

# VEROBOARD®

## 6" Round Downlight LED Panel



Veroboard 6-inch LED panel lights are lightweight with ultra-slim depth. They are manufactured with pure aluminum to ensure better heat dissipation and a high quality PS light guide plate to ensure higher light efficiency. The panel comes with a LED driver with a power factor of 0.90, thereby reducing the power losses. Other than that, these panels are suited for wet locations and have a high rendering index (CRI90+). Furthermore, they have a feature of selecting the light color from five temperatures ranging from 2700K-3000K-3500K to 4000K-5000K.

### SPECIFICATIONS

<b>Engine Model No:</b>	LED-6-S12W-1224V-5CCTWH
<b>Voltage:</b>	12-24V AC/DC
<b>Frequency:</b>	60Hz
<b>Power Factor (PF):</b>	0.9
<b>Wattage:</b>	12W
<b>Color Temperature:</b>	5CCT Selectable Color Temperature (2700K-3000K-3500K-4000K-5000K)
<b>Beam Angle:</b>	120°
<b>Dimmable:</b>	No
<b>Brightness:</b>	800 Lumens
<b>Rendering Index:</b>	CRI>90
<b>Fixture Color:</b>	White
<b>Rated Life:</b>	50,000 Hours
<b>Installation:</b>	Recessed/Flush Mount
<b>IP Rating:</b>	Suitable for Dry, Damp and Wet Locations
<b>Cut Size:</b>	158 mm (6.25 in)
<b>Outer Dimensions:</b>	Ø175 mm (Ø6.88 in) x 25 mm (1.0 in) Depth
<b>LED Driver Dimensions:</b>	67.76 x 25.40 x 25.40 mm (2.67 x 1 x 1 in)
<b>Package Content:</b>	LED Panel with LED Driver
<b>Package Dimensions:</b>	7.2 x 7.3 x 2.3 in (18.3 x 18.5 x 6 cm)
<b>Certification:</b>	FCC/ETL/Energy Star/RoHS

Job Name: \_\_\_\_\_

Distributor: \_\_\_\_\_

Type: \_\_\_\_\_



Selectable Color Temperature Switch

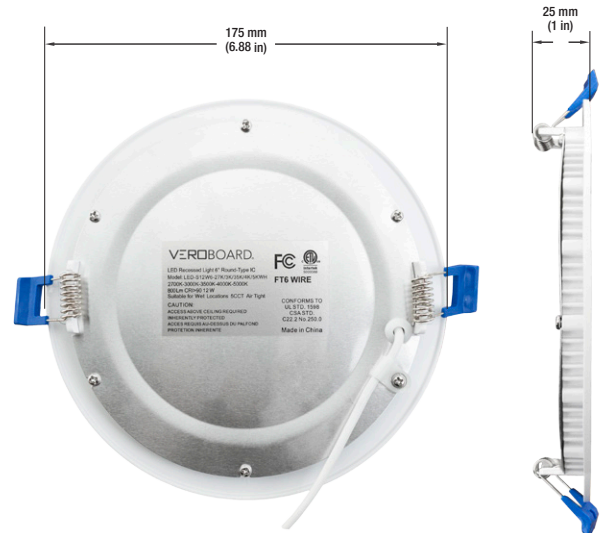


**Available Trim Color (Sold Separately):**  
 Black SKU: 666561418069  
 Black Nickel SKU: 666561418083  
 Brushed Nickel SKU: 666561418076

**LED DRIVER INCLUDED**



**LED Driver Dimensions:**  
 Length: 67.76 mm (2.67 in)  
 Width: 25.40 mm (1 in)  
 Depth: 25.40 mm (1 in)



### Safety and Warning

The fixture must be wired in accordance with local electrical codes. And all the installation must be done by a certified electrician. Please be sure the main power switch is OFF before the installation or attempting any maintenance.

There is a risk of electric shock, do not expose wiring to the edges of the sheet metal or any other sharp object.



