
55	2416	2750	2694
65	1907	2168	2161
75	1367	1411	1344
85	599	532	499

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CANDELA TABULATION

	<u>0.0</u>	<u>22.5</u>	<u>45.0</u>	<u>67.5</u>	<u>90.0</u>
<b>0</b>	1082.240	1082.240	1082.240	1082.240	1082.240
<b>5</b>	1095.415	1079.416	1074.711	1071.888	1072.829
<b>10</b>	1074.711	1061.536	1060.595	1060.595	1061.536
<b>15</b>	1042.714	1032.363	1035.186	1040.832	1045.538
<b>20</b>	1002.248	993.778	1005.071	1017.305	1025.775
<b>25</b>	951.430	947.666	968.369	986.250	996.602
<b>30</b>	881.790	889.319	921.315	951.430	962.723
<b>35</b>	811.209	826.266	865.792	897.788	912.846
<b>40</b>	731.218	750.980	806.504	838.501	839.442
<b>45</b>	636.169	670.989	735.923	731.218	712.396
<b>50</b>	545.825	582.527	644.638	608.877	602.290
<b>55</b>	449.835	505.359	511.946	499.712	501.595
<b>60</b>	353.845	413.133	399.017	396.194	399.017
<b>65</b>	261.620	323.731	297.381	296.440	296.440
<b>70</b>	185.392	194.803	205.155	201.391	201.391
<b>75</b>	114.812	110.106	118.576	110.106	112.929
<b>80</b>	61.170	53.641	50.818	46.113	42.349
<b>85</b>	16.939	15.057	15.057	14.116	14.116
<b>90</b>	0.000	0.000	0.000	0.000	0.000

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**ZONAL LUMEN SUMMARY**

Zone	Lumens	%Lamp	%Fixt
0-20	395.59	N.A.	14.10
0-30	842.11	N.A.	30.00
0-40	1381.49	N.A.	49.10
0-60	2368.83	N.A.	84.30
0-80	2789.24	N.A.	99.20
0-90	2811.14	N.A.	100.00
10-90	2708.76	N.A.	96.40
20-40	985.90	N.A.	35.10
20-50	1527.17	N.A.	54.30
40-70	1282.42	N.A.	45.60
60-80	420.42	N.A.	15.00
70-80	125.33	N.A.	4.50
80-90	21.89	N.A.	0.80
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	2811.14	N.A.	100.00

Total Luminaire Efficiency = N.A. %

**ZONAL LUMEN SUMMARY**

Zone	Lumens
0-10	102.38
10-20	293.21
20-30	446.51
30-40	539.39
40-50	541.27
50-60	446.06
60-70	295.09
70-80	125.33
80-90	21.89
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	110	105	102	98	107	103	100	96	99	96	93	95	93	91	92	90	88	86
2	100	93	86	81	98	91	85	80	87	82	78	84	80	76	81	78	75	73
3	92	82	74	68	90	80	73	67	77	71	66	75	70	65	72	68	64	62
4	84	73	65	58	82	72	64	58	69	62	57	67	61	56	65	60	55	53
5	78	65	57	50	76	64	56	50	62	55	49	60	54	49	58	53	48	46
6	72	59	50	44	70	58	50	44	56	49	43	55	48	43	53	47	43	41
7	67	54	45	39	65	53	45	39	51	44	39	50	43	38	48	43	38	36
8	62	49	41	35	61	48	40	35	47	40	35	46	39	34	44	39	34	32
9	58	45	37	31	57	44	37	31	43	36	31	42	36	31	41	35	31	29
10	54	41	34	29	53	41	33	28	40	33	28	39	33	28	38	32	28	26

