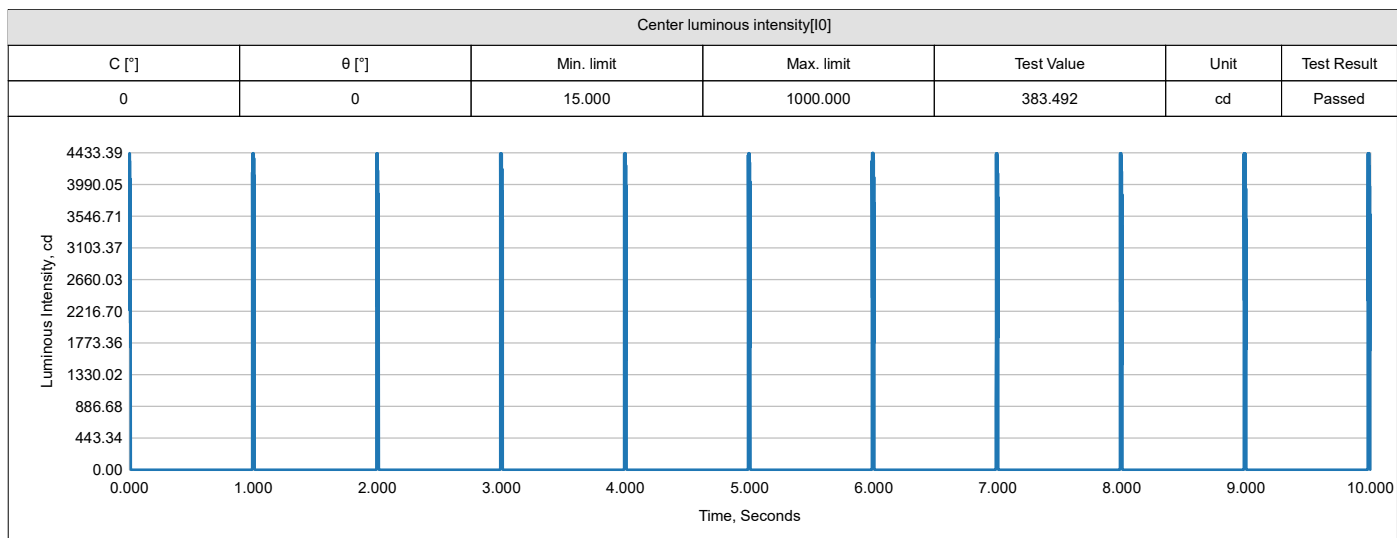


Class W VAD Report

Test Standard	ANSI/UL1638-2023
Publisher	ULSE Inc. and ULC Standards
Release Time	April 27, 2023
Comment	Visible Signaling Devices for Fire Alarm and Signaling Systems, Including Accessories
Voltage (V)	DC 24 (CV)
Test Time	2026-08-07 12:14:00
Goniophotometer	LSG-1930 [E812035D]
Flash Light Illuminometer	PM-400F [D512107A]



Flash frequency					
Calculation	Min. limit	Max. limit	Test Value	Unit	Test Result
FLICKFREQ([I0])	1.00	2.00	1.00	Hz	Passed

Flash duration					
Calculation	Min. limit	Max. limit	Test Value	Unit	Test Result
FLASHDURATION([I0])		200	20	ms	Passed

Left-Required Minimum Percentage for Horizontal Dispersion for Wall Visible Signal Devices							
Name	C [°]	θ [°]	Min. limit	Max. limit	Test Value	Unit	Test Result
H5°	90	-5	13.500	1000.000	266.073	cd	Passed
H10°	90	-10	13.500	1000.000	191.807	cd	Passed
H15°	90	-15	13.500	1000.000	192.155	cd	Passed
H20°	90	-20	13.500	1000.000	197.393	cd	Passed
H25°	90	-25	13.500	1000.000	228.122	cd	Passed
H30°	90	-30	11.250	1000.000	222.434	cd	Passed
H35°	90	-35	11.250	1000.000	186.726	cd	Passed
H40°	90	-40	11.250	1000.000	169.865	cd	Passed
H45°	90	-45	11.250	1000.000	162.242	cd	Passed
H50°	90	-50	8.250	1000.000	144.755	cd	Passed
H55°	90	-55	6.750	1000.000	148.972	cd	Passed
H60°	90	-60	6.000	1000.000	108.785	cd	Passed
H65°	90	-65	5.250	1000.000	94.532	cd	Passed
H70°	90	-70	5.250	1000.000	94.838	cd	Passed
H75°	90	-75	4.500	1000.000	94.131	cd	Passed
H80°	90	-80	4.500	1000.000	94.683	cd	Passed

