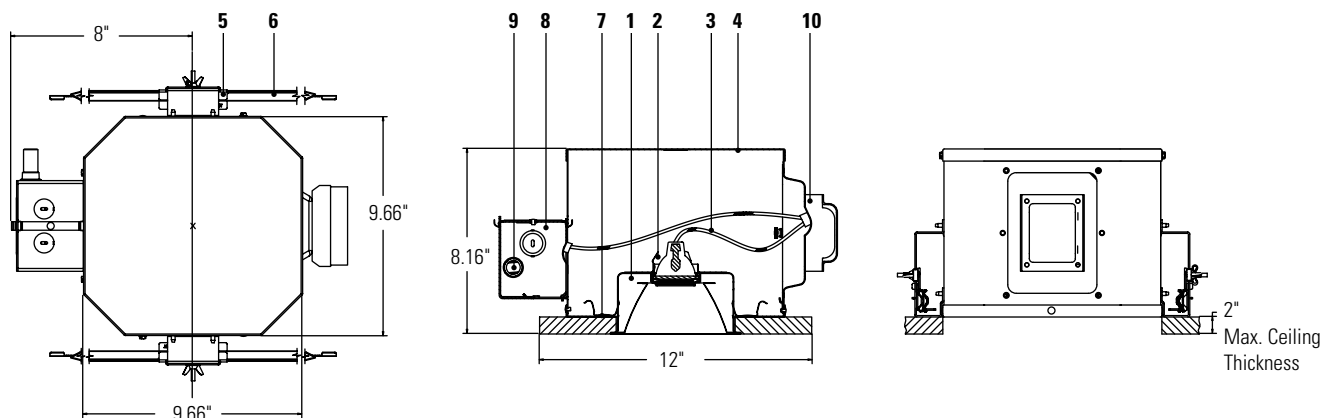


Calculite® Matrix Low Voltage Open Downlight **C4X4MRD**



Ceiling Cutout: 5 1/4" x 5 1/4" (130 mm x 130mm) Dia.

Ordering Information

Frame-In Kits	Reflector Trims	Finish/Flange	Lamp
C4 X4LVMU Magnetic 120/277V C4X4LVE1 Electronic 120V C4X4LVE2 Electronic 277V	C4X4MRDCLW C4X4MRDCLP C4X4MRDCCLW C4X4MRDCCLP C4X4MRDCCDW C4X4MRDCCDP C4X4MRDWHW	Specular Clear/White Specular Clear/Polished Comfort Clear/White Comfort Clear/Polished Comfort Clear Diffuse/White Comfort Clear Diffuse/Polished White/White	(1) 12V MR16 Type Lamp 65W Max or IR 37W Max

Features

- Reflector Trim:** 55° physical and reflected cutoff. Available with integral flange painted white or polished to match inside of cone.
- Lamp Holder:** Unitized optics ensure alignment of lamp and aperture cone. Soft diffusion lens ships standard. Adjust trim kit vertically to accommodate up to 2" thick ceiling.
- Socket:** Ceramic body with mica cover, GX5.3 (MR-16) base.
- Frame Housing:** Steel, 0.029" (22-Ga.), matte black finish.
- Frame Vertical Adjustment Mechanism:** Accommodates mounting to virtually any ceiling system using pre-installed mounting bars, or ½" EMT tubing (by others). Single locking feature secures all adjustments. Alignment holes and markings allow fixture to be pre-set prior to installation. Final adjustment can be made from below from inside the fixture.
- Mounting Bars:** Galvanized steel, 0.048" (18-ga.), pre-installed telescoping bars extend to 30" long and lock securely into position. Built-in locking tabs provide positive attachment to common T-bar systems. Self-centering feature simplifies installation in 24" O.C. grid systems. Attaches to steel or wood joists without accessories.
- Retention Springs:** Rust resistant springs secure trim for quick, tool-less installation.
- Junction Box:** 0.059" (16-ga.) galvanized steel. UL listed for 8 No. 12 AWG, 90°C through branch circuit conductors. Allows inspection from below.
- Thermal Protector:** Meets NEC and UL requirements. Do not install insulation above nor within 3" (76mm) of any part of the luminaire.
- Transformer:** Replaceable from below. Magnetic: 120/277V 60 Hz. Dual-voltage, core & coil. Electronic: 120V or 277V 50/60 Hz., regulated lamp voltage, HPF, EMI and circuit protections, thermal auto-reset, quiet operation.

