

Project:	Catalog #:	Type:
Notes:		

### Product Description

A Surgical Downlight specifically designed to provide supplemental illumination during general surgical procedures or primary illumination during minimally invasive procedures. The low cutoff angle reduces glare reflected on monitors and glossy surfaces found in surgery. These gasketed flush lensed luminaires are designed to seal the ceiling and prevent the entrance of contaminated air into the surgical field. The MSD series comes standard with certified protection against EMI/RFI to Mil-Std-461G. Capable of up to 5000 lumens, these fixtures provide full range dimming to 1% offering the flexibility desired by surgical staff.



### Feature Options

- Designed for use with Grid, Drywall or Surgical Ceilings
- Delivered lumens: 1000 - 5000 lm
- Standard smooth wipe-down flush lens
- Optional regressed lens (IP64)
- NSF2 Splash Zone Certified
- IP65 Certified room-side (flush lens)
- Radiated and Conducted emissions controlled as per MIL-STD-461G
- Antimicrobial finished trims

### Install Frame

18 Ga Rigid Steel Frame supported by two Butterfly style vertically adjustable brackets. Frame supports a large junction box with (5) 1/2 inch trade size knockouts. Plaster ring attachment provides for adjustment after installation from below the ceiling for ceilings up to 2.5 inches thick.

### Optical Assembly

The assembly is factory sealed to maintain a clean appearance. The heat sink, reflector, lens and trim are sealed with long-life EPDM closed cell gasket materials. Supported by Torsion Springs to a vertically adjustable collar (plaster flange) that allows up to 2.5" thick ceilings.

### Lens

Standard lens; Clear, flat, 0.125" thick high impact polycarbonate sealed into the trim assembly secured by a die-cast ring and trim providing continuous compression to lens, reflector and gaskets. Smooth external surface for easy cleaning.

### Gaskets

Die cut closed cell EPDM foam gaskets seal lens to the trim and reflector.

### LED

Factory sealed COB style LED light engine that is field replaceable and serviceable from below. COB LEDs are high efficiency and closely regulated to maintain CRI, color consistency, lumen performance, and efficacy. Choose from 2700K, 3000K, 3500K, 4000K, and 5000K color temperatures with a color consistency of 2 SDCM, standard 80 CRI, optional 90 and 95 CRI. Lifetime L70 is greater than 60,000 hrs.

### Electrical

The standard electronic driver is constant current, programmable and dimmable to 1% using a 0-10V protocol. High efficiency (>85%) and low THD (<10%). Certified to FCC Part 15, Class A. 120-277Vac or 347Vac, 50/60hz. Electronic Filtering is Mil-Std-461G certified for conducted and radiated EMI emissions. See "Options" for DALI driver choices.

### Trim Finish

5 Stage pretreatment and antimicrobial gloss white polyester powder coated. Antimicrobial matte white polyester powder coating is optional. See "Finish Options".

### Installation

Recessed Non-IC- Marked Spacings for T-bar Grid and F type (drywall) ceilings. Compatible with 9/16" (NFG), 15/16", 1" and 1-1/2" standard grid ceilings. Plaster Ring has vertical adjustment for ceilings from 1/2"-2.5" thick. Use under a covered structural ceiling.

### Listings, Certifications and Ratings

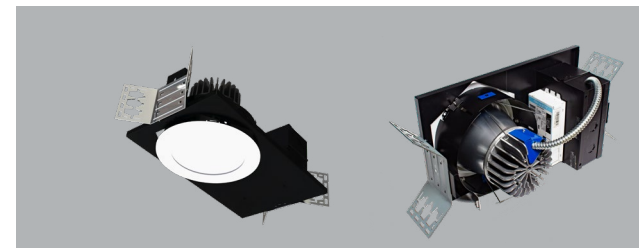
ETL listed for recessed type Non-IC Marked Spacings, Wet locations. NSF2- Splash Zone. Ingress Protection IP65 (Flush Trim Option). Mil-Std-461G certified.