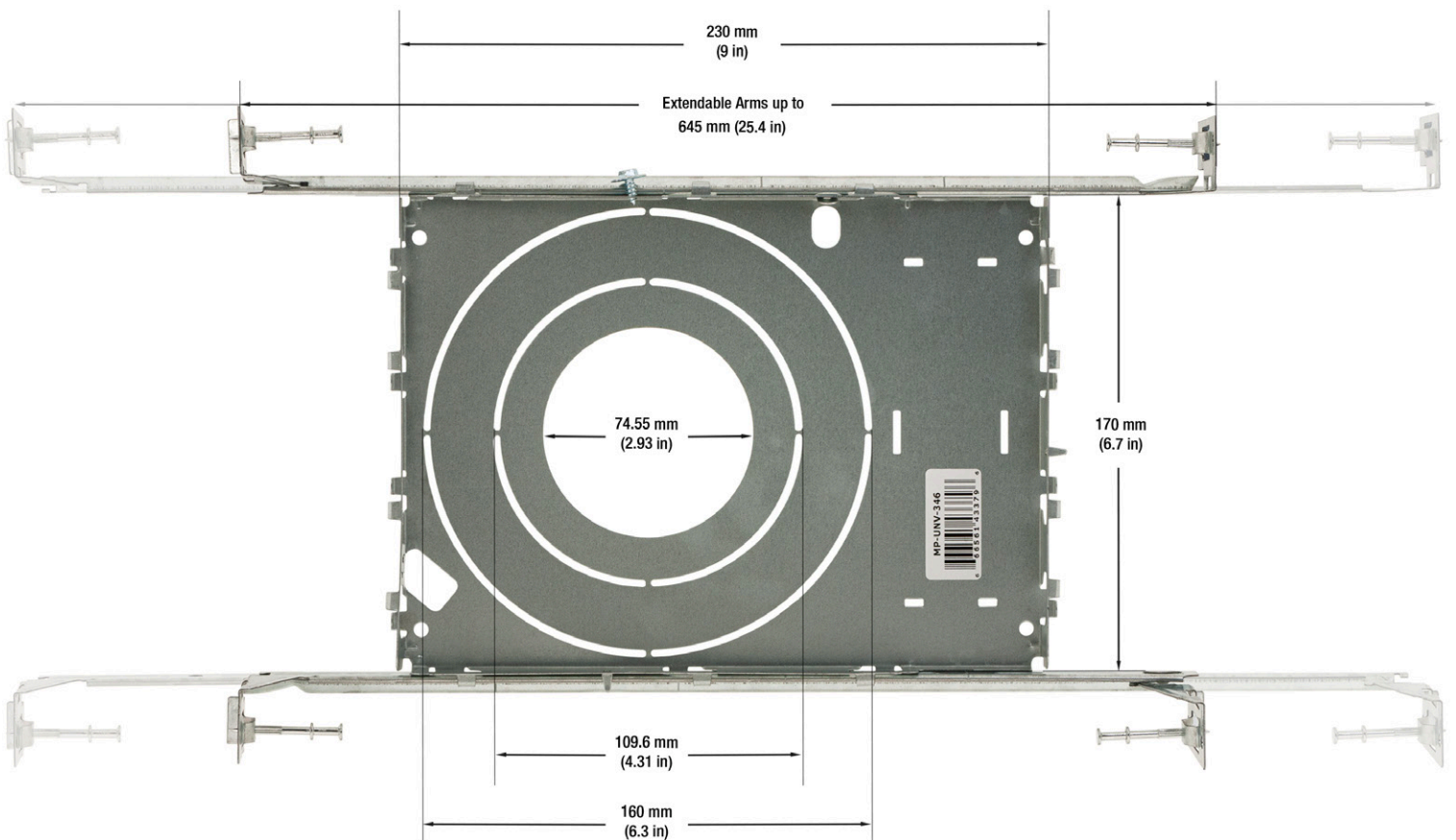
