



IES INDOOR REPORT

PHOTOMETRIC FILENAME : HETG-AR14-L69-850-A-DIM-UNV.IES

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002
 [TEST]GEN FROM ORIGINAL TEST
 [TESTLAB]Intertek
 [ISSUE DATE] 03/18/2019
 [MANUFAC] WILLIAMS INDOOR
 [OTHER] H.E. WILLIAMS, INC. - CARTHAGE, MO.
 [LUMCAT]HETG-AR14-L69-850-A-DIM-UNV
 [LUMINAIRE]1X4 RECESSED GRID LUMINAIRE
 [MORE] WITH FROSTED ACRYLIC LENS
 [LAMP]LED
 [LAMPCAT] HLM 80 CRI 5000K CCT
 [_SEARCH_APPLICATION] INDOOR
 [_SEARCH_SOURCETYPE] LED
 [_SEARCH_MOUNTING] RECESSED

CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	7418
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	139
Total Luminaire Watts	53.4
Ballast Factor	1.00
CIE Type	Direct
Spacing Criterion (0-180)	1.22
Spacing Criterion (90-270)	1.22
Spacing Criterion (Diagonal)	1.32
Basic Luminous Shape	Rectangular
Luminous Length (0-180)	3.92 ft
Luminous Width (90-270)	0.92 ft
Luminous Height	0.00 ft

LUMINANCE DATA (cd/sq.m)

Angle In Degrees	Average 0-Deg	Average 45-Deg	Average 90-Deg
45	7664	7749	7619
55	6493	6832	6257
65	5141	5689	3885
75	3942	3905	2038
85	2762	1352	637

