

11" Round Surface Mount 120V Downlight with Changeable Color Temperature (3CCT)

Job Name: _____

Distributor: _____

Type: _____

SPECIFICATIONS



Model No.	HM04-PR12-24W120-3CCT-WSA
Voltage	120V AC
Wattage	24W
Color Temperature	Changeable Color (CCT) 3000K (Warm White) • 4000K (Natural White) • 5000K (Daylight)
Bulb Type	Integrated LED
Luminous Flux	1680Lm
Rendering Index	CRI>80
Body Color	White
Available Trim Color	Black Matt • Stain Nickel • Polished Chrome (Sold Separately)
Dimmable	Yes (Leviton and Lutron Dimmers)
Lifespan	35000 Hours
Beam Angle	120°
IP Rating	IP20 (Indoor Rated)
Dimensions	Ø 280mm x Depth 14mm (Ø 11" x 0.5")
Certification	ETL/Energy Star



FEATURES

- Can be mounted on a regular ceiling using Surface Mounting Brackets.
- It also comes in Black, Nickel, and Chrome trim other than white color.
- We also carry similar fixtures in 8".
- Widely applicable for the ceiling in both commercial and residential buildings.
- Rated CRI>80 and meets the Canadian and United States standards.
- Has a high-quality reflector, that helps in avoiding glare.
- The LED light is integrated at the sides within the fixture that helps provide even light distribution without flicker.
- Dissipates very less heat and is safe to touch.



Polished Nickel SKU: 666561420376
 Satin Nickel SKU: 666561420369
 Black SKU: 666561420352



Disclaimer:

The data and information contained in this specification sheet are subject to change without notice; the ratings supplied are provided based on the product manufacturer. The information contained in this specification sheet should not be considered a warranty, expressed or implied, including, but not limited to, a warranty of merchantability or fitness for a particular purpose. In no event shall Veroboard be liable for any incidental or consequential damages resulting from the use, misuse, or inability to use the product. This exclusion applies regardless of whether such damages are sought based on breach of warranty, breach of contract, negligence, strict liability in tort, or any other legal theory.



SKU: 666561420338

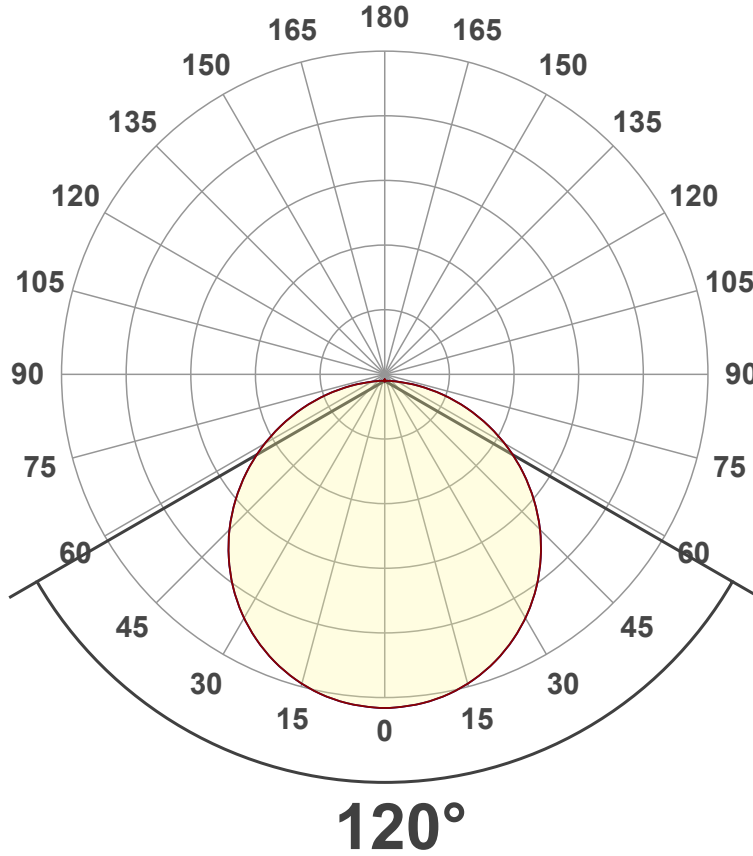
Light Measurement Report

Print date: 2023-01-09

Measurement date and time: 2023-01-09 11:01:54 AM – Measurement no. VFR-230109-0070-MS