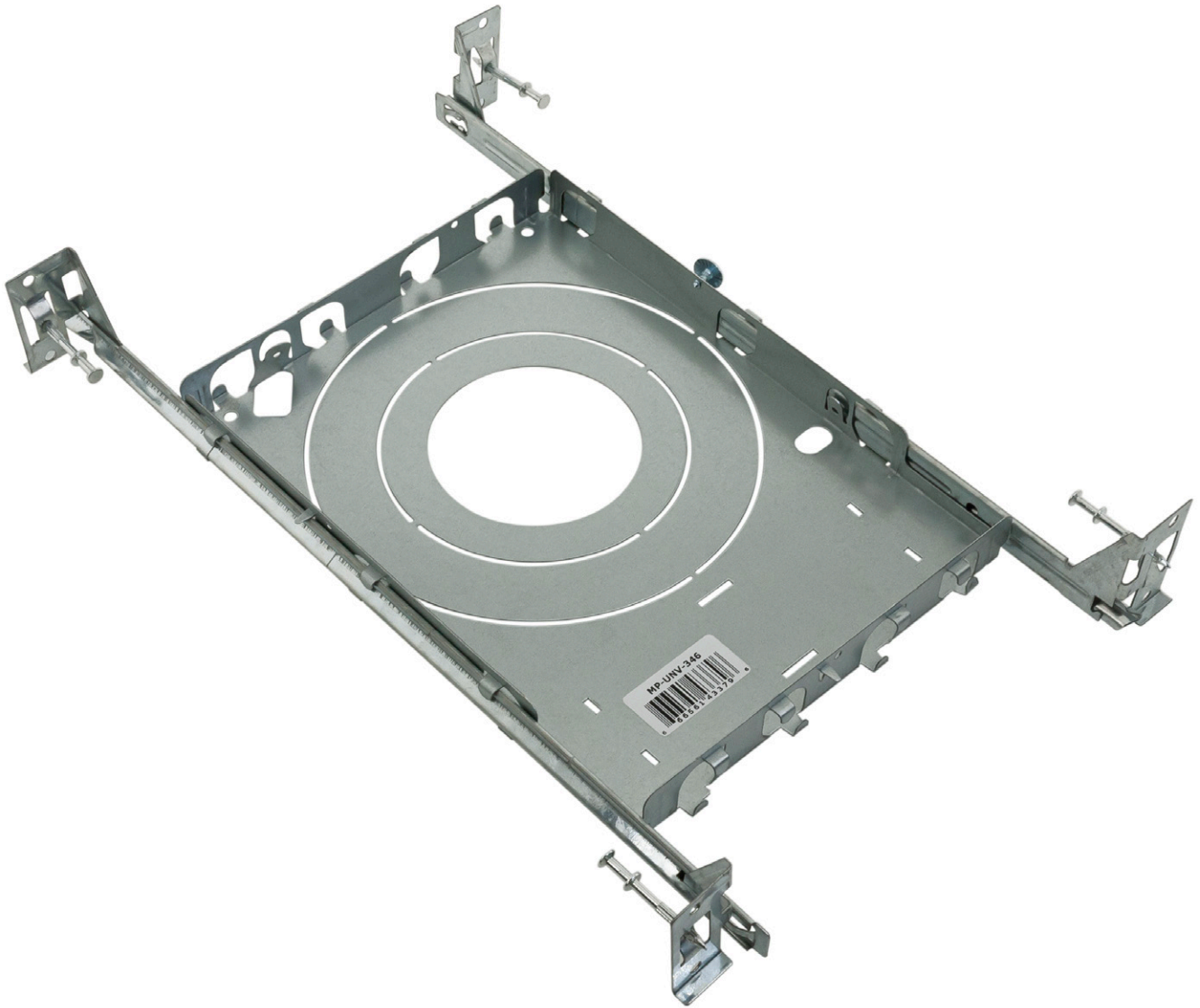
**SKU: 666561430368**