IES INDOOR REPORT
PHOTOMETRIC FILENAME : HETG-AR14-L69-850-A-DIM-UNV.IES

CANDELA TABULATION

	<u>0.0</u>	<u>22.5</u>	<u>45.0</u>	<u>67.5</u>	<u>90.0</u>	<u>112.5</u>	<u>135.0</u>	<u>157.5</u>	<u>180.0</u>	<u>202.5</u>
0.0	3106.248	3106.248	3106.248	3106.248	3106.248	3106.248	3106.248	3106.248	3106.248	3106.248
2.5	3055.522	3069.201	3099.409	3137.786	3168.753	3137.026	3095.419	3065.591	3052.103	3065.591
5.0	3046.213	3061.412	3096.179	3134.746	3164.003	3129.046	3089.340	3056.092	3039.564	3056.092
7.5	3029.684	3047.923	3083.450	3118.027	3142.535	3107.958	3073.761	3040.513	3021.515	3040.513
10.0	3008.406	3027.974	3059.322	3085.730	3104.538	3071.291	3045.073	3017.525	2995.107	3017.525
12.5	2980.288	2999.667	3019.805	3040.703	3058.372	3023.985	3003.656	2984.278	2961.100	2984.278
15.0	2941.911	2963.190	2974.019	2994.347	3007.076	2973.259	2951.791	2942.481	2918.543	2942.481
17.5	2894.795	2916.264	2922.153	2936.782	2943.431	2909.994	2897.455	2892.515	2870.287	2892.515
20.0	2840.270	2860.408	2863.448	2866.488	2870.097	2836.090	2835.520	2834.000	2814.052	2834.000
22.5	2780.235	2795.623	2792.774	2790.114	2795.433	2757.246	2761.236	2765.226	2747.937	2765.226
25.0	2710.700	2722.669	2711.650	2715.640	2724.189	2682.582	2677.833	2687.902	2675.363	2687.902
27.5	2629.957	2641.736	2624.447	2637.556	2637.746	2600.889	2588.920	2603.169	2593.860	2603.169
30.0	2538.384	2553.203	2535.154	2544.274	2541.234	2505.137	2498.487	2510.836	2501.717	2510.836
32.5	2436.742	2452.511	2442.442	2442.062	2431.423	2401.595	2403.115	2408.435	2398.176	2408.435
35.0	2326.361	2342.130	2337.380	2329.591	2314.582	2287.605	2295.014	2295.584	2285.705	2295.584
37.5	2209.521	2223.960	2222.250	2210.281	2195.652	2168.294	2177.603	2174.944	2167.724	2174.944
40.0	2084.511	2097.810	2099.520	2087.931	2071.972	2046.704	2053.733	2047.084	2040.815	2047.084
42.5	1952.852	1967.480	1970.330	1963.111	1942.403	1921.314	1924.544	1916.185	1911.815	1916.185
45.0	1817.393	1833.351	1837.531	1831.831	1806.754	1791.935	1791.555	1783.385	1775.216	1783.385
47.5	1677.944	1698.462	1703.972	1699.602	1667.305	1656.476	1655.906	1644.127	1630.448	1644.127
50.0	1539.445	1562.623	1573.452	1566.803	1529.756	1521.777	1522.347	1502.588	1486.819	1502.588
52.5	1393.727	1422.605	1443.693	1429.824	1373.019	1385.178	1394.297	1362.760	1343.761	1362.760
55.0	1248.959	1285.436	1314.123	1280.496	1203.552	1232.620	1267.197	1226.161	1200.703	1226.161
57.5	1108.940	1152.637	1188.354	1122.049	1038.456	1075.693	1143.137	1095.451	1061.064	1095.451
60.0	975.191	1025.537	1065.054	968.351	863.100	918.196	1019.267	970.821	927.315	970.821
62.5	848.091	904.517	933.964	804.775	698.573	758.608	888.178	854.741	802.115	854.741
65.0	728.591	791.856	806.295	650.317	550.575	609.471	765.068	746.449	685.844	746.449
67.5	617.260	687.364	681.095	511.629	423.666	476.481	640.058	646.328	579.833	646.328
70.0	516.378	589.902	558.745	392.888	318.984	361.541	519.608	552.285	482.371	552.285
72.5	425.186	498.710	444.564	292.766	237.101	266.738	408.277	463.942	394.218	463.942
75.0	342.162	408.087	338.933	212.213	176.876	193.024	306.635	375.790	314.235	375.790
77.5	266.358	321.834	242.800	150.848	135.649	143.438	215.823	293.716	242.990	293.716
80.0	197.394	240.141	157.117	107.721	95.372	102.022	141.918	215.443	178.965	215.443
82.5	132.229	162.057	90.243	63.835	50.346	57.185	80.743	144.768	124.630	144.768
85.0	80.743	86.443	39.517	23.368	18.618	19.948	32.867	74.664	74.854	74.664
87.5	38.567	25.458	10.449	8.549	6.839	7.219	8.929	18.429	34.957	18.429
90.0	5.130	0.570	0.000	0.000	0.000	0.000	0.000	0.000	2.850	0.000
92.5	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
95.0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
97.5	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
100.0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
102.5	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
105.0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
107.5	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
110.0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
112.5	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
115.0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
117.5	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
120.0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
122.5	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
125.0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
127.5	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
130.0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
132.5	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

IES INDOOR REPORT
PHOTOMETRIC FILENAME : HETG-AR14-L69-850-A-DIM-UNV.IES

CANDELA TABULATION - (Cont.)

135.0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
137.5	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
140.0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
142.5	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
145.0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
147.5	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
150.0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
152.5	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
155.0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
157.5	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
160.0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
162.5	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
165.0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
167.5	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
170.0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
172.5	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
175.0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
177.5	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
180.0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

