

VEROBOARD®

LED Type: VBDFS-2216-CW&WW-336-24-NS
Colour: 1800K-4200K (Dim to Warm)

Contact Name: _____

Company: _____

Phone: _____

Email: _____



DESCRIPTION

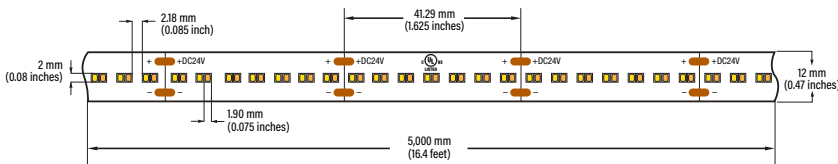
Flexible 12 mm wide linear Dim to Warm LED strip. Available in 5 meters (16.4 feet) rolls that can be cut every 14 LEDs (41.5 mm or 1.625 in). The LED Strip lights are manufactured with high-quality materials and designed for professional lighting. Every strip light begins with a heavy-duty dual-core copper printed circuit board (PC Board), which is then soldered with an array of chips and color options. Two chips are joined in 1 SMD to provide the adjustable color temperature. It allows the designers and professionals to adjust the color temperature between 1800K-4200K based on their needs and applications. A unique feature of this strip is the adjustment of the light color temperature to match the dimming. It shifts to a warmer color when dimmed. Furthermore, the strip lights come with a strong 3M adhesive backing. They can be cut to any size (marked interval points) and rejoined by soldering.

	Wattage	Brightness
Per Foot	5W/ft	815-1018Lm/ft
Per Meter	15W/m	2688-3360Lm/m



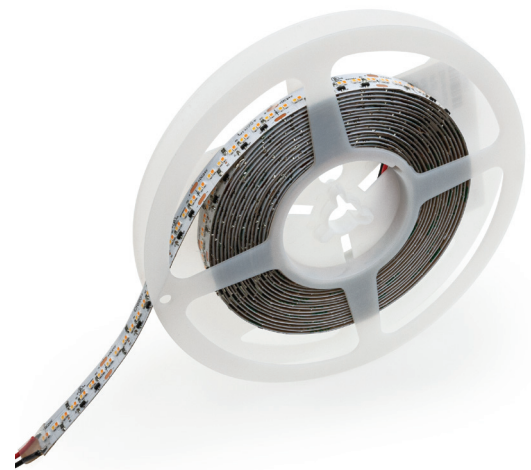
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DIMENSIONS



SPECIFICATIONS

Model:	VBDFS-2216-CW&WW-336-24-NS
Color Temperature:	1800K-4200K (Dim to Warm)
LED Type:	2216 SMD
LED Qty:	336 LEDs per meter
LM/LED:	8-10 Lm per LED
Input Voltage (VF):	24V DC
Power:	15W per meter (5W/ft)
Brightness:	2688-3360Lm/m (815-1018Lm/ft)
Lifespan:	>50,000 hours
PCB:	4oz PCB, Double-side, white colour 12mm width
IP Rating:	IP20 (Indoor use only)
Rendering Index (Ra):	CRI>95
Beam Angle:	120°
Dimmable:	Yes (Dimming lowers CCT)
Cut Size:	Every 14 LED chips (1.6")
Operating Temperature:	-15°C to +40°C
Dimensions:	5,000 x 12 x 1.2mm (196.8" x 0.47" 0.047")
Certificates:	UL / RoHs
Roll Length:	5 meter roll (16.4ft)



ORDERING GUIDE

Example part number: **VBDFS - 2216 - CW&WW - 336 - 24 - NS**

MODEL	SERIES	COLOUR	LEDS/METER	VOLTAGE	LENGTH
VBDFS	2216	XXXX 1800K-4200K	336	24V	XXXX Custom Length NS (Full Roll 5 Meter)

For more information about our products and services, please visit our website: www.veroboard.com

