



# PRODUCT CHANGE NOTIFICATION

PCN No: 1010 Issue Date: 9/1/2015

Parts Affected: ORCA "R" Series LED's and ORCA "R" Series Flex Light Pipe LED Assemblies

BDL-1187	R50RB2-5-0080	ORFLP1-RED	R13-8.0-BLU	R2D-6.0-WHT	R2LC-1.4-BLU
BFL-1068	R50RB2-F-0160	ORFLP1-RG	R13-8.0-RED	R2F-12.0-BLU	R2LC-1.4-GRN
R20BLU-4-0045	R50RED-4-0045	ORFLP1-RGB	R15-1.5-RGB	R2F-12.0-GRN	R2LC-1.4-RED
R20BLU-5-0080	R50RED-5-0080	ORFLP1-WHT	R15-6.0-RGB	R2F-12.0-RED	R2LC-1.4-RGB
R20BLU-F-0160	R50RED-F-0160	ORFLP1-YLW	R10-4.0-WHT	R2F-12.0-WHT	R2LC-1.4-YLW
R20BLU-V-3045	R50RED-V-3045	ORFLP2-BLU	R10-6.0-RGB	R2F-2.0-RGB	R2LC-1.5-BLU
R20GRN-4-0045	R50RG2-4-0045	ORFLP2-GRN	R10-6.5-RGB	R2F-24.0-RED	R2LC-1.5-GRN
R20GRN-5-0080	R50RG2-5-0080	ORFLP2-RED	R1R-10.0-BLU	R2F-3.15-RGB	R2LC-1.5-RED
R20GRN-F-0160	R50RG2-F-0160	ORFLP2-RG	R1R-4.0-WHT	R2F-4.0-BLU	R2LC-1.5-RG
R20GRN-V-3045	R50RGB-4-0045	ORFLP2-RGB	R25-2.3-RGB	R2F-4.0-GRN	R2LC-1.5-WHT
R20WHT-4-0045	R50RGB-5-0080	ORFLP2-WHT	R25-2.75-RGB	R2F-4.0-RED	R2LC-12.0-RG
R20WHT-5-0080	R50RGB-F-0160	ORFLP2-YLW	R25-4.0-WHT	R2F-4.0-WHT	R2LC-12.0-RGB
R20WHT-F-0160	R50YLW-4-0045	R13-10.0-GRN	R25-5.0-RGB	R2F-48.0-WHT	R2LC-14.5-RGB
R20WHT-V-3045	R50YLW-5-0080	R13-10.0-RED	R25-6.0-WHT	R2F-6.0-WHT	R2LC-4.0-RGB
R50BG2-4-0045	R50YLW-F-0160	R13-10.0-WHT	R2D-1.5-BLU	R2F-8.0-BLU	R2LC-4.0-WHT
R50BG2-5-0080	R50YLW-V-3045	R13-18.0-RG	R2D-3.15-RGB	R2F-8.0-GRN	R2LC-7.5-RGB
R50BG2-F-0160	ORFLP1-BLU	R13-24.0-RG	R2D-4.0-WHT	R2F-8.0-RED	R2LC-8.0-WHT
R50RB2-4-0045	ORFLP1-GRN	R13-36.0-RG	R2D-5.0-RGB	R2F-8.0-WHT	R2LC-9.9-RG

Change Will Affect: LED optical characteristics

Description of Change: See page 2 for LED part number and change to optical characteristics.  
See pages 3-5 for LED assembly part number and change to optical characteristics. All changes noted in **Red**

Effective Date of Change: 1-Oct-15

Reason for Change: Original die chips have been obsoleted.  
Replacement die chips have greater quality/efficiency

Effect of Change on Product Fit, Form, or Function.