Vert. Angles **Horizontal Angles**

	<u>225.0</u>	<u>247.5</u>	<u>270.0</u>	<u>292.5</u>	<u>315.0</u>	<u>337.5</u>	<u>360.0</u>
0.0	3106.248	3106.248	3106.248	3106.248	3106.248	3106.248	3106.248
2.5	3095.419	3137.026	3168.753	3137.786	3099.409	3069.201	3055.522
5.0	3089.340	3129.046	3164.003	3134.746	3096.179	3061.412	3046.213
7.5	3073.761	3107.958	3142.535	3118.027	3083.450	3047.923	3029.684
10.0	3045.073	3071.291	3104.538	3085.730	3059.322	3027.974	3008.406
12.5	3003.656	3023.985	3058.372	3040.703	3019.805	2999.667	2980.288
15.0	2951.791	2973.259	3007.076	2994.347	2974.019	2963.190	2941.911
17.5	2897.455	2909.994	2943.431	2936.782	2922.153	2916.264	2894.795
20.0	2835.520	2836.090	2870.097	2866.488	2863.448	2860.408	2840.270
22.5	2761.236	2757.246	2795.433	2790.114	2792.774	2795.623	2780.235
25.0	2677.833	2682.582	2724.189	2715.640	2711.650	2722.669	2710.700
27.5	2588.920	2600.889	2637.746	2637.556	2624.447	2641.736	2629.957
30.0	2498.487	2505.137	2541.234	2544.274	2535.154	2553.203	2538.384
32.5	2403.115	2401.595	2431.423	2442.062	2442.442	2452.511	2436.742
35.0	2295.014	2287.605	2314.582	2329.591	2337.380	2342.130	2326.361
37.5	2177.603	2168.294	2195.652	2210.281	2222.250	2223.960	2209.521
40.0	2053.733	2046.704	2071.972	2087.931	2099.520	2097.810	2084.511
42.5	1924.544	1921.314	1942.403	1963.111	1970.330	1967.480	1952.852
45.0	1791.555	1791.935	1806.754	1831.831	1837.531	1833.351	1817.393
47.5	1655.906	1656.476	1667.305	1699.602	1703.972	1698.462	1677.944
50.0	1522.347	1521.777	1529.756	1566.803	1573.452	1562.623	1539.445
52.5	1394.297	1385.178	1373.019	1429.824	1443.693	1422.605	1393.727
55.0	1267.197	1232.620	1203.552	1280.496	1314.123	1285.436	1248.959
57.5	1143.137	1075.693	1038.456	1122.049	1188.354	1152.637	1108.940
60.0	1019.267	918.196	863.100	968.351	1065.054	1025.537	975.191
62.5	888.178	758.608	698.573	804.775	933.964	904.517	848.091
65.0	765.068	609.471	550.575	650.317	806.295	791.856	728.591
67.5	640.058	476.481	423.666	511.629	681.095	687.364	617.260
70.0	519.608	361.541	318.984	392.888	558.745	589.902	516.378
72.5	408.277	266.738	237.101	292.766	444.564	498.710	425.186
75.0	306.635	193.024	176.876	212.213	338.933	408.087	342.162
77.5	215.823	143.438	135.649	150.848	242.800	321.834	266.358
80.0	141.918	102.022	95.372	107.721	157.117	240.141	197.394

IES INDOOR REPORT
PHOTOMETRIC FILENAME : HETG-AR14-L69-850-A-DIM-UNV.IES

CANDELA TABULATION - (Cont.)