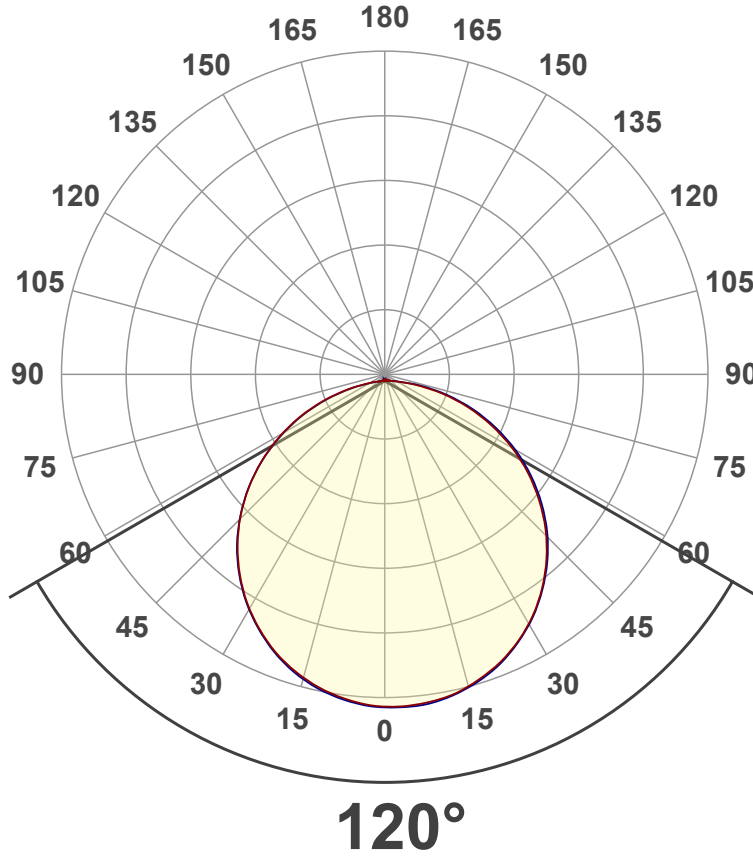
Light Measurement Report

Print date: 2023-04-26

Measurement date and time: 2023-04-26 3:21:24 PM – Measurement no. VFR-230426-0176-MS

Luminous Intensity diagram

Unit: 0-100% of peak intensity



Main Values

Lumen Up% / Down%	0.62% / 99.38%
Peak Intensity	137 cd
Beam Angle (50%)	120°
Beam Angle (90%)	114.4°
Beam Angle (10%)	114.1°

Cut-off Angle

Average 2,5%	173.8°
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Field Angle

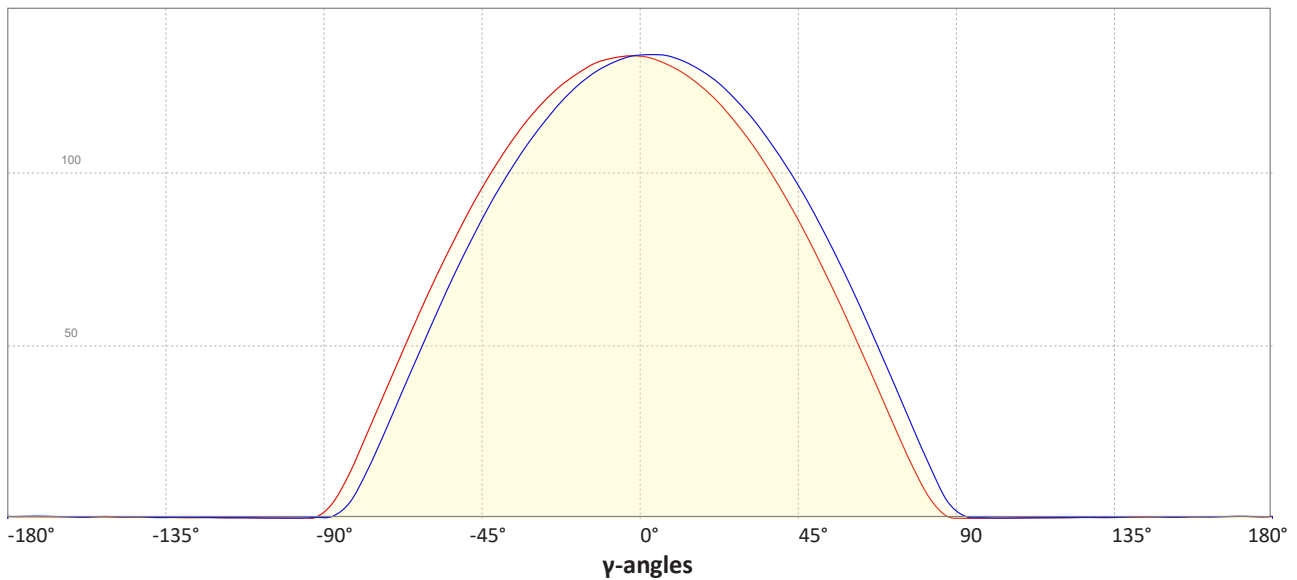
Average 10%	161.2°
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Intensity Ratio

