

IES INDOOR REPORT

PHOTOMETRIC FILENAME : 4DS-L20-840-DIM-UNV-OW-OF-SG_.IES

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002
[TEST]GEN FROM BALLABS TEST NO. 30328.0
[TESTLAB] BUILDING ACOUSTICS & LIGHTING LABORATORIES, INC
[ISSUE DATE] 09-05-2023
[MANUFAC] WILLIAMS INDOOR
[OTHER] H.E. WILLIAMS, INC - CARTHAGE, MO
[LUMINAIRE] 4"TALL HEATSINK 4"SQ CAST HOUSING DOWNLIGHT
[LUMCAT] 4DS-L20-840-DIM-UNV-OW-OF-SG
[_SEARCH_SOURCE TYPE] LED
[_SEARCH_APPLICATION] Indoor, Classroom, Office, Downlight
[_SEARCH_MOUNTING] Recessed

CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	1587
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	63
Total Luminaire Watts	25
Ballast Factor	1.00
CIE Type	Direct
Spacing Criterion (0-180)	0.84
Spacing Criterion (90-270)	0.82
Spacing Criterion (Diagonal)	0.86
Basic Luminous Shape	Rectangular
Luminous Length (0-180)	0.33 ft
Luminous Width (90-270)	0.33 ft
Luminous Height	0.00 ft

LUMINANCE DATA (cd/sq.m)

Angle In Degrees	Average 0-Deg	Average 45-Deg	Average 90-Deg
45	17709	21772	17019
55	4442	5103	3591
65	0	257	0
75	0	0	0
85	0	0	0

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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>
0	2014.510	2014.510	2014.510	2014.510	2014.510
5	1960.850	1953.583	1942.404	1933.460	1937.373
10	1797.632	1777.509	1764.094	1748.443	1772.478
15	1600.317	1559.513	1508.088	1536.036	1566.779
20	1410.828	1342.075	1259.348	1307.419	1375.054
25	1157.617	1091.100	1046.383	1065.946	1144.202
30	811.617	826.709	847.391	814.412	820.561
35	446.613	499.715	622.687	513.689	429.285
40	217.996	254.888	372.271	265.508	217.996
45	129.121	125.767	158.746	130.239	124.090
50	72.665	68.194	67.076	68.753	67.635
55	26.271	29.066	30.184	26.271	21.241
60	1.677	2.795	8.943	3.354	1.118
65	0.000	0.000	1.118	0.000	0.000
70	0.000	0.000	0.000	0.000	0.000
75	0.000	0.000	0.000	0.000	0.000
80	0.000	0.000	0.000	0.000	0.000
85	0.000	0.000	0.000	0.000	0.000
90	0.000	0.000	0.000	0.000	0.000

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ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-20	613.56	N.A.	38.70
0-30	1109.06	N.A.	69.90
0-40	1439.91	N.A.	90.70
0-60	1585.69	N.A.	99.90
0-80	1586.83	N.A.	100.00
0-90	1586.83	N.A.	100.00
10-90	1406.66	N.A.	88.60
20-40	826.35	N.A.	52.10
20-50	944.01	N.A.	59.50
40-70	146.92	N.A.	9.30
60-80	1.14	N.A.	0.10
70-80	0.00	N.A.	0.00
80-90	0.00	N.A.	0.00
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	1586.83	N.A.	100.00

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	180.17
10-20	433.39
20-30	495.50
30-40	330.85
40-50	117.67
50-60	28.11
60-70	1.14
70-80	0.00
80-90	0.00
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	114	111	108	106	111	109	106	104	105	103	101	101	99	98	97	96	95	94
2	108	103	99	96	106	101	98	95	98	95	92	95	93	90	92	90	89	87
3	102	96	91	87	100	95	90	86	92	88	85	90	86	84	87	85	82	81
4	97	90	84	80	95	89	83	79	86	82	78	84	81	78	82	79	77	75
5	92	84	78	74	91	83	77	73	81	76	73	79	75	72	78	74	71	70
6	88	79	73	68	86	78	72	68	76	71	68	75	71	67	74	70	67	65
7	83	74	68	64	82	73	68	64	72	67	63	71	66	63	70	66	63	61
8	79	70	64	60	78	69	63	59	68	63	59	67	62	59	66	62	59	57
9	75	66	60	56	74	65	60	56	64	59	56	63	59	55	63	58	55	54
10	72	62	56	53	71	62	56	52	61	56	52	60	55	52	59	55	52	51