82.5	80.743	57.185	50.346	63.835	90.243	162.057	132.229
85.0	32.867	19.948	18.618	23.368	39.517	86.443	80.743
87.5	8.929	7.219	6.839	8.549	10.449	25.458	38.567
90.0	0.000	0.000	0.000	0.000	0.000	0.570	5.130
92.5	0.000	0.000	0.000	0.000	0.000	0.000	0.000
95.0	0.000	0.000	0.000	0.000	0.000	0.000	0.000
97.5	0.000	0.000	0.000	0.000	0.000	0.000	0.000
100.0	0.000	0.000	0.000	0.000	0.000	0.000	0.000
102.5	0.000	0.000	0.000	0.000	0.000	0.000	0.000
105.0	0.000	0.000	0.000	0.000	0.000	0.000	0.000
107.5	0.000	0.000	0.000	0.000	0.000	0.000	0.000
110.0	0.000	0.000	0.000	0.000	0.000	0.000	0.000
112.5	0.000	0.000	0.000	0.000	0.000	0.000	0.000
115.0	0.000	0.000	0.000	0.000	0.000	0.000	0.000
117.5	0.000	0.000	0.000	0.000	0.000	0.000	0.000
120.0	0.000	0.000	0.000	0.000	0.000	0.000	0.000
122.5	0.000	0.000	0.000	0.000	0.000	0.000	0.000
125.0	0.000	0.000	0.000	0.000	0.000	0.000	0.000
127.5	0.000	0.000	0.000	0.000	0.000	0.000	0.000
130.0	0.000	0.000	0.000	0.000	0.000	0.000	0.000
132.5	0.000	0.000	0.000	0.000	0.000	0.000	0.000
135.0	0.000	0.000	0.000	0.000	0.000	0.000	0.000
137.5	0.000	0.000	0.000	0.000	0.000	0.000	0.000
140.0	0.000	0.000	0.000	0.000	0.000	0.000	0.000
142.5	0.000	0.000	0.000	0.000	0.000	0.000	0.000
145.0	0.000	0.000	0.000	0.000	0.000	0.000	0.000
147.5	0.000	0.000	0.000	0.000	0.000	0.000	0.000
150.0	0.000	0.000	0.000	0.000	0.000	0.000	0.000
152.5	0.000	0.000	0.000	0.000	0.000	0.000	0.000
155.0	0.000	0.000	0.000	0.000	0.000	0.000	0.000
157.5	0.000	0.000	0.000	0.000	0.000	0.000	0.000
160.0	0.000	0.000	0.000	0.000	0.000	0.000	0.000
162.5	0.000	0.000	0.000	0.000	0.000	0.000	0.000
165.0	0.000	0.000	0.000	0.000	0.000	0.000	0.000
167.5	0.000	0.000	0.000	0.000	0.000	0.000	0.000
170.0	0.000	0.000	0.000	0.000	0.000	0.000	0.000
172.5	0.000	0.000	0.000	0.000	0.000	0.000	0.000
175.0	0.000	0.000	0.000	0.000	0.000	0.000	0.000
177.5	0.000	0.000	0.000	0.000	0.000	0.000	0.000
180.0	0.000	0.000	0.000	0.000	0.000	0.000	0.000

IES INDOOR REPORT
PHOTOMETRIC FILENAME : HETG-AR14-L69-850-A-DIM-UNV.IES

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-20	1130.52	N.A.	15.20
0-30	2374.23	N.A.	32.00
0-40	3818.53	N.A.	51.50
0-60	6333.07	N.A.	85.40
0-80	7353.04	N.A.	99.10
0-90	7417.6	N.A.	100.00
10-90	7123.43	N.A.	96.00
20-40	2688.02	N.A.	36.20
20-50	4081.68	N.A.	55.00
40-70	3217.02	N.A.	43.40
60-80	1019.97	N.A.	13.80
70-80	317.50	N.A.	4.30
80-90	64.56	N.A.	0.90
90-110	0.08	N.A.	0.00
90-120	0.08	N.A.	0.00
90-130	0.08	N.A.	0.00
90-150	0.08	N.A.	0.00
90-180	0.08	N.A.	0.00
110-180	0.00	N.A.	0.00
0-180	7417.68	N.A.	100.00

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	294.17
10-20	836.35
20-30	1243.71
30-40	1444.3
40-50	1393.67
50-60	1120.87
60-70	702.48
70-80	317.50
80-90	64.56
90-100	0.08
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