Luminous Intensity diagram

Unit: 0-100% of peak intensity



Main Values

Output (total Lumen)	1680 lm
Lumen Up% / Down%	0.5% / 99.5%
Peak Intensity	561 cd
Beam Angle (50%)	120°
Beam Angle (90%)	115.6°
Beam Angle (10%)	115.6°

Cut-off Angle

Average 2,5%	177.5°
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Field Angle

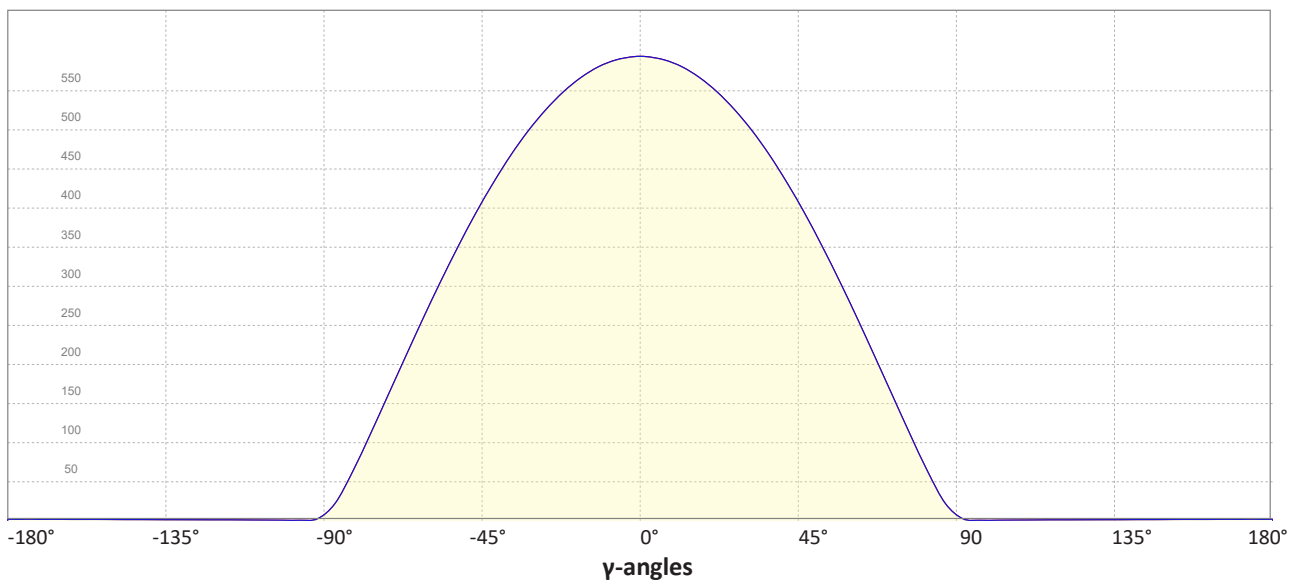
Average 10%	164.6°
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Intensity Ratio

In 120° cone	76.9%
In 90° cone	51.9%

C000-C180
C090-C270

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



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Color details

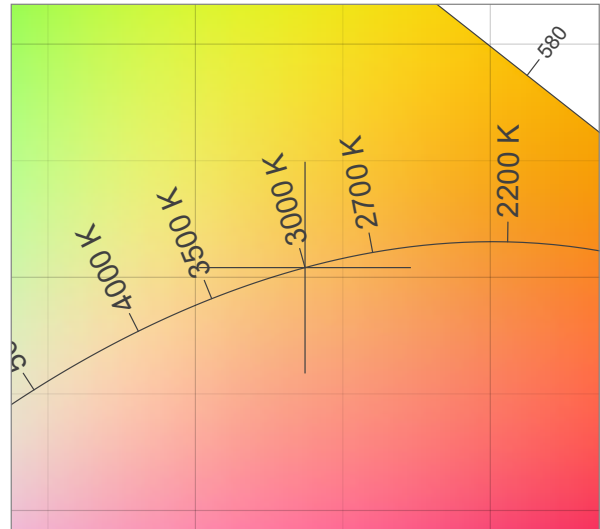
Correlated Color Temperature, Target CCT = 3000 K
 Correlated Color Temperature, Measured CCT = 2973 K
 Color Rendering Index CRI 83.9
 Color Rendering Index, R9 (red component) R9 = 11.3
 Color Rendering TM30-18 R_f 85.5 – R_g 96.1
 Color Quality Scale CQS = 83.0