# New Construction Universal Mounting Plate

*(Sold separately)*

New Construction Universal Mounting Plate suitable for 3, 4, and 6-inch fixtures, with two hanger bars.

Model: **VBD-MP-UNV-346** | SKU: **666561433796**



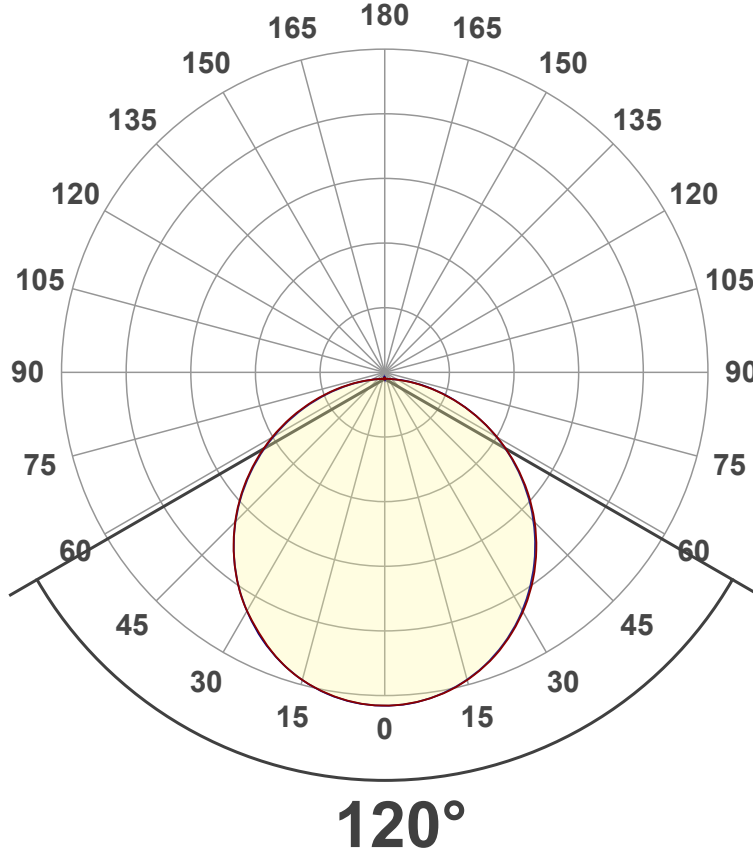
# Light Measurement Report

Print date: 2023-01-06

Measurement date and time: 2023-01-06 12:54:25 PM – Measurement no. VFR-230106-0053-MS

## Luminous Intensity diagram

Unit: 0-100% of peak intensity



## Main Values

Output (total Lumen)	800 lm
Lumen Up% / Down%	0.16% / 99.84%
Peak Intensity	278 cd
Beam Angle (50%)	120°
Beam Angle (90%)	111.9°
Beam Angle (10%)	112.5°

## Cut-off Angle

Average 2,5%	176.4°
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## Field Angle

Average 10%	163.5°
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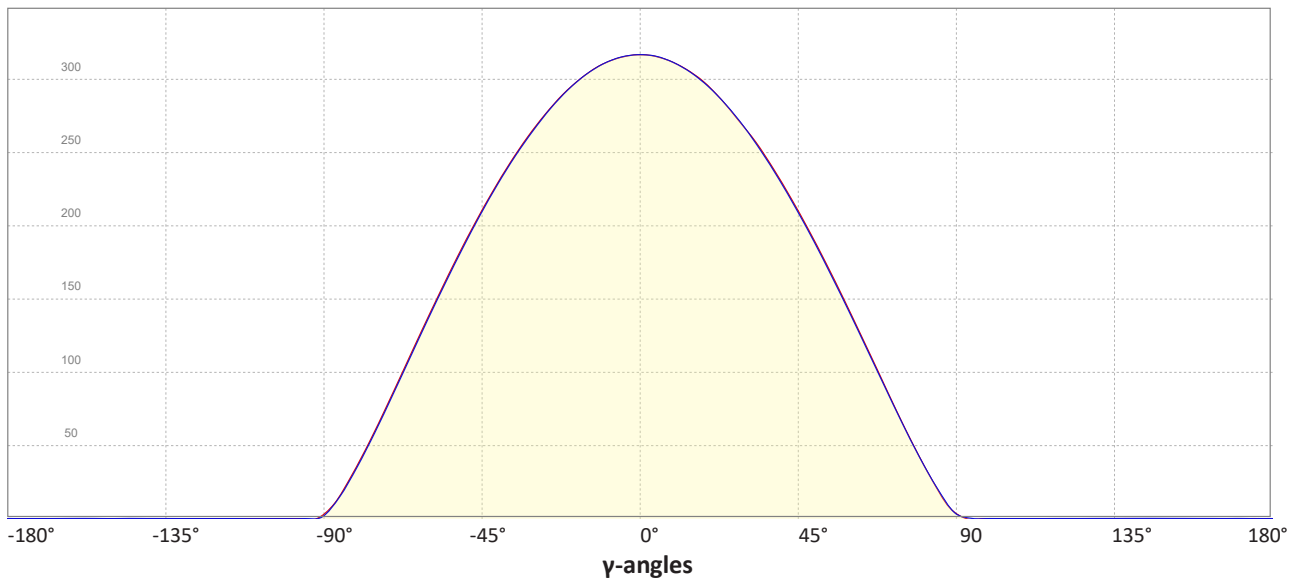
## Intensity Ratio