Fit: Remains unchanged  
Form: Remains unchanged  
Function: Lower Forward Voltage (Increased Efficiency), LED will have higher intensity (mcd)



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Specific changes to LED part numbers:

Bivar P/N	Emitted Color	Forward Voltage (V)						Intensity (mcd)				Wavelength (nm)				Rev.	
		Old			New			Old		New		Old		New		Old	New
		Min	Typ	Max	Min	Typ	Max	Min	Typ	Min	Typ	Min	Max	Min	Max		
R50RED-4-0045	Red	2.0	2.4	2.8	1.8	2.4	2.6	5000	6000	12000	18000	—	—	—	—	D	E
R50RED-5-0080		2.0	2.4	2.8	1.8	2.4	2.6	1500	2000	2000	4000	—	—	—	—	C	D
R50RED-F-0160		2.0	2.4	2.8	1.8	2.4	2.6	400	600	500	1000	—	—	—	—	C	D
R50RED-V-3045		2.0	2.4	2.8	1.8	2.4	2.6	4000	5000	6000	10000	—	—	—	—	C	D
R20GRN-4-0045	Green	3.0	3.4	3.8	2.7	3.2	3.6	6000	8000	15000	25000	516	526	517	527	C	D
R20GRN-5-0080		3.0	3.4	3.8	2.7	3.2	3.6	2500	3000	4000	6000	516	526	517	527	C	D
R20GRN-F-0160		3.0	3.4	3.8	2.7	3.2	3.6	800	1000	1500	3000	516	526	517	527	C	D
R20GRN-V-3045		3.0	3.4	3.8	2.7	3.2	3.6	6000	8000	15000	25000	516	526	517	527	C	D
R20BLU-4-0045	Blue	3.0	3.4	3.8	2.7	3.2	3.6	1000	1500	5000	8000	—	—	—	—	C	D
R20BLU-5-0080		3.0	3.4	3.8	2.7	3.2	3.6	400	600	600	800	—	—	—	—	C	D
R20BLU-F-0160		3.0	3.4	3.8	2.7	3.2	3.6	100	150	200	400	—	—	—	—	C	D
R20BLU-V-3045		3.0	3.4	3.8	2.7	3.2	3.6	1000	1500	2000	4000	—	—	—	—	C	D
R50YLW-4-0045	Yellow	2.0	2.4	2.8	1.8	2.4	2.6	5000	6000	12000	18000	588	594	588	596	C	D
R50YLW-5-0080		2.0	2.4	2.8	1.8	2.4	2.6	1000	1500	1500	3000	588	594	588	596	C	D
R50YLW-F-0160		2.0	2.4	2.8	1.8	2.4	2.6	400	600	800	1000	588	594	588	596	C	D
R50YLW-V-3045		2.0	2.4	2.8	1.8	2.4	2.6	3000	4000	4000	6000	588	594	588	596	C	D
R20WHT-4-0045	White	3.0	3.4	3.8	2.7	3.2	3.6	6000	8000	10000	16000	—	—	—	—	C	D
R20WHT-5-0080		3.0	3.4	3.8	2.7	3.2	3.6	1500	2000	3000	6000	—	—	—	—	C	D
R20WHT-F-0160		3.0	3.4	3.8	2.7	3.2	3.6	400	600	800	1500	—	—	—	—	C	D
R20WHT-V-3045		3.0	3.4	3.8	2.7	3.2	3.6	6000	8000	12000	16000	—	—	—	—	C	D