In 120° cone	78.2%
In 90° cone	52.9%

C000-C180
C090-C270

Linear distribution diagram - Intensity (candela) vs γ -angle



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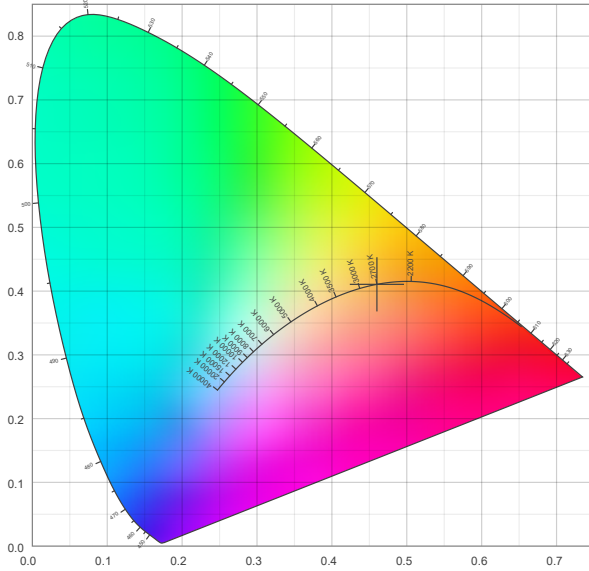
Measurement date and time: 2023-04-26 3:21:24 PM – Measurement no. VFR-230426-0176-MS

Color details

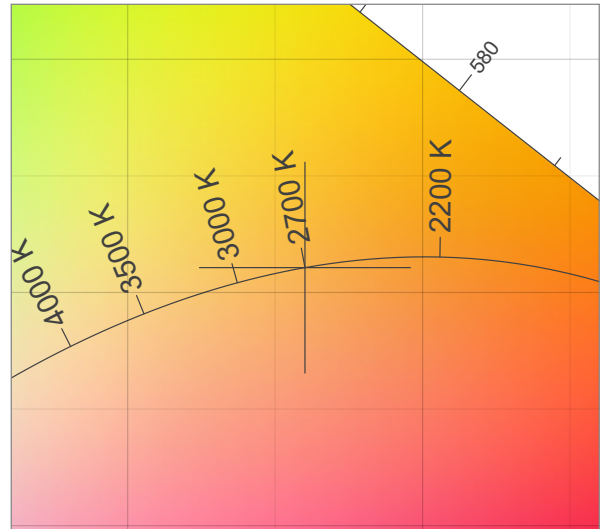
Correlated Color Temperature, Target CCT = 2700 K
 Correlated Color Temperature, Measured CCT = 2696 K
 Color Rendering Index CRI 95.3
 Color Rendering Index, R9 (red component) R9 = 94.5
 Color Rendering TM30-18 R_f 93.4 – R_g 105.9
 Color Quality Scale CQS = 92.3

MacAdam Steps SDCM = 7.2
 Color coordinates CIE 1931 (x;y) = (0.460;0.411)
 Color coordinate CIEs 1960 (u;v) = (0.263;0.352)
 Color deviation from BBL Duv = -0.0067
 Color coordinate CIEs 1976 (CIELUV) (u';v') = (0.263;0.263)

