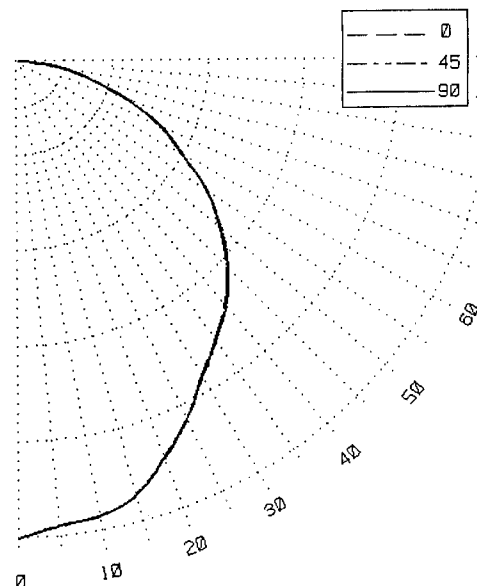


BALLABS CERTIFIED TEST REPORT NO.: 20105.0 DATE 11/08/17  
PREPARED FOR: H.E. WILLIAMS, INC - CARTHAGE, MO  
DESCRIPTION: 12-28 LED 22"ARRAYS 4X4'RECESSED LUMINAIRE  
WHITE FLAT REFLECTOR w/FROSTED ACRYLIC LENS IN DOOR  
2 EVERLINE #D15CC55UNVTW-C @ 1.38A EACH  
CATALOG NBR: 50G-S44-L113/835-FKSH/FROSTGLAZE/187-DRV-UNV  
LAMP TYPE : HLM2228\_5630REVA 835CCT 10560202

## CANDLEPOWER DISTRIBUTION

VERT ANG	0	22.5	45	67.5	90	ZONAL LUMENS
0	4224.	4224.	4224.	4224.	4224.	
5	4135.	4132.	4130.	4132.	4132.	394.4
10	4093.	4093.	4093.	4093.	4098.	
15	3986.	3981.	3988.	3988.	3988.	1129.9
20	3754.	3756.	3756.	3763.	3763.	
25	3513.	3513.	3518.	3523.	3523.	1628.4
30	3238.	3241.	3245.	3250.	3252.	
35	3032.	3034.	3039.	3046.	3048.	1909.7
40	2847.	2853.	2856.	2858.	2863.	
45	2610.	2620.	2624.	2633.	2633.	2032.8
50	2326.	2333.	2335.	2345.	2354.	
55	2038.	2038.	2044.	2056.	2058.	1835.9
60	1675.	1675.	1682.	1689.	1698.	
65	1400.	1396.	1398.	1407.	1421.	1392.6
70	1066.	1059.	1057.	1068.	1082.	
75	731.	720.	717.	729.	740.	767.4
80	463.	449.	449.	458.	474.	
85	206.	199.	197.	204.	213.	221.0
90	23.	28.	28.	28.	28.	



*[Handwritten signature]*

**NVLAP**<sup>®</sup>  
TESTING

NVLAP LAB CODE 200921-0

## LUMEN SUMMARY

ZONE	LUMENS	%LAMP	%FIXT	ZONE	LUMENS	%LAMP	%FIXT
0- 30	3153.	NA.	27.9	90-120	0.	NA.	.0
0- 40	5062.	NA.	44.8	90-130	0.	NA.	.0
0- 60	8931.	NA.	79.0	90-150	0.	NA.	.0
0- 90	11312.	NA.	100.0	90-180	0.	NA.	.0
TOTAL LUMINAIRE = 0-180				11312.	NA.	100.0	

IES SPACING CRITERIA: END= 1.2 DIAGONAL = 1.2 CROSS= 1.2

THIS BALLABS REPORT WITH THE USE OF THE NVLAP LOGO SHALL NOT BE USED BY THIS CLIENT TO CLAIM PRODUCT CERTIFICATION, APPROVAL, OR ENDORSEMENT BY NVLAP, NIST, OR ANY AGENCY OF THE FEDERAL GOVERNMENT.

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LUMINANCES-CD/SQ-M			
HORIZONTAL ANGLE			
VERT	0	45	90
ANGLE			
45	2773.	2788.	2798.
55	2668.	2677.	2695.
65	2489.	2485.	2526.
75	2122.	2082.	2149.
85	1778.	1699.	1837.

\*\*MAXIMUM BRIGHTNESSES NOT MEASURED\*\*

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# ZONAL CAVITY COEFFICIENTS OF UTILIZATION

EFFECTIVE FLOOR CAVITY REFLECTANCE=.20

CEILING		.80				.70				.50				.30				.10				.00	
WALL	.70	.50	.30	.10	.70	.50	.30	.10	.50	.30	.10	.50	.30	.10	.50	.30	.10	.00					
RCR																							
0	1.19	1.19	1.19	1.19	1.16	1.16	1.16	1.16	1.11	1.11	1.11	1.06	1.06	1.06	1.02	1.02	1.02	1.00					
1	1.10	1.05	1.01	.97	1.07	1.03	.99	.96	.99	.96	.93	.95	.92	.90	.91	.89	.87	.85					
2	1.00	.92	.86	.81	.98	.91	.85	.80	.87	.82	.78	.84	.80	.76	.81	.77	.74	.72					
3	.92	.82	.74	.68	.90	.80	.73	.67	.77	.71	.66	.75	.70	.65	.72	.68	.64	.62					
4	.84	.73	.64	.58	.82	.72	.64	.58	.69	.62	.57	.67	.61	.56	.65	.60	.55	.53					
5	.77	.64	.56	.49	.75	.63	.55	.49	.61	.54	.48	.59	.53	.48	.57	.52	.47	.45					
6	.71	.58	.49	.43	.69	.57	.48	.42	.55	.47	.42	.53	.47	.42	.52	.46	.41	.39					
7	.65	.52	.43	.37	.64	.51	.43	.37	.49	.42	.37	.48	.41	.36	.47	.41	.36	.34					
8	.60	.46	.38	.32	.58	.46	.38	.32	.44	.37	.32	.43	.36	.32	.42	.36	.31	.29					
9	.55	.42	.33	.28	.54	.41	.33	.28	.40	.33	.27	.39	.32	.27	.38	.32	.27	.25					
10	.51	.38	.30	.25	.50	.37	.30	.24	.36	.29	.24	.35	.29	.24	.34	.28	.24	.22					

TESTED IN ACCORDANCE WITH CURRENT IES PROCEDURES

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ELECTRICAL CHARACTERISTICS 119.96V 1.0644A 127.540W

LUMINOUS EFFICACY (LUMENS / WATTS) = 88.7

TESTED IN ACCORDANCE WITH CURRENT IES STANDARDS  
UTILIZING ABSOLUTE PHOTOMETRY PER LM-79-08