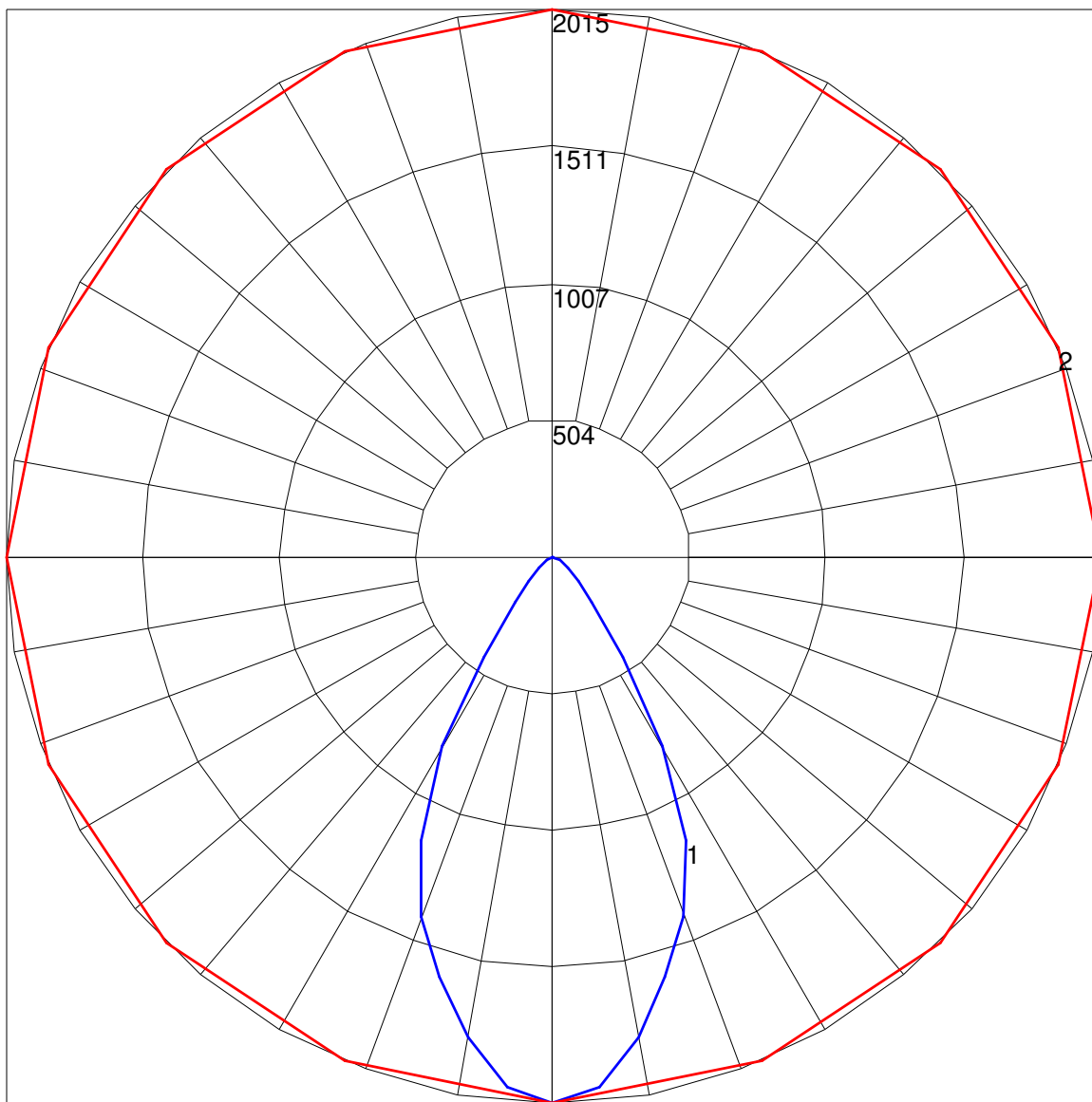
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UGR TABLE - CORRECTED

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	6.3	7.3	6.7	7.6	8.0	5.7	6.7	6.1	7.0	7.3
	3H	6.1	7.0	6.5	7.4	7.7	5.5	6.4	5.9	6.7	7.1
	4H	6.0	6.9	6.4	7.2	7.6	5.4	6.2	5.8	6.6	7.0
	6H	5.9	6.7	6.4	7.0	7.4	5.3	6.0	5.7	6.4	6.8
	8H	5.9	6.6	6.3	7.0	7.4	5.2	5.9	5.7	6.3	6.7
	12H	5.8	6.5	6.2	6.9	7.3	5.2	5.8	5.6	6.2	6.7
4H	2H	6.0	6.9	6.5	7.2	7.6	5.4	6.2	5.8	6.6	7.0
	3H	5.8	6.5	6.3	6.9	7.3	5.2	5.9	5.6	6.3	6.7
	4H	5.7	6.3	6.2	6.7	7.2	5.1	5.7	5.5	6.1	6.6
	6H	5.6	6.1	6.1	6.6	7.0	5.0	5.5	5.5	5.9	6.4
	8H	5.6	6.0	6.0	6.5	6.9	4.9	5.4	5.4	5.8	6.3
	12H	5.5	5.9	6.0	6.4	6.8	4.8	5.2	5.3	5.7	6.2
8H	4H	5.6	6.0	6.0	6.5	6.9	4.9	5.4	5.4	5.8	6.3
	6H	5.4	5.8	5.9	6.3	6.8	4.8	5.2	5.3	5.7	6.1
	8H	5.3	5.7	5.9	6.2	6.7	4.7	5.0	5.2	5.6	6.1
	12H	5.3	5.6	5.8	6.1	6.7	4.7	4.9	5.2	5.4	6.0
12H	4H	5.5	5.9	6.0	6.4	6.8	4.8	5.2	5.3	5.7	6.2
	6H	5.3	5.7	5.9	6.1	6.7	4.7	5.0	5.2	5.5	6.1
	8H	5.3	5.6	5.8	6.1	6.7	4.7	4.9	5.2	5.4	6.0

Maximum UGR = 8.0

POLAR GRAPH



Maximum Candela = 2014.51 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.)