



IES INDOOR REPORT

PHOTOMETRIC FILENAME : 4DS-L20-840-DIM-UNV-RW-OF-WH-AD_.IES

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-1995
 [TEST] GEN FROM BALLABS TEST NO. 20325.0
 [TESTLAB] BUILDING ACOUSTICS & LIGHTING LABORATORIES, INC
 [ISSUEDATE] 13-MAY-2020
 [MANUFAC] WILLIAMS INDOOR
 [OTHER] H.E. WILLIAMS, INC - CARTHAGE, MO
 [LUMINAIRE] 4"SQ CAST HOUSING DOWNLIGHT
 [LUMINAIRE] WITH 4"CAST WHITE REGRESS/DIFFUSE LENS
 [LUMCAT] 4DS-L20-840-DIM-UNV-RW-OF-WH-AD
 [LAMPCAT]LAMP CODE : BXRE-35E2000
 [_SEARCH_SOURCETYPE] 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	1692
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	68
Total Luminaire Watts	25
Ballast Factor	1.00
CIE Type	Direct
Spacing Criterion (0-180)	0.92
Spacing Criterion (90-270)	0.92
Spacing Criterion (Diagonal)	1.00
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	44430	45367	44029
55	35471	34481	35141
65	23287	22839	23063
75	9506	10237	9872
85	3257	3257	4343

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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	1229.480	1229.480	1229.480	1229.480	1229.480
5	1210.940	1210.940	1207.037	1206.062	1207.037
10	1155.321	1157.273	1157.273	1154.345	1155.321
15	1066.525	1067.501	1068.477	1070.428	1066.525
20	951.384	952.359	957.238	953.335	949.432
25	805.017	810.872	829.411	818.678	801.114
30	644.013	658.650	689.875	660.602	639.135
35	502.526	519.114	546.436	522.041	499.598
40	399.093	411.778	420.560	408.851	394.214
45	323.958	329.813	330.789	327.861	321.031
50	264.436	266.387	260.533	260.533	260.533
55	209.792	209.792	203.938	205.889	207.841
60	152.221	152.221	147.342	152.221	155.149
65	101.481	102.457	99.529	100.505	100.505
70	48.789	51.716	56.595	53.668	44.886
75	25.370	27.322	27.322	26.346	26.346
80	12.685	13.661	12.685	13.661	13.661
85	2.927	3.903	2.927	3.903	3.903
90	0.000	0.000	0.000	0.000	0.000

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ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-20	412.27	N.A.	24.40
0-30	784.85	N.A.	46.40
0-40	1114.76	N.A.	65.90
0-60	1555.49	N.A.	91.90
0-80	1686.9	N.A.	99.70
0-90	1692.45	N.A.	100.00
10-90	1578.72	N.A.	93.30
20-40	702.49	N.A.	41.50
20-50	958.26	N.A.	56.60
40-70	540.81	N.A.	32.00
60-80	131.41	N.A.	7.80
70-80	31.33	N.A.	1.90
80-90	5.54	N.A.	0.30
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	1692.45	N.A.	100.00

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	113.72
10-20	298.55
20-30	372.58
30-40	329.91
40-50	255.76
50-60	184.97
60-70	100.08
70-80	31.33
80-90	5.54
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	112	108	105	102	109	106	103	100	102	99	97	98	96	94	94	93	91	89
2	104	97	92	88	101	96	91	87	92	88	85	89	86	83	86	83	81	79
3	97	88	82	76	94	87	81	76	84	79	74	81	77	73	79	75	72	70
4	90	80	73	67	88	79	72	67	77	71	66	74	69	65	72	68	65	63
5	84	73	66	60	82	72	65	60	70	64	59	68	63	59	67	62	58	56
6	78	67	60	54	77	66	59	54	65	58	54	63	58	53	62	57	53	51
7	74	62	55	49	72	61	54	49	60	54	49	59	53	49	57	52	48	47
8	69	58	50	45	68	57	50	45	56	49	45	55	49	45	53	48	44	43
9	65	54	46	42	64	53	46	41	52	46	41	51	45	41	50	45	41	39
10	62	50	43	38	60	50	43	38	49	42	38	48	42	38	47	42	38	36

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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