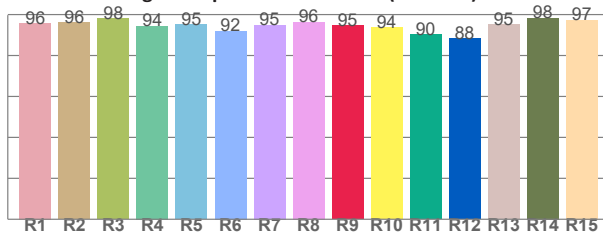
CIE 1931



CIE 1931 – zoomed on Planckian locus



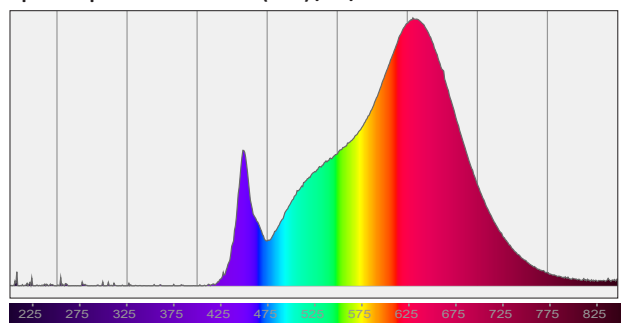
Color Rendering Index per reference color (CIE 1995)



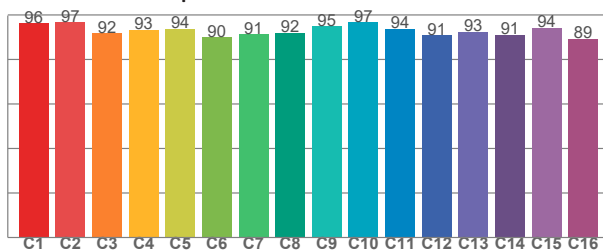
CRI R values, only R1-R8 are used to calculate final CRI value

R1	R2	R3	R4	R5	R6	R7	R8	R9	R10	R11	R12	R13	R14	R15
95.8	96.2	98.0	94.4	95.1	92.0	95.0	96.3	94.5	93.6	90.1	88.3	95.1	98.3	97.4

Spectral power distribution (SPD) / W/nm – 0-100%



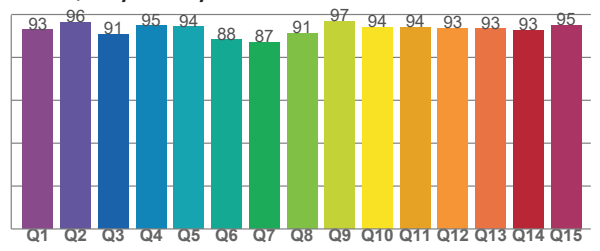
TM30-18 R_f-values per hue bin



TM30 C values, 16 binned values out of total of 99 C values

C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11	C12	C13	C14	C15	C16
96.2	96.6	91.7	93.3	93.8	90.0	91.2	91.9	94.9	96.7	93.8	90.9	92.5	91.0	94.3	89.4