### Warranty

5 year limited warranty. For complete warranty, click here: 

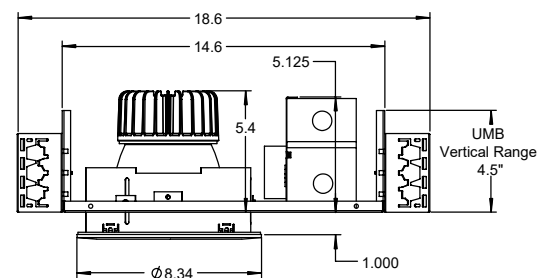
### Approvals

- UL listed to CSA and UL standards for insulated ceilings
- Certified IP64 and IP65 & Certified NSF
- MIL STD 461G Certified

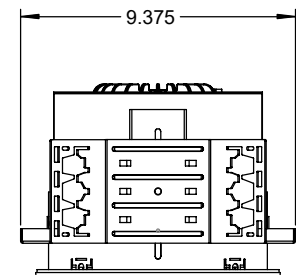


### Dimensions

End View



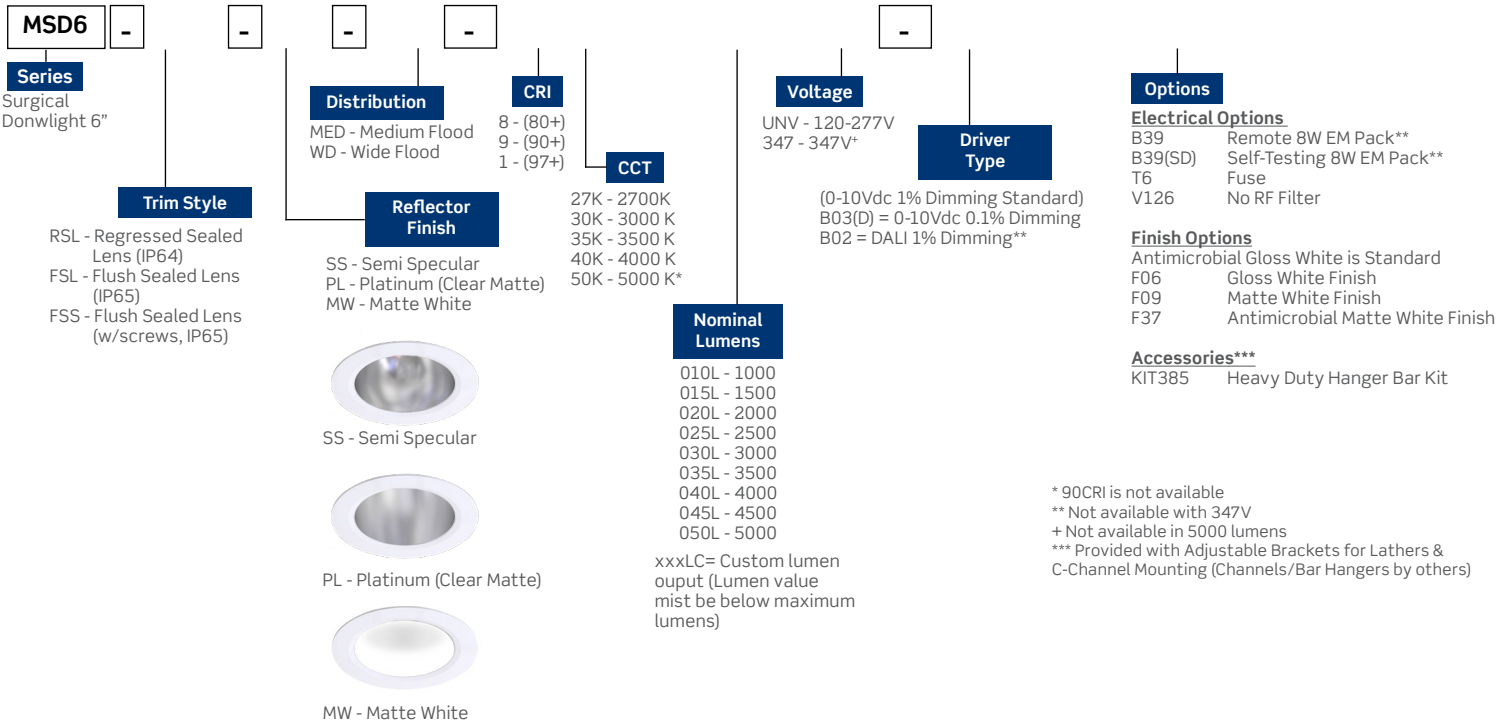
Side View



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**Order Key**

**EXAMPLE: MSD6-FSL-SS-WD-840KUNV**



**Performance Scaling**

CRI	CCT	Lumen Multiplier
80	2700K	0.91
	3000K	0.92
	3500K	0.98
	4000K	1.00
	5000K	1.02
90	3000K	0.84
	3500K	0.79
	4000K	0.82
98	3500K	0.75
	4000K	0.79

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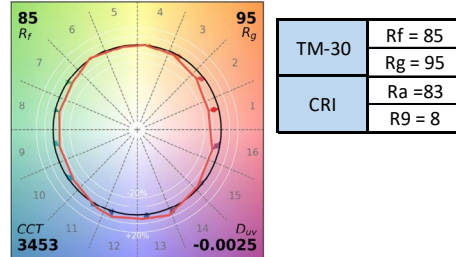
**LED Performance Data - 6" FLS (Flush Sealed Lens)**