Options and Accessories

- Accepts two optical accessories
- 2" diameter color filters/specialty filters: ADF2/AF2
- 2" diameter louver: AL2HC

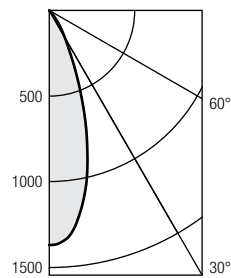
Labels

- UL, cUL (Suitable for Damp Locations)

Job Information	Type:
Job Name:	
Cat. No.:	
Lamp(s):	
Notes:	

Calculite® Matrix Low Voltage Open Downlight **C4X4MRD**

4½" x 4½" Aperture 50W MR16-40°



50W MR16 G.E. 40° FL
Lumen Rating = 800 LMS.
SC = .6
Test Report No. 3366FR

Candlepower Summary		
Angle	Mean CP	Lumens
0	1371	
5	1326	123
10	1137	
15	863	243
20	567	
25	324	162
30	184	
35	108	70
40	48	
45	20	19
50	7	
55	1	2
60	0	
65	0	0
70	0	
75	0	0
80	0	
85	0	0
90	0	

Zonal Lumens And Percentages			
Zone	Lumens	%Lamp	%Luminaire
0-30	528	66.02	85.13
0-40	598	74.82	96.48
0-60	619	77.42	99.83
0-90	620	77.56	100.00
40-90	21	2.73	3.52
60-90	1	.1	.17
90-180	0	.00	.00
0-180	620	77.56	100.00

Efficiency = 77.6%

Luminance Summary - CD. / SQ. M.	
Angle	Mean CD/SQ M
45	2164
55	172
65	53
75	87
85	391

Coefficients Of Zonal Cavity		Utilization Method																							
Effective Floor Cavity Reflectance =		.20																							
CC		80				70				50				30				10							
WALL	0	.92	.92	.92	.92	.90	.90	.90	.90	.86	.86	.86	.86	.83	.83	.83	.83	.79	.79	.79	.79	.78	.78	.78	.78
RCR	0	.89	.88	.87	.85	.88	.86	.85	.84	.83	.82	.81	.80	.80	.80	.79	.78	.78	.77	.76	.76	.76	.75	.74	.73
	1	.86	.84	.82	.80	.85	.83	.81	.79	.80	.79	.77	.76	.76	.74	.73	.74	.74	.73	.72	.71	.74	.73	.72	.71
	2	.84	.80	.78	.76	.82	.79	.77	.75	.78	.76	.74	.74	.76	.74	.73	.74	.74	.73	.72	.71	.74	.73	.72	.71
	3	.81	.77	.74	.72	.80	.77	.74	.72	.75	.73	.71	.74	.74	.72	.70	.72	.72	.71	.69	.68	.72	.71	.69	.68
	4	.79	.74	.71	.69	.78	.74	.71	.69	.72	.70	.68	.71	.69	.67	.65	.68	.67	.65	.63	.62	.67	.66	.64	.63
	5	.77	.72	.69	.66	.76	.71	.68	.66	.70	.68	.66	.69	.67	.65	.63	.66	.65	.63	.61	.60	.65	.64	.62	.61
	6	.74	.69	.66	.64	.73	.69	.66	.63	.68	.65	.63	.67	.65	.63	.61	.64	.63	.61	.59	.58	.63	.62	.60	.59
	7	.72	.67	.63	.61	.71	.66	.63	.61	.65	.63	.61	.65	.62	.61	.59	.64	.62	.61	.59	.58	.62	.60	.58	.57
	8	.69	.64	.61	.59	.69	.64	.61	.59	.63	.60	.58	.63	.60	.58	.56	.60	.58	.56	.54	.53	.58	.56	.54	.53
	9	.67	.62	.59	.57	.67	.62	.59	.57	.61	.58	.57	.61	.58	.56	.54	.58	.56	.54	.52	.51	.56	.54	.52	.51
	10	.67	.62	.59	.57	.67	.62	.59	.57	.61	.58	.57	.61	.58	.56	.54	.58	.56	.54	.52	.51	.56	.54	.52	.51