MacAdam Steps
 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 = -0.0003
 Color coordinate CIEs 1976 (CIELUV) (u'';v'') = (0.251;0.251)

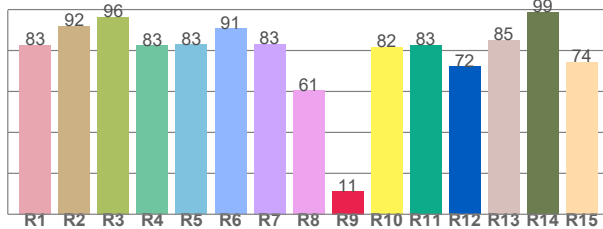
CIE 1931



CIE 1931 – zoomed on Planckian locus



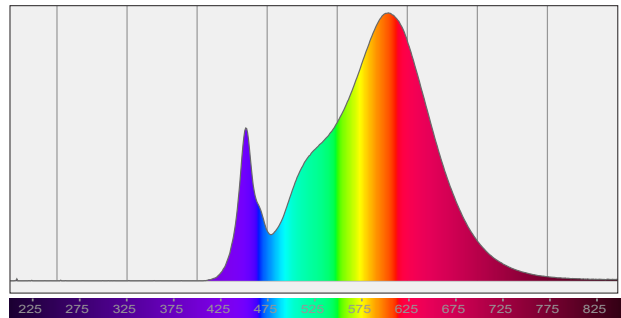
Color Rendering Index per reference color (CIE 1995)



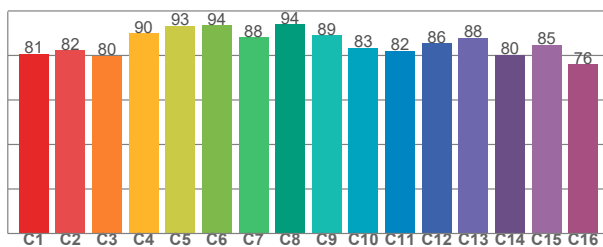
CRI R values, only R1-R8 are used to calculate final CRI value

R1	R2	R3	R4	R5	R6	R7	R8	R9	R10	R11	R12	R13	R14	R15
82.7	92.0	96.5	82.5	82.9	90.7	83.1	60.6	11.3	81.8	82.8	72.1	85.1	98.9	74.5

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



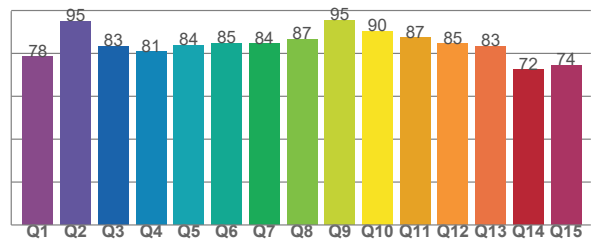
TM30-18 Rf-values per hue bin



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
80.7	82.4	79.8	90.0	93.4	93.7	88.1	94.0	89.2	83.5	82.1	85.5	87.9	80.3	84.9	76.1