Distribution Order Code	Reflector Order Code	Lumens Order Code	Delivered Lumens 2700K	Delivered Lumens 3000K	Delivered Lumens 3000K	Delivered Lumens 3500K	Delivered Lumens 3500K	Delivered Lumens 4000K	Delivered Lumens 4000K	Delivered Lumens 5000K	Delivered Lumens 3500K	Delivered Lumens 4000K	Estimated L80 LED Life (hrs)	Supply Watts	Efficacy Range
			80 CRI	80 CRI	90 CRI	80 CRI	90 CRI	80 CRI	90 CRI	80 CRI	98 CRI	98 CRI			
MED - Medium	SS	010L	853	858	784	916	742	937	765	952	698	737	>90Khrs	10.2	68.4 - 93.3
		015L	1279	1288	1177	1375	1113	1406	1147	1428	1047	1105	>90Khrs	15.4	68.0 - 92.7
		020L	1706	1717	1569	1833	1484	1874	1529	1904	1396	1473	>90Khrs	20.5	68.1 - 92.9
		025L	2132	2146	1961	2291	1855	2343	1912	2380	1745	1841	>80Khrs	25.6	68.2 - 93.0
		030L	2558	2575	2353	2749	2227	2811	2294	2856	2094	2210	>80Khrs	30.8	68.0 - 92.7
		035L	2985	3004	2745	3208	2598	3280	2676	3332	2443	2578	>80Khrs	35.9	68.1 - 92.8
		040L	3411	3434	3137	3666	2969	3748	3059	3808	2793	2946	>80Khrs	41.3	67.6 - 92.2
		045L	3837	3863	3530	4124	3340	4217	3441	4284	3142	3315	>70Khrs	46.2	68.0 - 92.7
		050L	4264	4292	3922	4582	3711	4685	3823	4760	3491	3683	>70Khrs	51.3	68.0 - 92.8
W - Wide	SS	010L	824	829	757	885	717	905	738	919	674	711	>90Khrs	10.2	66.1 - 90.1
		015L	1235	1243	1136	1328	1075	1357	1108	1379	1011	1067	>90Khrs	15.4	65.7 - 89.6
		020L	1647	1658	1515	1770	1433	1810	1477	1839	1348	1423	>90Khrs	20.5	65.8 - 89.7
		025L	2059	2072	1894	2213	1792	2262	1846	2299	1686	1778	>80Khrs	25.6	65.8 - 89.8
		030L	2471	2487	2272	2655	2150	2715	2215	2758	2023	2134	>80Khrs	30.8	65.7 - 89.6
		035L	2882	2901	2651	3098	2509	3167	2585	3218	2360	2490	>80Khrs	35.9	65.7 - 89.6
		040L	3294	3316	3030	3540	2867	3620	2954	3678	2697	2845	>80Khrs	41.3	65.3 - 89.1