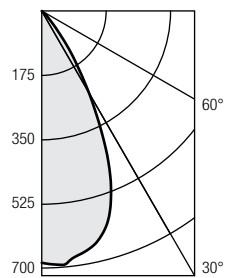
Determined In Accordance With Current IES Published Procedures
Luminaire Input Watts = 53.0

Tested According To Ies Procedures. Test Distance Exceeds Five Times The Greatest Luminous Opening Of Luminaire

Multiple Unit Data - RCR 1		
Spacing On Center	Initial Footcandles	Watts/ Sq Ft
4'	35	3.38
5'	24	2.34
6'	16	1.49

24' x 24' x 12' Room, Workplane 2 1/2' above floor, 80/50/20% Reflectances

4½" x 4½" Aperture 50W MR16-60°



50W MR16 SYLVANIA 60° VWFL
Lumen Rating = 825 LMS.
SC = .8
Test Report No. 3367FR

Candlepower Summary		
Angle	Mean CP	Lumens
0	684	
5	692	65
10	665	
15	630	175
20	549	
25	411	188
30	256	
35	139	93
40	56	
45	21	20
50	6	
55	1	2
60	0	
65	0	0
70	0	
75	0	0
80	0	
85	0	0
90	0	

Zonal Lumens And Percentages			
Zone	Lumens	%Lamp	%Luminaire
0-30	428	52.00	78.82
0-40	521	63.22	95.83
0-60	543	65.90	99.88
0-90	544	65.97	100.00
40-90	22	2.75	4.17
60-90	0	.08	.12
90-180	0	.00	.00
0-180	544	65.97	100.00

Efficiency = 66.0%

Luminance Summary - CD. / SQ. M.	
Angle	Mean CD/SQ M
45	2262
55	132
65	41
75	53
85	178

Coefficients Of Utilization Zonal Cavity Method		Effective Floor Cavity Reflectance = .20																							
CC		80				70				50				30				10							
WALL	0	.79	.79	.79	.79	.77	.77	.77	.77	.73	.73	.73	.73	.70	.70	.70	.70	.67	.67	.67	.67	.67	.67	.67	.67
RCR	0	.76	.74	.73	.72	.74	.73	.72	.71	.70	.70	.69	.68	.68	.67	.67	.66	.66	.65	.65	.64	.64	.63	.62	.61
	1	.73	.71	.69	.67	.72	.70	.68	.66	.67	.66	.65	.64	.66	.65	.63	.64	.64	.63	.62	.61	.64	.63	.62	.61
	2	.70	.67	.65	.63	.69	.66	.64	.62	.65	.63	.61	.63	.62	.60	.58	.62	.61	.59	.58	.57	.60	.58	.57	.56
	3	.68	.64	.62	.59	.67	.64	.61	.59	.62	.60	.58	.61	.59	.58	.56	.60	.58	.56	.55	.54	.58	.56	.54	.54
	4	.65	.61	.58	.56	.64	.61	.58	.56	.60	.57	.55	.59	.56	.55	.53	.57	.54	.53	.52	.51	.55	.54	.52	.52
	5	.63	.59	.56	.54	.62	.58	.55	.53	.57	.55	.53	.57	.54	.52	.50	.55	.52	.50	.48	.47	.53	.51	.49	.49
	6	.61	.56	.53	.51	.60	.56	.53	.51	.55	.52	.50	.54	.52	.50	.48	.52	.50	.48	.46	.45	.51	.49	.47	.47
	7	.59	.53	.50	.48	.58	.53	.50	.48	.52	.50	.48	.52	.50	.48	.46	.50	.48	.46	.44	.43	.49	.47	.45	.45
	8	.56	.51	.48	.46	.56	.51	.48	.46	.50	.47	.46	.50	.47	.45	.43	.47	.45	.43	.41	.40	.46	.44	.42	.42
	9	.54	.49	.46	.44	.53	.49	.46	.44	.48	.45	.44	.48	.45	.43	.41	.46	.44	.42	.40	.39	.44	.42	.40	.39
	10	.54	.49	.46	.44	.53	.49	.46	.44	.48	.45	.44	.48	.45	.43	.41	.46	.44	.42	.40	.39	.44	.42	.40	.39

Determined In Accordance With Current IES Published Procedures
Luminaire Input Watts = 54.0