In 120° cone	77.9%
In 90° cone	53.0%

**C000-C180**

**C090-C270**

## Linear distribution diagram - Intensity (candela) vs $\gamma$ -angle



# Light Measurement Report

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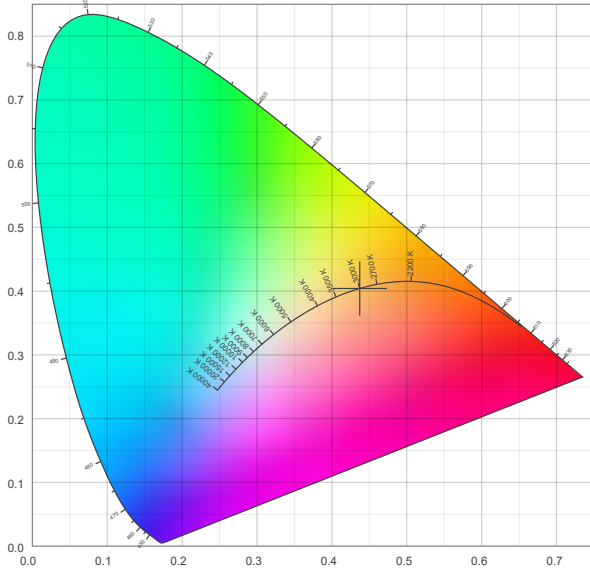
Measurement date and time: 2023-01-06 12:54:25 PM – Measurement no. VFR-230106-0053-MS

## Color details

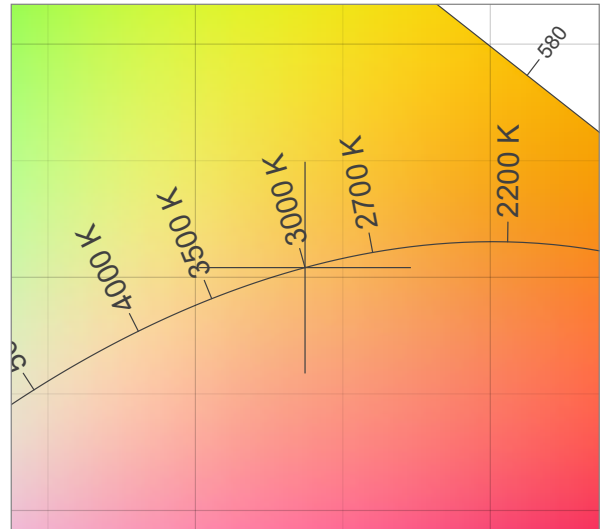
Correlated Color Temperature, Target CCT = 3000 K  
 Correlated Color Temperature, Measured CCT = 2984 K  
 Color Rendering Index CRI 95.7  
 Color Rendering Index, R9 (red component) R9 = 70.4  
 Color Rendering TM30-18 R<sub>f</sub> 92.1 – R<sub>g</sub> 102.4  
 Color Quality Scale CQS = 92.2