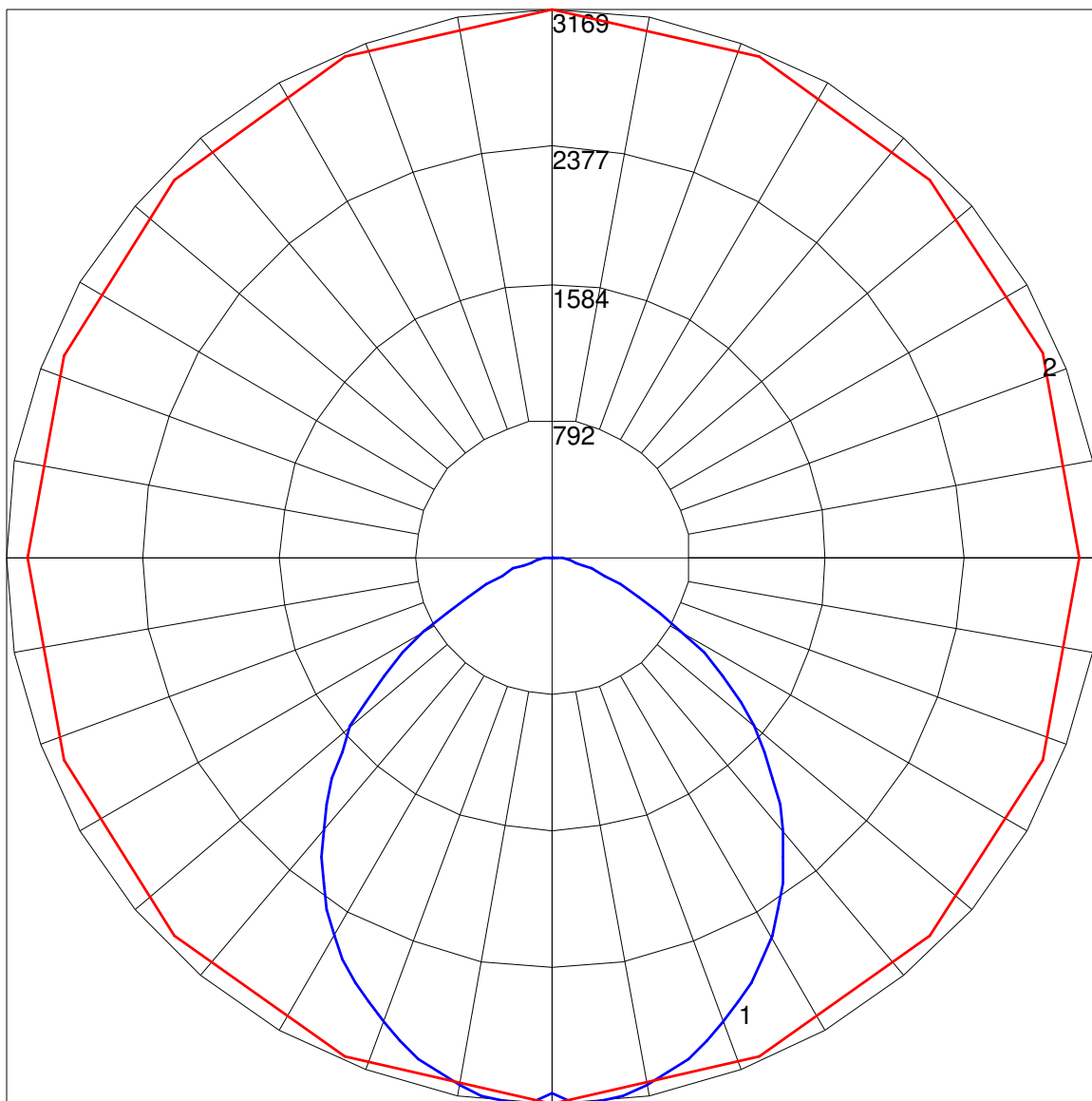
IES INDOOR REPORT
PHOTOMETRIC FILENAME : HETG-AR14-L69-850-A-DIM-UNV.IES

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	106	102	98	107	103	100	97	99	96	94	95	93	91	92	90	88	86
2	101	93	87	82	98	91	86	81	88	83	79	85	81	77	82	78	76	73
3	93	83	75	69	90	81	74	69	78	72	67	76	70	66	73	69	65	63
4	85	74	66	59	83	73	65	59	70	63	58	68	62	57	66	61	57	55
5	79	66	58	52	76	65	57	51	63	56	51	61	55	50	59	54	50	48
6	73	60	52	45	71	59	51	45	57	50	45	56	49	44	54	48	44	42
7	68	55	46	40	66	54	46	40	52	45	40	51	44	40	50	44	39	37
8	63	50	42	36	61	49	42	36	48	41	36	47	40	36	46	40	35	34
9	59	46	38	33	58	45	38	33	44	37	32	43	37	32	42	36	32	30
10	55	43	35	30	54	42	35	30	41	34	30	40	34	29	39	33	29	28

POLAR GRAPH



Maximum Candela = 3168.753 Located At Horizontal Angle = 90, Vertical Angle = 2.5
1 - Vertical Plane Through Horizontal Angles (90 - 270) (Through Max. Cd.)
2 - Horizontal Cone Through Vertical Angle (2.5) (Through Max. Cd.)