Tested According To Ies Procedures. Test Distance Exceeds Five Times The Greatest Luminous Opening Of Luminaire

Multiple Unit Data - RCR 1		
Spacing On Center	Initial Footcandles	Watts/ Sq Ft
4'	31	3.38
5'	21	2.34
6'	14	1.49

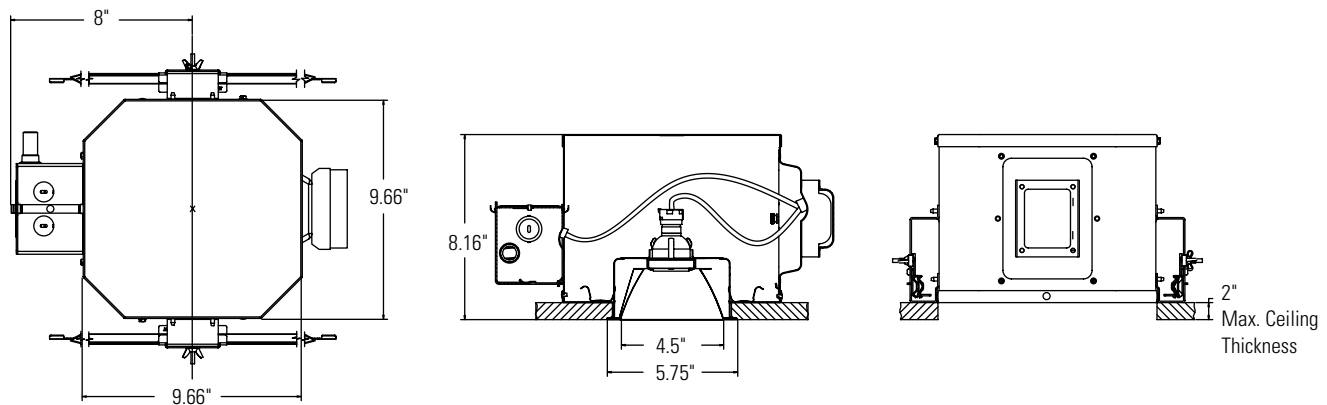
24' x 24' x 12' Room, Workplane 2 1/2' above floor, 80/50/20% Reflectances

Job Information **Type:**

Lightolier a Genlyte company www.lightolier.com
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LIGHTOLIER®

Calculite® Matrix HID Open Downlight C4X4MRD



Ceiling Cutout: 5 1/4" x 5 1/4" (130 mm x 130mm) Dia.

Ordering Information

Frame-In Kits	Reflector Trims	Finish/Flange	Lamp
C4X420MREU Electronic 120/277V	C4X4MRDCLW C4X4MRDCLP C4X4MRDCCLW C4X4MRDCCLP C4X4MRDCCDW C4X4MRDCCDP C4X4MRDWHW	Specular Clear/White Specular Clear/Polished Comfort Clear/White Comfort Clear/Polished Comfort Clear Diffuse/White Comfort Clear Diffuse/Polished White/White	(1) 20W MR16 CMH GXIC Base

Features

- Reflector Trim:** 55° physical and reflected cutoff. Available with integral flange painted white or polished to match inside of cone.
- Lamp Holder/Trim Adjustment Assembly:** Unitized optics ensure alignment of lamp and aperture cone regardless of ceiling thickness. Soft diffusion lens ships standard. Adjust trim kit vertically to accommodate up to 2" thick ceiling.
- Socket:** Twist and lock base. 5kV (600V) pulse rated PPS, black T240 body socket with nickel-plated contacts. 18 AWG silicone leads with fiberglass outer sleeve.
- Frame Housing:** Steel, 0.029" (22-Ga.), matte black finish.
- Frame Vertical Adjustment Mechanism:** Accommodates mounting to virtually any ceiling system using pre-installed mounting bars, or ½" EMT tubing (by others). Single locking feature secures all adjustments. Alignment holes and markings allow fixture to be pre-set prior to installation. Final adjustment can be made from below from inside the fixture.
- Mounting Bars:** Galvanized steel, 0.048" (18-ga.), pre-installed telescoping bars extend to 30" long and lock securely into position. Built-in locking tabs provide positive attachment to common T-bar systems. Self-centering feature simplifies installation in 24" O.C. grid systems. Attaches to steel or wood joists without accessories.
- Retention Springs:** Rust resistant springs secure trim for quick, tool-less installation.
- Ballast/Cover Assembly:** Accessible from below and removable without tools for inspection and ballast replacement.
- Junction Box:** 0.059" (16-ga.) galvanized steel. UL listed for 8 No. 12 AWG, 90°C through branch circuit conductors. Allows inspection from below.
- Thermal Protector:** Meets NEC and UL requirements. Do not install insulation above nor within 3" (76mm) of any part of the luminaire.
- Electronic Ballast:** 120 or 277V, 50/60 Hz., enclosed, high power factor >0.99, THD <10%, thermally and transient protected, RMI/RFI complies with FCC Part 18 non-consumer limits, shut-down at end of lamp life, sound rating "A", Minimum starting temperature -30°, Type 1 Outdoor rating.