R50BG2-4-0045	Blue	3.4	3.8	4.4	3.0	3.4	3.8	200	400	1000	3000	—	—	—	—	D	E
	Green	3.4	3.8	4.4	3.0	3.4	3.8	4000	5000	6000	10000	—	—	—	—		
R50BG2-5-0080	Blue	3.4	3.8	4.4	3.0	3.4	3.8	100	150	500	1000	—	—	—	—	D	E
	Green	3.4	3.8	4.4	3.0	3.4	3.8	1000	1500	1500	2000	—	—	—	—		
R50BG2-F-0160	Blue	3.4	3.8	4.4	3.0	3.4	3.8	100	150	150	250	—	—	—	—	D	E
	Green	3.4	3.8	4.4	3.0	3.4	3.8	600	800	800	1000	—	—	—	—		
R50RB2-4-0045	Red	2.2	2.6	3.0	1.8	2.4	2.6	3000	4000	3000	4000	620	635	617	630	D	E
	Blue	3.4	3.8	4.4	3.0	3.4	3.8	200	400	1000	3000	—	—	—	—		
R50RB2-5-0080	Red	2.2	2.6	3.0	1.8	2.4	2.6	800	1000	1500	3000	620	635	617	630	D	E
	Blue	3.4	3.8	4.4	3.0	3.4	3.8	100	200	1500	3000	—	—	—	—		
R50RB2-F-0160	Red	2.2	2.6	3.0	1.8	2.4	2.6	400	600	500	800	620	635	617	630	D	E
	Blue	3.4	3.8	4.4	3.0	3.4	3.8	100	150	150	250	—	—	—	—		
R50RG2-4-0045	Red	2.2	2.6	3.0	1.8	2.4	2.6	3000	4000	3000	4000	620	635	617	630	D	E
	Green	3.4	3.8	4.4	3.0	3.4	3.8	4000	5000	6000	10000	—	—	—	—		
R50RG2-5-0080	Red	2.2	2.6	3.0	1.8	2.4	2.6	1000	1500	1500	3000	620	635	617	630	D	E
	Green	3.4	3.8	4.4	3.0	3.4	3.8	1500	2000	2000	4000	—	—	—	—		
R50RG2-F-0160	Red	2.2	2.6	3.0	1.8	2.4	2.6	400	600	500	800	620	635	617	630	D	E
	Green	3.4	3.8	4.4	3.0	3.4	3.8	600	800	800	1500	—	—	—	—		
R50RGB-4-0045	Red	2.2	2.6	3.0	1.8	2.4	2.6	3000	4000	3000	4000	620	635	617	630	D	E
	Blue	3.4	3.8	4.4	3.0	3.4	3.8	200	400	1000	3000	—	—	—	—		
	Green	3.4	3.8	4.4	3.0	3.4	3.8	4000	5000	6000	10000	—	—	—	—		
R50RGB-5-0080	Red	2.2	2.6	3.0	1.8	2.4	2.6	800	1000	1000	3000	620	635	617	630	D	E
	Blue	3.4	3.8	4.4	3.0	3.4	3.8	100	200	500	1000	—	—	—	—		
	Green	3.4	3.8	4.4	3.0	3.4	3.8	1500	2000	2000	4000	—	—	—	—		
R50RGB-F-0160	Red	2.2	2.6	3.0	1.8	2.4	2.6	400	600	500	800	620	635	617	630	D	E
	Blue	3.4	3.8	4.4	3.0	3.4	3.8	100	150	150	250	—	—	—	—		
	Green	3.4	3.8	4.4	3.0	3.4	3.8	600	800	800	1000	—	—	—	—		
BDL-1187	Red	—	—	—	—	—	—	—	1400	—	3000	—	—	—	—	A	B
	Green	—	—	—	—	—	—	—	1900	—	1000	—	—	—	—		
	Blue	—	—	—	—	—	—	—	1900	—	4000	—	—	—	—		