Color Quality Scale by reference color



CQS Q values

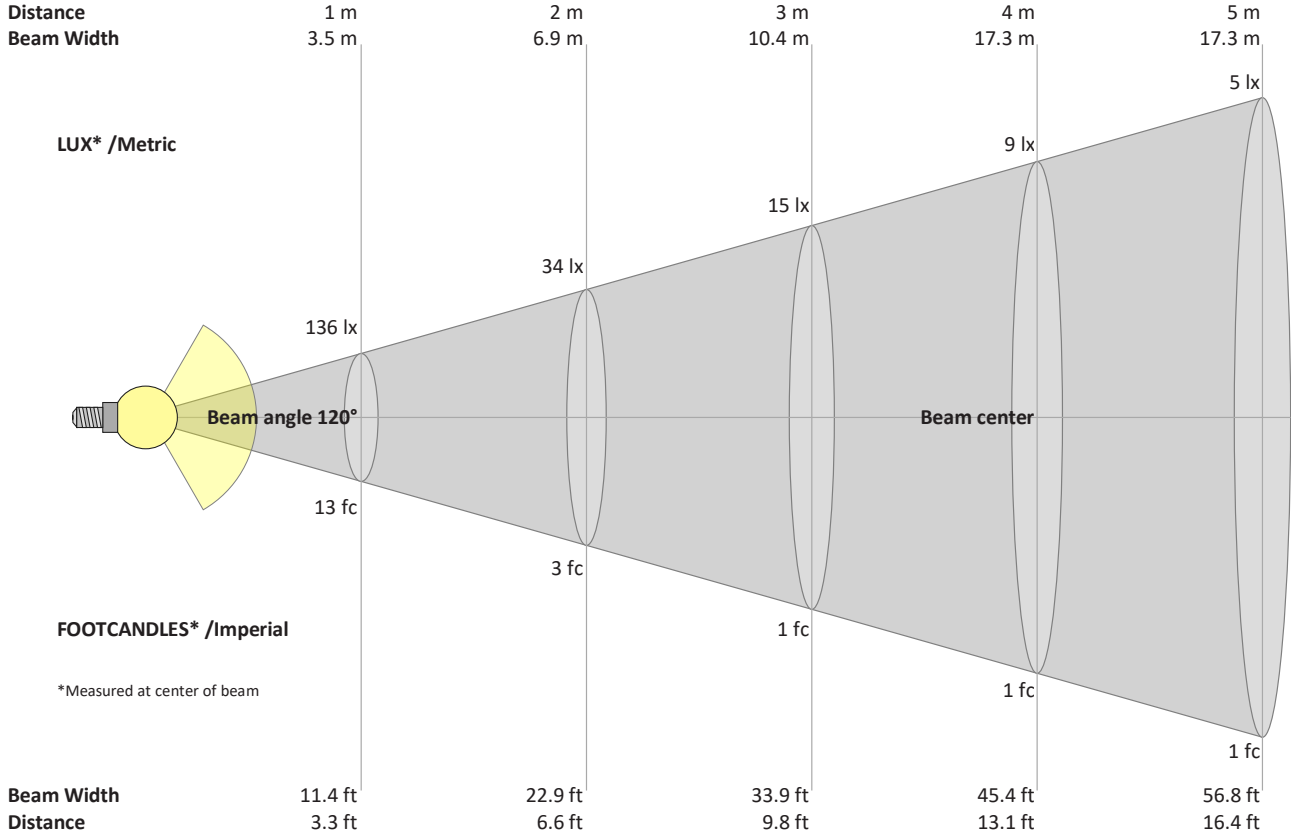
Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13	Q14	Q15
92.8	96.5	90.7	94.7	94.3	88.2	87.0	91.4	96.8	94.0	94.0	93.5	93.4	92.6	95.0

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Beam Details



Beam intensities from 1 – 20 m

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	m
3.3	6.6	9.8	13.1	16.4	19.7	23	26.2	29.5	32.8	36.1	39.4	42.7	45.9	49.2	52.5	55.8	59.1	62.3	65.6	ft
136	34	15	9	5	4	3	2	2	1	1	1	1	1	1	1	0	0	0	0	lux
12.7	3.2	1.4	0.8	0.5	0.4	0.3	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0	0	0	0	0	fc

Intensities in 0° c-plane

0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°	55°	60°	65°	70°	75°	80°	85°	90°	95°	γ
136	136	135	133	130	125	120	114	106	98	88	78	67	56	44	32	20	9	3	0	cd
100%	100%	99%	97%	95%	92%	88%	83%	78%	71%	65%	57%	49%	41%	32%	23%	15%	7%	2%	0%	of 0°val

Intensities in 90° c-plane

0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°	55°	60°	65°	70°	75°	80°	85°	90°	95°	γ
136	137	136	134	130	126	120	114	106	98	89	79	68	57	45	33	21	10	3	1	cd
100%	100%	99%	98%	95%	92%	88%	83%	78%	72%	65%	58%	50%	42%	33%	24%	16%	7%	2%	0%	of 0°val

Intensities in 180° c-plane

0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°	55°	60°	65°	70°	75°	80°	85°	90°	95°	γ
136	135	133	129	125	119	113	106	97	88	78	67	56	45	33	21	11	3	0	0	cd
100%	99%	97%	95%	92%	88%	83%	77%	71%	64%	57%	49%	41%	33%	24%	16%	8%	2%	0%	0%	of 0°val

Intensities in 270° c-plane

0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°	55°	60°	65°	70°	75°	80°	85°	90°	95°	γ
136	136	133	130	126	120	113	106	98	88	78	67	56	44	32	20	10	3	1	0	cd
100%	99%	98%	95%	92%	88%	83%	78%	71%	65%	57%	49%	41%	32%	23%	15%	7%	2%	0%	0%	of 0°val