Features (continued)

Ballast	ANSI Code	Voltage	Max. Amps	Input Watts
20W MH	M156	120/277V	0.20/0.09	22

Options and Accessories

- Accepts one optical accessory
- 2" diameter color filter/specialty filter: ADF2/AF2
- 2" diameter louver: AL2HC

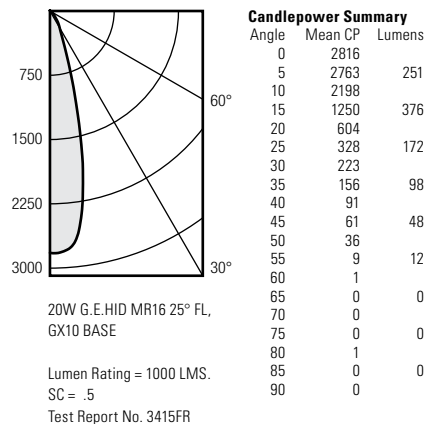
Labels

UL, cUL (Suitable For Damp Locations)

Job Information	Type:
Job Name:	
Cat. No.:	
Lamp(s):	
Notes:	

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4½" x 4½" Aperture 20W CMH MR16-25°



Zone	Lumens	% Lamp	%Luminaire
0-30	798	79.88	83.37
0-40	897	89.71	93.63
0-60	957	95.75	99.93
0-90	958	95.82	100.00
40-90	61	6.10	6.37
60-90	0	.07	.07
90-180	0	.00	.00
0-180	958	95.82	100.00

Efficiency = 95.8%

Angle	Mean Cd/sq M
45	9463
55	1706
65	30
75	0
85	147

CC	80				70				50				30				10			
	WALL	70	50	30	10	WALL	70	50	30	10	WALL	70	50	30	10	WALL	70	50	30	10
RCR 0	1.14	1.14	1.14	1.14	1.11	1.11	1.11	1.11	1.06	1.06	1.06	1.02	1.02	1.02	.98	.98	.98	.98	.98	
1	1.10	1.08	1.07	1.05	1.08	1.07	1.05	1.03	1.03	1.01	1.00	.99	.98	.97	.96	.95	.95	.93	.93	
2	1.07	1.04	1.01	.98	1.05	1.02	.99	.97	.99	.97	.95	.96	.95	.93	.94	.93	.91	.90	.89	
3	1.03	.99	.96	.93	1.02	.98	.95	.93	.96	.93	.91	.94	.92	.90	.92	.90	.89	.87	.87	
4	1.00	.96	.92	.89	.99	.95	.91	.88	.93	.90	.88	.91	.88	.87	.89	.87	.86	.85	.85	
5	.97	.92	.88	.85	.96	.91	.87	.85	.89	.86	.84	.88	.85	.83	.87	.85	.83	.82	.82	
6	.95	.89	.85	.82	.93	.88	.84	.82	.87	.84	.81	.86	.83	.81	.85	.82	.80	.79	.79	
7	.92	.86	.82	.79	.91	.85	.81	.78	.84	.81	.78	.83	.80	.78	.82	.79	.77	.77	.77	
8	.89	.83	.79	.76	.88	.82	.78	.76	.81	.78	.76	.80	.77	.75	.80	.77	.75	.74	.74	
9	.86	.80	.76	.73	.86	.79	.76	.73	.79	.75	.73	.78	.75	.73	.77	.75	.73	.72	.72	
10	.84	.77	.74	.71	.83	.77	.74	.71	.76	.73	.71	.76	.73	.70	.75	.72	.70	.69	.69	