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		Old			New			Old		New		Old		New		Old	New
		Min	Typ	Max	Min	Typ	Max	Min	Typ	Min	Max	Min	Max	Min	Max		
ORFLP1-RED	Red	2.0	2.4	2.8	1.8	2.4	2.6	5000	6000	12000	18000	—	—	—	—	A	B
ORFLP1-GRN	Green	3.0	3.4	3.8	2.7	3.2	3.6	6000	8000	15000	25000	516	526	517	527		
ORFLP1-BLU	Blue	3.0	3.4	3.8	2.7	3.2	3.6	1000	1500	5000	8000	—	—	—	—		
ORFLP1-YLW	Yellow	2.0	2.4	2.8	1.8	2.4	2.6	5000	6000	12000	18000	588	594	588	596		
ORFLP1-WHT	White	3.0	3.4	3.8	2.7	3.2	3.6	6000	8000	10000	16000	—	—	—	—		
ORFLP1-RGB	Red	2.2	2.6	3.0	1.8	2.4	2.6	3000	4000	3000	4000	620	635	617	630		
	Green	3.4	3.8	4.4	3.0	3.4	3.8	4000	5000	6000	10000	—	—	—	—		
	Blue	3.4	3.8	4.4	3.0	3.4	3.8	200	400	1000	3000	—	—	—	—		
ORFLP2-RED	Red	2.0	2.4	2.8	1.8	2.4	2.6	5000	6000	12000	18000	—	—	—	—		
ORFLP2-GRN	Green	3.0	3.4	3.8	2.7	3.2	3.6	6000	8000	15000	25000	516	526	517	527		
ORFLP2-BLU	Blue	3.0	3.4	3.8	2.7	3.2	3.6	1000	1500	5000	8000	—	—	—	—		
ORFLP2-YLW	Yellow	2.0	2.4	2.8	1.8	2.4	2.6	5000	6000	12000	18000	588	594	588	596		
ORFLP2-WHT	White	3.0	3.4	3.8	2.7	3.2	3.6	6000	8000	10000	16000	—	—	—	—		
ORFLP2-RG	Red	2.2	2.6	3.0	1.8	2.4	2.6	3000	4000	3000	4000	620	635	617	630		
	Green	3.4	3.8	4.4	3.0	3.4	3.8	4000	5000	6000	10000	—	—	—	—		
	Blue	3.4	3.8	4.4	3.0	3.4	3.8	200	400	1000	3000	—	—	—	—		
ORFLP2-RGB	Green	3.4	3.8	4.4	3.0	3.4	3.8	4000	5000	6000	10000	—	—	—	—		
	Blue	3.4	3.8	4.4	3.0	3.4	3.8	200	400	1000	3000	—	—	—	—		
R13-8.0-RED	Red	2.0	2.4	2.8	1.8	2.4	2.6	5000	6000	12000	18000	—	—	—	—		
R13-10.0-RED	Red	2.0	2.4	2.8	1.8	2.4	2.6	5000	6000	12000	18000	—	—	—	—		
R13-10.0-GRN	Green	3.0	3.4	3.8	2.7	3.2	3.6	6000	8000	15000	25000	516	526	517	527		