		045L	3706	3730	3409	3983	3225	4072	3323	4138	3034	3201	>70Khrs	46.2	65.7 - 89.6
		050L	4118	4145	3787	4425	3584	4525	3692	4597	3371	3557	>70Khrs	51.3	65.7 - 89.6
	PL	010L	926	932	852	995	806	1018	830	1034	758	800	>90Khrs	10.2	74.3 - 101.4
		015L	1389	1398	1278	1493	1209	1526	1246	1551	1137	1200	>90Khrs	15.4	73.8 - 100.7
		020L	1852	1864	1703	1990	1612	2035	1661	2068	1516	1600	>90Khrs	20.5	74.0 - 100.9
		025L	2315	2330	2129	2488	2015	2544	2076	2585	1895	2000	>80Khrs	25.6	74.0 - 101.0
		030L	2778	2796	2555	2986	2418	3053	2491	3102	2274	2400	>80Khrs	30.8	73.8 - 100.7
		035L	3241	3262	2981	3483	2821	3562	2906	3619	2653	2799	>80Khrs	35.9	73.9 - 100.8
		040L	3704	3729	3407	3981	3224	4070	3321	4136	3032	3199	>80Khrs	41.3	73.4 - 100.1
		045L	4167	4195	3833	4478	3627	4579	3737	4652	3412	3599	>70Khrs	46.2	73.8 - 100.7
		050L	4630	4661	4259	4976	4030	5088	4152	5169	3791	3999	>70Khrs	51.3	73.9 - 100.8
	MW	010L	868	873	798	932	755	953	778	969	710	749	>90Khrs	10.2	69.6 - 95.0
		015L	1301	1310	1197	1399	1133	1430	1167	1453	1066	1124	>90Khrs	15.4	69.2 - 94.4
		020L	1735	1747	1596	1865	1510	1907	1556	1937	1421	1499	>90Khrs	20.5	69.3 - 94.5
		025L	2169	2183	1995	2331	1888	2384	1945	2422	1776	1874	>80Khrs	25.6	69.4 - 94.6
		030L	2603	2620	2394	2797	2265	2860	2334	2906	2131	2248	>80Khrs	30.8	69.2 - 94.4
		035L	3037	3057	2793	3264	2643	3337	2723	3391	2486	2623	>80Khrs	35.9	69.3 - 94.4
		040L	3471	3494	3192	3730	3021	3814	3112	3875	2841	2998	>80Khrs	41.3	68.8 - 93.8
		045L	3904	3930	3591	4196	3398	4291	3501	4359	3197	3372	>70Khrs	46.2	69.2 - 94.4
		050L	4338	4367	3990	4662	3776	4767	3890	4844	3552	3747	>70Khrs	51.3	69.2 - 94.4

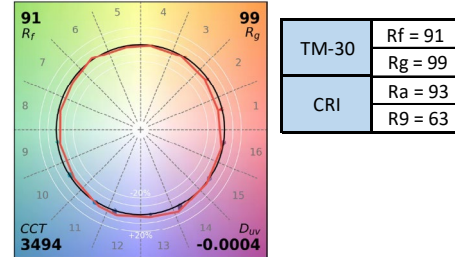
This chart is for performance selection and may change without notice. Consult IES files for official performance data.