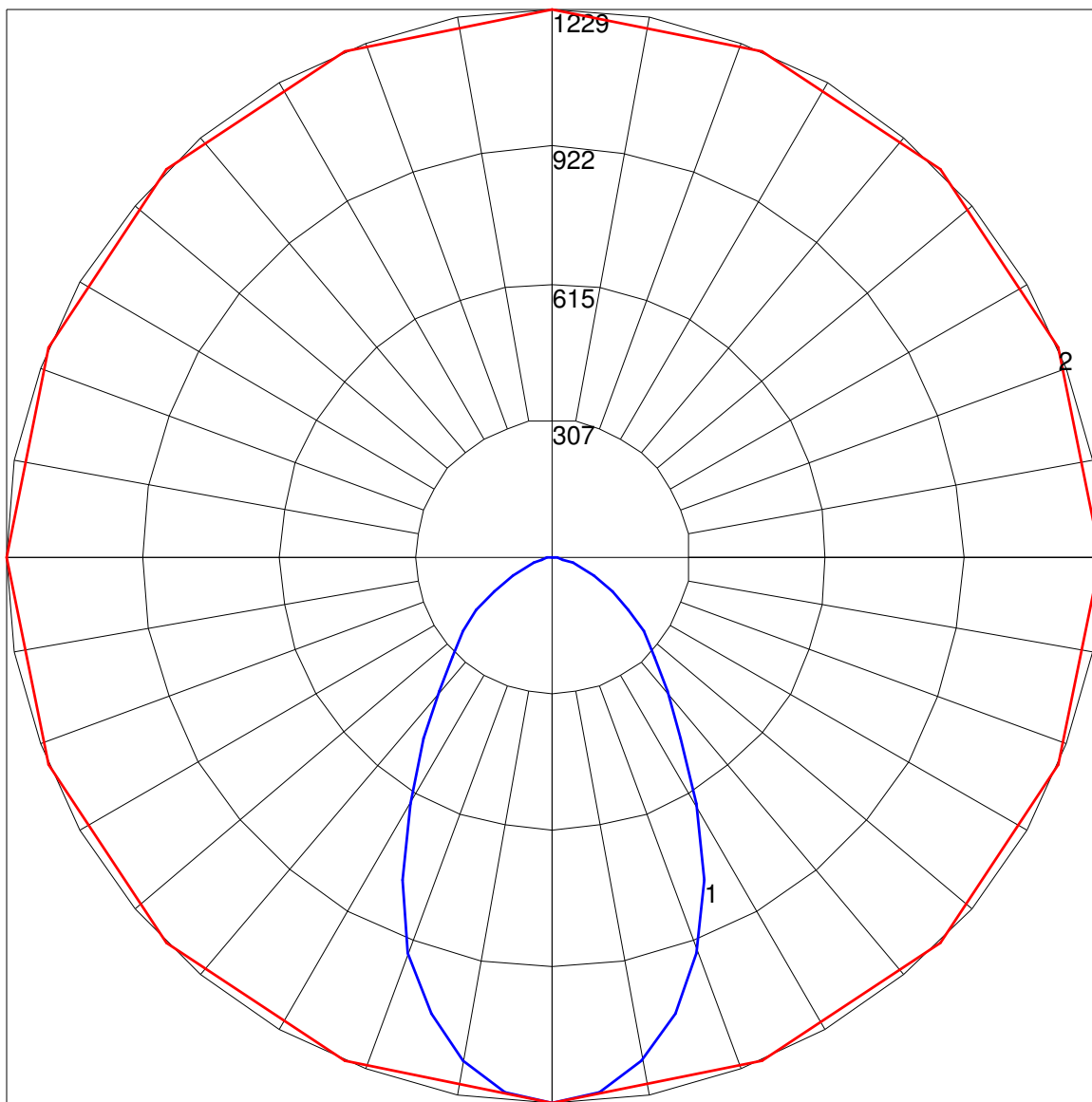
X=2H	Y=2H	23.1	24.4	23.4	24.7	25.1	23.0	24.4	23.4	24.7	25.0
	3H	23.7	24.9	24.1	25.2	25.6	23.6	24.8	24.0	25.2	25.5
	4H	23.8	24.9	24.2	25.3	25.7	23.7	24.9	24.1	25.2	25.6
	6H	23.8	24.9	24.2	25.2	25.6	23.8	24.8	24.2	25.2	25.6
	8H	23.8	24.8	24.3	25.2	25.6	23.8	24.7	24.2	25.1	25.5
	12H	23.8	24.7	24.2	25.1	25.5	23.7	24.7	24.2	25.1	25.5

UGR Viewed Endwise

4H	2H	23.3	24.5	23.7	24.8	25.2	23.3	24.4	23.7	24.8	25.2
	3H	24.1	25.0	24.5	25.4	25.8	24.1	25.0	24.5	25.4	25.8
	4H	24.2	25.0	24.6	25.5	25.9	24.2	25.0	24.6	25.4	25.9
	6H	24.3	25.0	24.8	25.5	25.9	24.3	25.0	24.7	25.4	25.9
	8H	24.3	24.9	24.8	25.4	25.9	24.3	24.9	24.7	25.4	25.8
	12H	24.3	24.8	24.8	25.3	25.8	24.2	24.8	24.7	25.3	25.8
8H	4H	24.2	24.9	24.7	25.3	25.8	24.2	24.8	24.6	25.3	25.7
	6H	24.3	24.9	24.8	25.4	25.8	24.3	24.8	24.8	25.3	25.8
	8H	24.3	24.8	24.8	25.3	25.8	24.3	24.8	24.8	25.3	25.8
	12H	24.3	24.7	24.8	25.2	25.8	24.3	24.7	24.8	25.2	25.8
12H	4H	24.2	24.8	24.7	25.3	25.7	24.2	24.7	24.6	25.2	25.7
	6H	24.3	24.8	24.8	25.2	25.8	24.2	24.7	24.8	25.2	25.7
	8H	24.3	24.7	24.8	25.2	25.8	24.3	24.7	24.8	25.2	25.8

Maximum UGR = 25.9

POLAR GRAPH



Maximum Candela = 1229.48 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.)