R13-8.0-BLU	Blue	3.0	3.4	3.8	2.7	3.2	3.6	1000	1500	5000	8000	—	—	—	—		
R13-10.0-WHT	White	3.0	3.4	3.8	2.7	3.2	3.6	6000	8000	10000	16000	—	—	—	—		
R13-18.0-RG	Red	2.2	2.6	3.0	1.8	2.4	2.6	3000	4000	3000	4000	620	635	617	630		
	Green	3.4	3.8	4.4	3.0	3.4	3.8	4000	5000	6000	10000	—	—	—	—		
R13-24.0-RG	Red	2.2	2.6	3.0	1.8	2.4	2.6	3000	4000	3000	4000	620	635	617	630		
	Green	3.4	3.8	4.4	3.0	3.4	3.8	4000	5000	6000	10000	—	—	—	—		
R13-36.0-RG	Red	2.2	2.6	3.0	1.8	2.4	2.6	3000	4000	3000	4000	620	635	617	630		
	Green	3.4	3.8	4.4	3.0	3.4	3.8	4000	5000	6000	10000	—	—	—	—		
R15-1.5-RGB	Red	2.2	2.6	3.0	1.8	2.4	2.6	3000	4000	3000	4000	620	635	617	630		
	Green	3.4	3.8	4.4	3.0	3.4	3.8	4000	5000	6000	10000	—	—	—	—		
	Blue	3.4	3.8	4.4	3.0	3.4	3.8	200	400	1000	3000	—	—	—	—		
R15-6.0-RGB	Red	2.2	2.6	3.0	1.8	2.4	2.6	3000	4000	3000	4000	620	635	617	630		
	Green	3.4	3.8	4.4	3.0	3.4	3.8	4000	5000	6000	10000	—	—	—	—		
	Blue	3.4	3.8	4.4	3.0	3.4	3.8	200	400	1000	3000	—	—	—	—		
R10-4.0-WHT	White	3.0	3.4	3.8	2.7	3.2	3.6	6000	8000	10000	16000	—	—	—	—		
R10-6.0-RGB	Red	2.2	2.6	3.0	1.8	2.4	2.6	3000	4000	3000	4000	620	635	617	630		
	Green	3.4	3.8	4.4	3.0	3.4	3.8	4000	5000	6000	10000	—	—	—	—		
	Blue	3.4	3.8	4.4	3.0	3.4	3.8	200	400	1000	3000	—	—	—	—		
R10-6.5-RGB	Red	2.2	2.6	3.0	1.8	2.4	2.6	3000	4000	3000	4000	620	635	617	630		
	Green	3.4	3.8	4.4	3.0	3.4	3.8	4000	5000	6000	10000	—	—	—	—		
	Blue	3.4	3.8	4.4	3.0	3.4	3.8	200	400	1000	3000	—	—	—	—		
R1R-10.0-BLU	Blue	3.0	3.4	3.8	2.7	3.2	3.6	1000	1500	5000	8000	—	—	—	—		
R1R-4.0-WHT	White	3.0	3.4	3.8	2.7	3.2	3.6	6000	8000	10000	16000	—	—	—	—		