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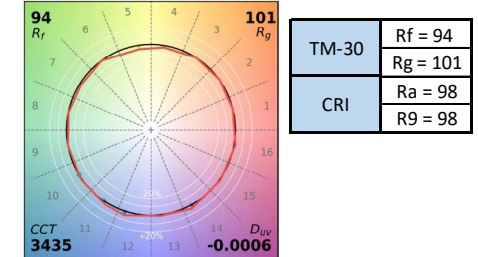
3500K CCT Color Metric Summary				
CCT:	3453	CRI:	83	
Δ				
2700	3000	3500	4000	5000



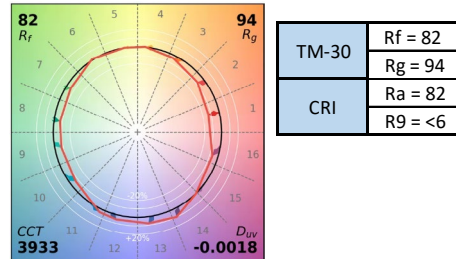
3500K CCT Color Metric Summary				
CCT:	3494	CRI:	93	
Δ				
2700	3000	3500	4000	5000



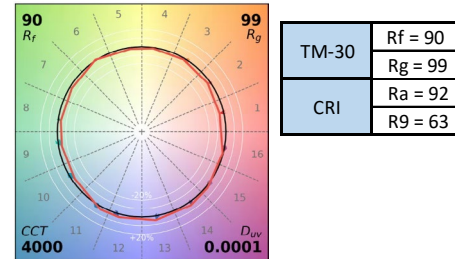
3500K CCT Color Metric Summary				
CCT:	3500K	CRI:	98	
Δ				
2700	3000	3500	4000	5000



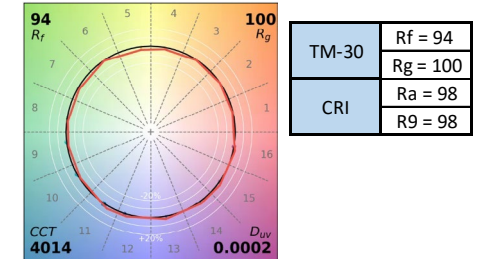
4000K CCT Color Metric Summary				
CCT:	3933	CRI:	82	
Δ				
2700	3000	3500	4000	5000



4000K CCT Color Metric Summary				
CCT:	4000K	CRI:	92	
Δ				
2700	3000	3500	4000	5000



4000K CCT Color Metric Summary				
CCT:	4014	CRI:	98	
Δ				
2700	3000	3500	4000	5000



6-FS8-SS-MED-840K-040L		3748 Lumens	UGR Rating	12	20x30x10h
Medical Downlight Performance			Spacing Criteria: 0-180		
Size	Distribution	Finish	Spacing Criteria: Diag.		
6"	Medium	Semi-Specular	0.98		
Watts:	41.3	80CRI	1000	2000	3000
Mtg. Ht. (ft)	Light Level (fc)	Beam Dia. (ft)			
5	145.2	6.6			
6	100.8	7.9			
7	74.1	9.2			
8	56.7	10.5			
9	44.8	11.8			

6-FS8-SS-WD-840K-040L		3620 Lumens	UGR Rating	15	20x30x10h
Medical Downlight Performance			Spacing Criteria: 0-180		
Size	Distribution	Finish	Spacing Criteria: Diag.		
6"	Wide	Semi-Specular	1.08		
Watts:	41.3	80CRI	675	1360	2025
Mtg. Ht. (ft)	Light Level (fc)	Beam Dia. (ft)			
5	102.0	7.0			
6	70.8	8.4			
7	52.0	9.8			
8	39.8	11.2			
9	31.5	12.6			

6-FS8-PL-WD-840K040L		4070 Lumens	UGR Rating	14	20x30x10h
Medical Downlight Performance			Spacing Criteria: 0-180		
Size	Distribution	Finish	Spacing Criteria: Diag.		
6"	Wide	Platinum	1.06		
Watts:	41.3	80CRI	800	1600	2400
Mtg. Ht. (ft)	Light Level (fc)	Beam Dia. (ft)			
5	125.6	7.5			
6	87.2	8.9			
7	64.1	10.4			
8	49.1	11.9			
9	38.8	13.4			

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