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**UGR TABLE - CORRECTED**

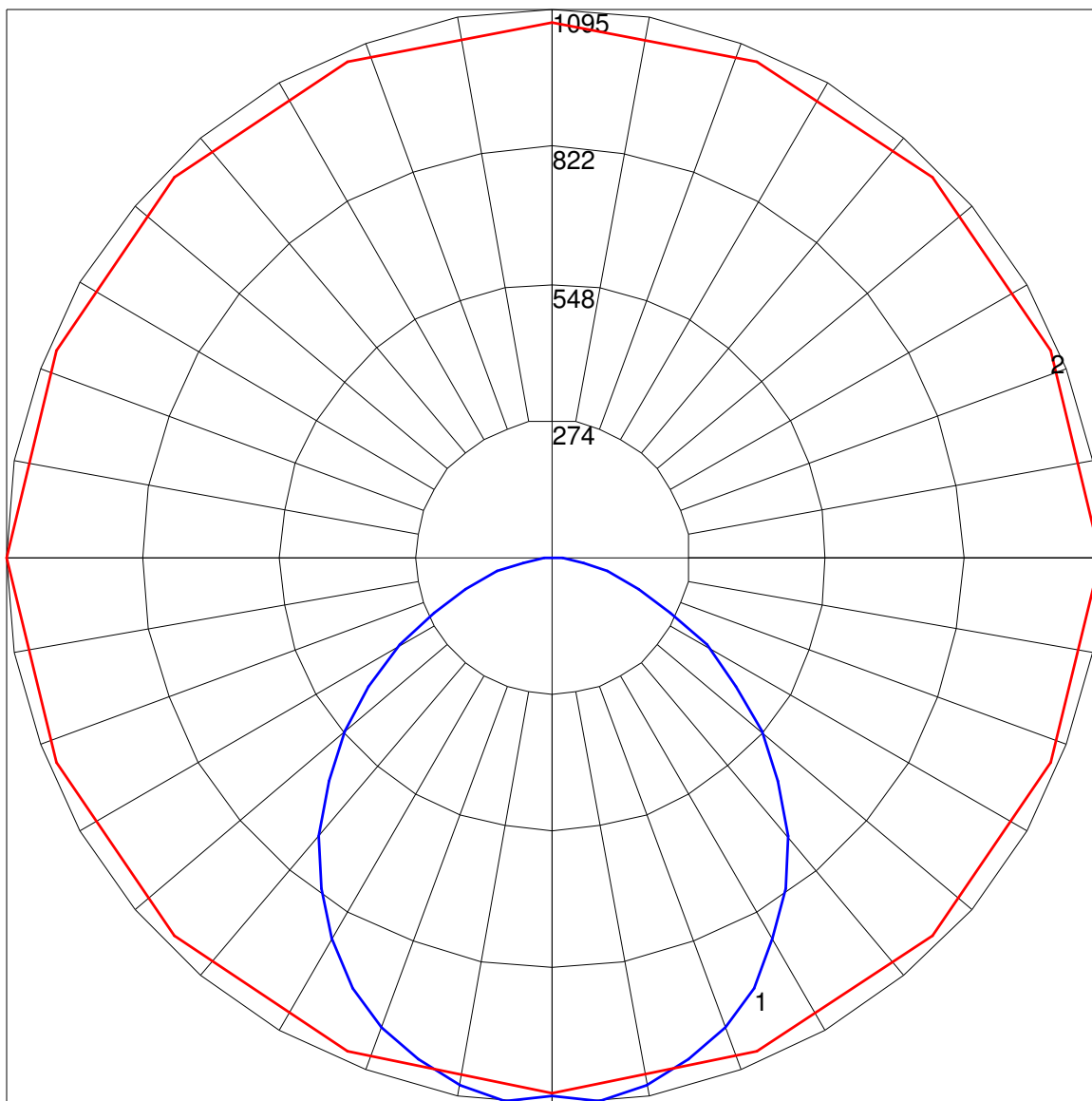
Reflectances

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	15.4	17.0	15.8	17.3	17.6	15.4	17.0	15.8	17.3	17.6
	3H	16.6	18.0	17.0	18.4	18.7	16.7	18.1	17.1	18.4	18.8
	4H	16.9	18.3	17.3	18.6	19.0	17.0	18.4	17.4	18.7	19.1
	6H	17.2	18.4	17.6	18.8	19.1	17.2	18.4	17.6	18.8	19.1
	8H	17.2	18.4	17.6	18.8	19.2	17.2	18.3	17.6	18.7	19.1
	12H	17.2	18.3	17.6	18.7	19.1	17.2	18.3	17.6	18.7	19.1
4H	2H	15.9	17.2	16.3	17.6	18.0	15.9	17.2	16.3	17.6	18.0
	3H	17.3	18.4	17.7	18.8	19.2	17.4	18.5	17.8	18.9	19.3
	4H	17.7	18.7	18.1	19.1	19.5	17.8	18.8	18.2	19.2	19.6
	6H	18.0	18.8	18.4	19.3	19.7	18.0	18.8	18.4	19.3	19.7
	8H	18.0	18.8	18.5	19.3	19.7	18.0	18.8	18.4	19.2	19.7
	12H	18.1	18.8	18.5	19.3	19.7	18.0	18.7	18.5	19.2	19.6
8H	4H	17.8	18.7	18.3	19.1	19.6	17.9	18.7	18.4	19.2	19.6
	6H	18.2	18.8	18.7	19.3	19.8	18.1	18.8	18.6	19.3	19.8
	8H	18.3	18.8	18.8	19.4	19.8	18.2	18.8	18.7	19.3	19.8
	12H	18.3	18.8	18.8	19.3	19.9	18.2	18.7	18.7	19.2	19.8
12H	4H	17.8	18.6	18.3	19.0	19.5	17.9	18.6	18.4	19.1	19.6
	6H	18.2	18.8	18.7	19.2	19.8	18.1	18.7	18.7	19.2	19.7
	8H	18.3	18.8	18.8	19.3	19.9	18.2	18.7	18.7	19.2	19.8

Maximum UGR = 19.9

POLAR GRAPH



Maximum Candela = 1095.415 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.)