H85°	90	-85	3.750	1000.000	80.376	cd	Passed
H90°	90	-90	3.750	1000.000	71.476	cd	Passed
C45°	45	-45	3.600	1000.000	74.384	cd	Passed

Right-Required Minimum Percentage for Horizontal Dispersion for Wall Visible Signal Devices

Name	C [°]	θ [°]	Min. limit	Max. limit	Test Value	Unit	Test Result
-H5°	-90	-5	13.500	1000.000	273.055	cd	Passed
-H10°	-90	-10	13.500	1000.000	187.159	cd	Passed
-H15°	-90	-15	13.500	1000.000	184.837	cd	Passed
-H20°	-90	-20	13.500	1000.000	189.185	cd	Passed
-H25°	-90	-25	13.500	1000.000	221.473	cd	Passed
-H30°	-90	-30	11.250	1000.000	217.777	cd	Passed
-H35°	-90	-35	11.250	1000.000	180.663	cd	Passed
-H40°	-90	-40	11.250	1000.000	166.477	cd	Passed
-H45°	-90	-45	11.250	1000.000	158.789	cd	Passed
-H50°	-90	-50	8.250	1000.000	136.993	cd	Passed
-H55°	-90	-55	6.750	1000.000	134.246	cd	Passed
-H60°	-90	-60	6.000	1000.000	98.351	cd	Passed
-H65°	-90	-65	5.250	1000.000	87.677	cd	Passed
-H70°	-90	-70	5.250	1000.000	88.685	cd	Passed
-H75°	-90	-75	4.500	1000.000	89.171	cd	Passed
-H80°	-90	-80	4.500	1000.000	81.059	cd	Passed
-H85°	-90	-85	3.750	1000.000	68.692	cd	Passed
-H90°	-90	-90	3.750	1000.000	68.072	cd	Passed
-C45°	-45	-45	3.600	1000.000	74.171	cd	Passed

Required Minimum Percentage for Vertical Dispersion Wall to Floor

Name	C [°]	θ [°]	Min. limit	Max. limit	Test Value	Unit	Test Result
V5°	0	-5	13.500	1000.000	230.902	cd	Passed
V10°	0	-10	13.500	1000.000	168.899	cd	Passed
V15°	0	-15	13.500	1000.000	175.278	cd	Passed
V20°	0	-20	13.500	1000.000	179.362	cd	Passed
V25°	0	-25	11.250	1000.000	214.657	cd	Passed
V30°	0	-30	11.250	1000.000	202.958	cd	Passed
V35°	0	-35	9.750	1000.000	173.035	cd	Passed
V40°	0	-40	6.900	1000.000	158.438	cd	Passed
V45°	0	-45	5.100	1000.000	149.510	cd	Passed
V50°	0	-50	4.050	1000.000	134.932	cd	Passed
V55°	0	-55	3.300	1000.000	129.598	cd	Passed
V60°	0	-60	2.700	1000.000	90.822	cd	Passed
V65°	0	-65	2.400	1000.000	83.237	cd	Passed
V70°	0	-70	2.250	1000.000	83.943	cd	Passed
V75°	0	-75	1.950	1000.000	84.594	cd	Passed
V80°	0	-80	1.800	1000.000	83.396	cd	Passed
V85	0	-85	1.800	1000.000	72.520	cd	Passed
V90	0	-90	1.800	1000.000	64.593	cd	Passed