MacAdam Steps SDCM = 3.3  
 Color coordinates CIE 1931 (x;y) = (0.437;0.404)  
 Color coordinate CIEs 1960 (u;v) = (0.251;0.348)  
 Color deviation from BBL Duv = -0.0034  
 Color coordinate CIEs 1976 (CIELUV) (u';v') = (0.251;0.251)

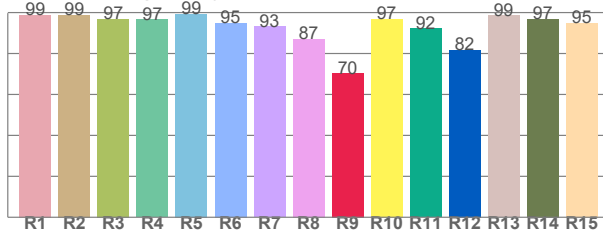
### CIE 1931



### CIE 1931 – zoomed on Planckian locus



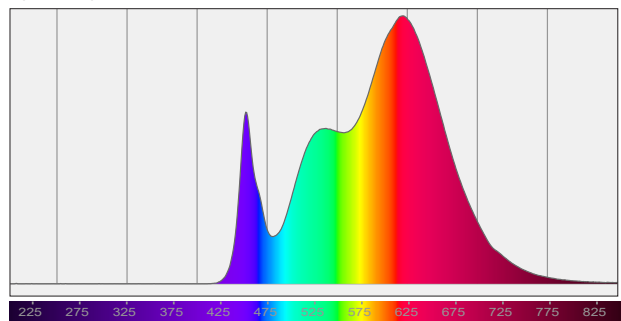
### Color Rendering Index per reference color (CIE 1995)



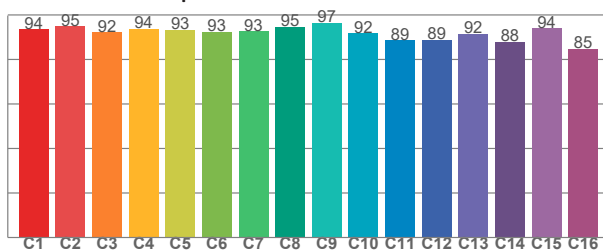
CRI R values, only R1-R8 are used to calculate final CRI value

R1	R2	R3	R4	R5	R6	R7	R8	R9	R10	R11	R12	R13	R14	R15
98.8	98.8	96.9	96.7	99.4	95.0	93.1	87.2	70.4	96.9	92.3	81.8	98.5	96.9	95.0

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



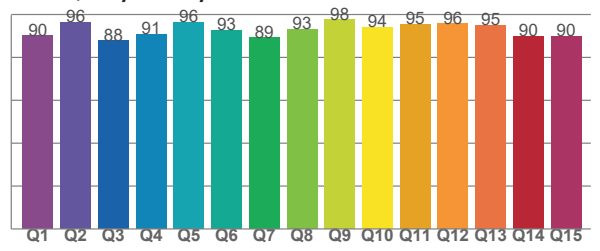
### TM30-18 Rf-values per hue bin



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
93.6	94.8	92.2	93.8	93.2	92.5	92.8	94.8	96.6	91.8	88.6	88.8	91.5	88.1	94.0	84.8