CU Value Greater Than 1.00

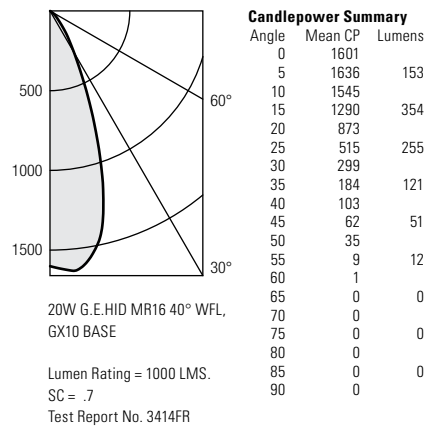
Determined In Accordance With Current IES Published Procedures
Luminaire Input Watts = 26.0

Tested According To IES Procedures. Test Distance Exceeds Five Times The Greatest Luminous Opening Of Luminaire

Spacing On Center	Initial Footcandles	Watts/ Sq Ft
4'	54	1.63
5'	38	1.13
6'	24	0.72

75' x 75' x 10' Room, Workplane 2 1/2' above floor, 80/50/20% Reflectances

4½" x 4½" Aperture 20W CMH MR16-40°



Zone	Lumens	% Lamp	%Luminaire
0-30	762	76.22	80.54
0-40	883	88.30	93.30
0-60	946	94.61	99.96
0-90	946	94.64	100.00
40-90	63	6.34	6.70
60-90	0	.04	.04
90-180	0	.00	.00
0-180	946	94.64	100.00

Efficiency = 94.6%

Angle	Mean Cd/sq M
45	9688
55	1698
65	41
75	0
85	0

CC	80				70				50				30				10			
	WALL	70	50	30	10	WALL	70	50	30	10	WALL	70	50	30	10	WALL	70	50	30	10
RCR 0	1.13	1.13	1.13	1.13	1.10	1.10	1.10	1.10	1.05	1.05	1.05	1.01	1.01	1.01	.97	.97	.97	.97	.97	
1	1.09	1.07	1.05	1.03	1.07	1.05	1.03	1.02	1.01	1.00	.99	.97	.97	.96	.94	.94	.93	.91	.91	
2	1.05	1.02	.99	.96	1.03	1.00	.97	.95	.97	.95	.93	.94	.93	.91	.92	.91	.89	.88	.88	
3	1.01	.97	.93	.91	1.00	.96	.93	.90	.93	.91	.89	.91	.89	.87	.89	.88	.86	.85	.85	
4	.98	.93	.89	.86	.97	.92	.89	.85	.90	.87	.85	.88	.86	.84	.87	.84	.83	.82	.82	
5	.95	.89	.84	.82	.93	.88	.84	.81	.86	.83	.81	.85	.82	.80	.84	.81	.79	.78	.78	
6	.92	.85	.81	.78	.90	.85	.81	.78	.83	.80	.77	.82	.79	.77	.81	.78	.76	.75	.75	
7	.88	.82	.77	.75	.87	.81	.77	.74	.80	.76	.74	.79	.76	.73	.78	.75	.73	.72	.72	
8	.85	.78	.74	.71	.84	.78	.74	.71	.77	.73	.71	.76	.73	.70	.75	.72	.70	.69	.69	
9	.82	.75	.71	.68	.81	.75	.71	.68	.74	.70	.68	.73	.70	.67	.72	.69	.67	.66	.66	
10	.79	.72	.68	.65	.78	.72	.68	.65	.71	.67	.65	.71	.67	.65	.70	.67	.65	.64	.64	

CU Value Greater Than 1.00

Determined In Accordance With Current IES Published Procedures
Luminaire Input Watts = 26.0

Tested According To IES Procedures. Test Distance Exceeds Five Times The Greatest Luminous Opening Of Luminaire

Spacing On Center	Initial Footcandles	Watts/ Sq Ft
4'	53	1.63
5'	37	1.13
6'	24	0.72

75' x 75' x 10' Room, Workplane 2 1/2' above floor, 80/50/20% Reflectances

Job Information	Type:
------------------------	--------------

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