Color Quality Scale by reference color



CQS Q values

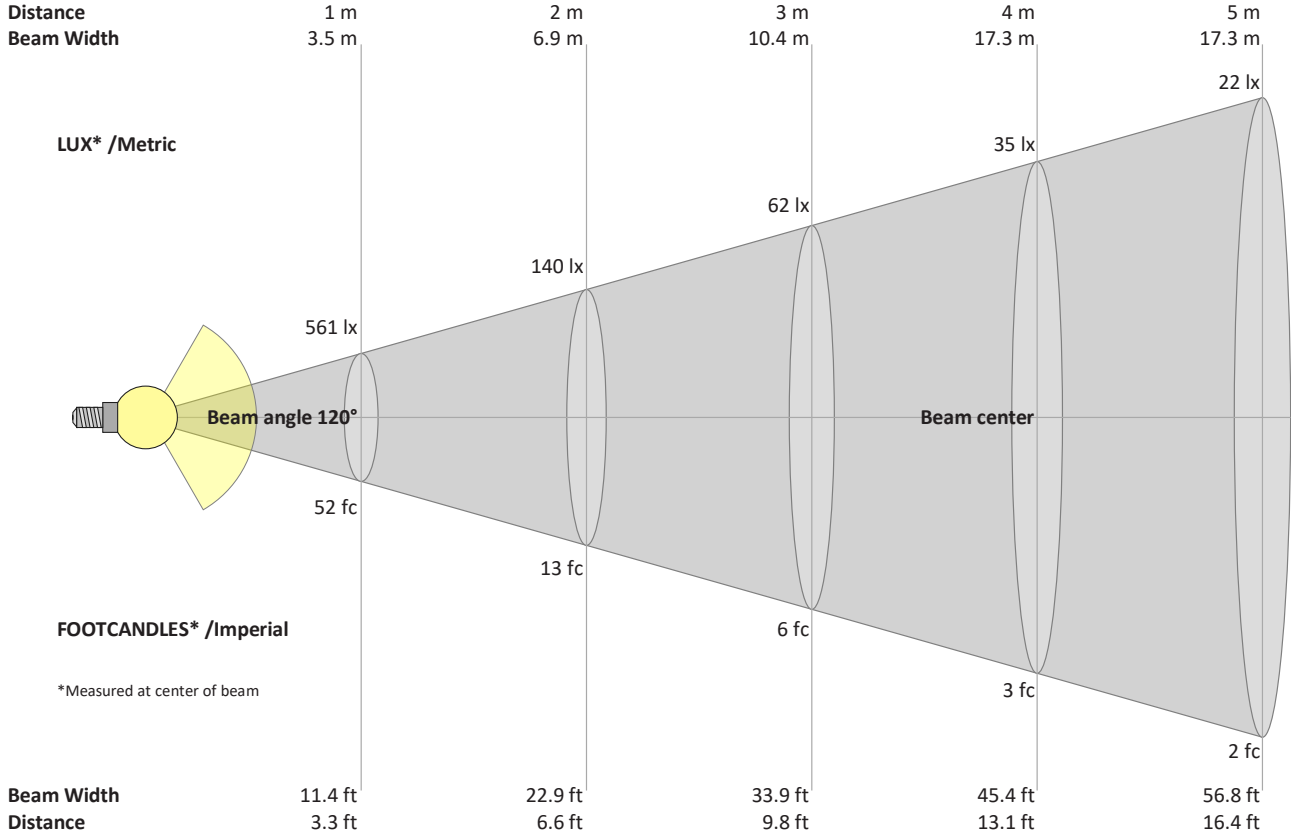
Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13	Q14	Q15
78.4	94.9	83.3	80.7	83.9	84.8	84.5	86.5	95.4	90.3	87.2	84.5	83.3	72.4	74.3

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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
561	140	62	35	22	16	11	9	7	6	5	4	3	3	2	2	2	2	2	1	lux
52.1	13	5.8	3.3	2.1	1.4	1.1	0.8	0.6	0.5	0.4	0.4	0.3	0.3	0.2	0.2	0.2	0.2	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°	γ
561	558	551	540	525	505	481	452	420	385	346	304	260	215	168	121	76	35	9	1	cd
100%	100%	98%	96%	94%	90%	86%	81%	75%	69%	62%	54%	46%	38%	30%	22%	14%	6%	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
561	558	551	540	525	505	481	452	420	385	346	304	260	215	168	121	76	35	9	1	cd
100%	100%	98%	96%	94%	90%	86%	81%	75%	69%	62%	54%	46%	38%	30%	22%	14%	6%	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
561	558	551	540	525	505	481	452	420	385	346	304	260	215	168	121	76	35	9	1	cd
100%	100%	98%	96%	94%	90%	86%	81%	75%	69%	62%	54%	46%	38%	30%	22%	14%	6%	2%	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
561	558	551	540	525	505	481	452	420	385	346	304	260	215	168	121	76	35	9	1	cd
100%	100%	98%	96%	94%	90%	86%	81%	75%	69%	62%	54%	46%	38%	30%	22%	14%	6%	2%	0%	of 0°val