### Color Quality Scale by reference color



CQS Q values

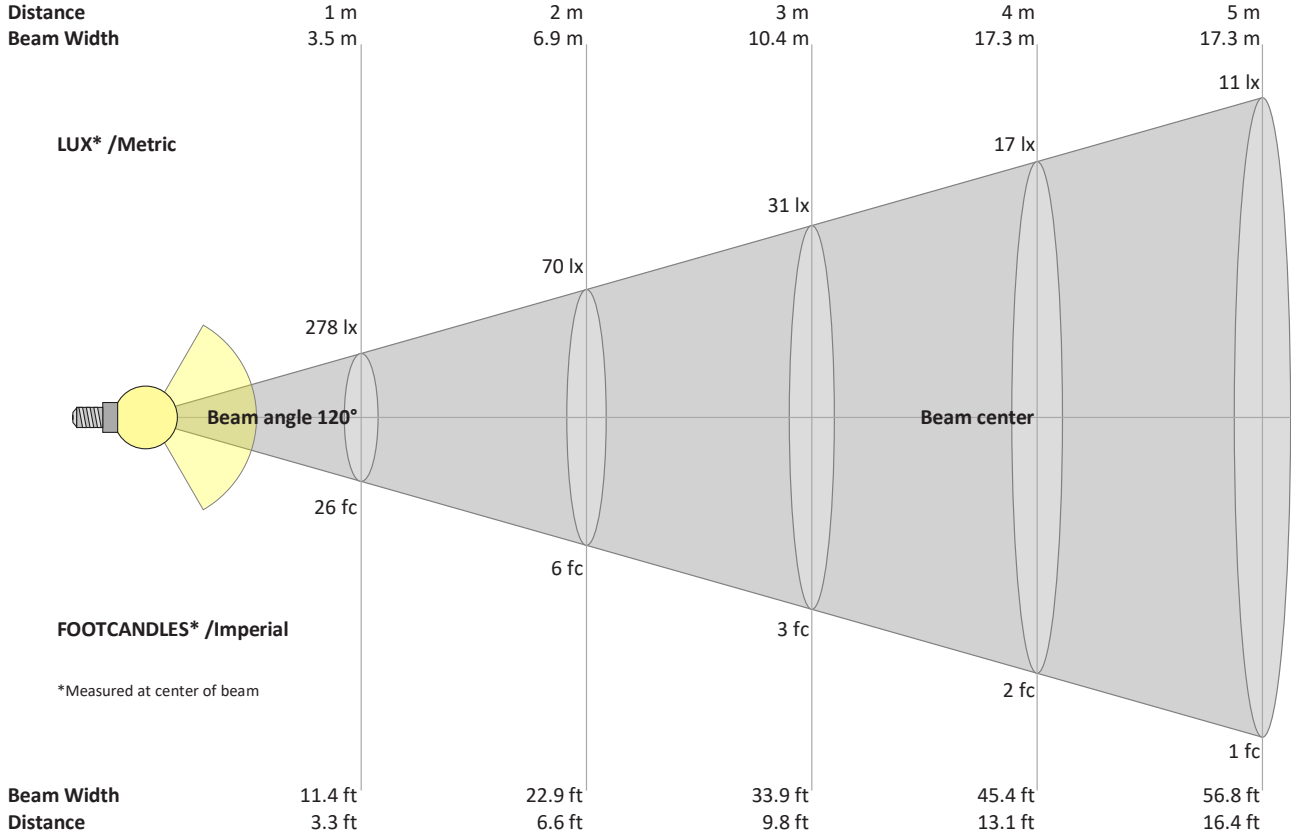
Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13	Q14	Q15
90.2	96.5	87.8	90.9	96.3	92.6	89.2	93.2	97.5	93.9	95.5	95.7	95.0	89.9	89.9

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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	
278	70	31	17	11	8	6	4	3	3	2	2	2	1	1	1	1	1	1	1	1	lux
25.8	6.5	2.9	1.6	1	0.7	0.5	0.4	0.3	0.3	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	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°	y
278	277	273	267	258	247	234	220	203	185	165	144	123	100	77	55	34	16	4	0	cd
100%	99%	98%	96%	93%	89%	84%	79%	73%	67%	59%	52%	44%	36%	28%	20%	12%	6%	1%	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°	y
278	277	273	267	258	247	234	218	202	183	164	143	122	100	77	56	35	17	3	0	cd
100%	100%	98%	96%	93%	89%	84%	79%	73%	66%	59%	52%	44%	36%	28%	20%	13%	6%	1%	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°	y
278	277	273	267	258	246	234	219	203	184	165	144	123	101	78	56	35	17	4	0	cd
100%	99%	98%	96%	93%	89%	84%	79%	73%	66%	59%	52%	44%	36%	28%	20%	13%	6%	1%	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°	y
278	277	273	267	258	247	234	219	202	184	164	143	121	99	76	54	33	15	2	0	cd
100%	100%	98%	96%	93%	89%	84%	79%	73%	66%	59%	52%	44%	36%	27%	19%	12%	5%	1%	0%	of 0°val