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		Old			New			Old		New		Old		New		Old	New		
		Min	Typ	Max	Min	Typ	Max	Min	Typ	Min	Typ	Min	Max	Min	Max				
R25-4.0-WHT	White	3.0	3.4	3.8	2.7	3.2	3.6	6000	8000	10000	16000	—	—	—	—	B	C		
R25-6.0-WHT	White	3.0	3.4	3.8	2.7	3.2	3.6	6000	8000	10000	16000	—	—	—	—				
R25-2.3-RGB	Red	2.2	2.6	3.0	1.8	2.4	2.6	3000	4000	3000	4000	620	635	617	630				
	Green	3.4	3.8	4.4	3.0	3.4	3.8	4000	5000	6000	10000	—	—	—	—				
	Blue	3.4	3.8	4.4	3.0	3.4	3.8	200	400	1000	3000	—	—	—	—				
R25-2.75-RGB	Red	2.2	2.6	3.0	1.8	2.4	2.6	3000	4000	3000	4000	620	635	617	630				
	Green	3.4	3.8	4.4	3.0	3.4	3.8	4000	5000	6000	10000	—	—	—	—				
	Blue	3.4	3.8	4.4	3.0	3.4	3.8	200	400	1000	3000	—	—	—	—				
R25-5.0-RGB	Red	2.2	2.6	3.0	1.8	2.4	2.6	3000	4000	3000	4000	620	635	617	630				
	Green	3.4	3.8	4.4	3.0	3.4	3.8	4000	5000	6000	10000	—	—	—	—				
	Blue	3.4	3.8	4.4	3.0	3.4	3.8	200	400	1000	3000	—	—	—	—				
R2D-1.5-BLU	Blue	3.0	3.4	3.8	2.7	3.2	3.6	1000	1500	5000	8000	—	—	—	—			B	C
R2D-4.0-WHT	White	3.0	3.4	3.8	2.7	3.2	3.6	6000	8000	10000	16000	—	—	—	—				
R2D-6.0-WHT	White	3.0	3.4	3.8	2.7	3.2	3.6	6000	8000	10000	16000	—	—	—	—				
R2D-3.15-RGB	Red	2.2	2.6	3.0	1.8	2.4	2.6	3000	4000	3000	4000	620	635	617	630				
	Green	3.4	3.8	4.4	3.0	3.4	3.8	4000	5000	6000	10000	—	—	—	—				
	Blue	3.4	3.8	4.4	3.0	3.4	3.8	200	400	1000	3000	—	—	—	—				
R2D-5.0-RGB	Red	2.2	2.6	3.0	1.8	2.4	2.6	3000	4000	3000	4000	620	635	617	630				
	Green	3.4	3.8	4.4	3.0	3.4	3.8	4000	5000	6000	10000	—	—	—	—				
	Blue	3.4	3.8	4.4	3.0	3.4	3.8	200	400	1000	3000	—	—	—	—				
R2F-4.0-RED	Red	2.0	2.4	2.8	1.8	2.4	2.6	5000	6000	12000	18000	—	—	—	—	B	C		
R2F-8.0-RED	Red	2.0	2.4	2.8	1.8	2.4	2.6	5000	6000	12000	18000	—	—	—	—				
R2F-12.0-RED	Red	2.0	2.4	2.8	1.8	2.4	2.6	5000	6000	12000	18000	—	—	—	—				
R2F-24.0-RED	Red	2.0	2.4	2.8	1.8	2.4	2.6	5000	6000	12000	18000	—	—	—	—				
R2F-4.0-GRN	Green	3.0	3.4	3.8	2.7	3.2	3.6	6000	8000	15000	25000	516	526	517	527				
R2F-8.0-GRN	Green	3.0	3.4	3.8	2.7	3.2	3.6	6000	8000	15000	25000	516	526	517	527				
R2F-12.0-GRN	Green	3.0	3.4	3.8	2.7	3.2	3.6	6000	8000	15000	25000	516	526	517	527				
R2F-4.0-BLU	Blue	3.0	3.4	3.8	2.7	3.2	3.6	1000	1500	5000	8000	—	—	—	—				
R2F-8.0-BLU	Blue	3.0	3.4	3.8	2.7	3.2	3.6	1000	1500	5000	8000	—	—	—	—				
R2F-12.0-BLU	Blue	3.0	3.4	3.8	2.7	3.2	3.6	1000	1500	5000	8000	—	—	—	—				
R2F-4.0-WHT	White	3.0	3.4	3.8	2.7	3.2	3.6	6000	8000	10000	16000	—	—	—	—				
R2F-6.0-WHT	White	3.0	3.4	3.8	2.7	3.2	3.6	6000	8000	10000	16000	—	—	—	—				
R2F-8.0-WHT	White	3.0	3.4	3.8	2.7	3.2	3.6	6000	8000	10000	16000	—	—	—	—				
R2F-12.0-WHT	White	3.0	3.4	3.8	2.7	3.2	3.6	6000	8000	10000	16000	—	—	—	—				
R2F-48.0-WHT	White	3.0	3.4	3.8	2.7	3.2	3.6	6000	8000	10000	16000	—	—	—	—				
R2F-2.0-RGB	Red	2.2	2.6	3.0	1.8	2.4	2.6	3000	4000	3000	4000	620	635	617	630				
	Green	3.4	3.8	4.4	3.0	3.4	3.8	4000	5000	6000	10000	—	—	—	—				
	Blue	3.4	3.8	4.4	3.0	3.4	3.8	200	400	1000	3000	—	—	—	—				
R2F-3.15-RGB	Red	2.2	2.6	3.0	1.8	2.4	2.6	3000	4000	3000	4000	620	635	617	630				
	Green	3.4	3.8	4.4	3.0	3.4	3.8	4000	5000	6000	10000	—	—	—	—				
	Blue	3.4	3.8	4.4	3.0	3.4	3.8	200	400	1000	3000	—	—	—	—				





# PRODUCT CHANGE NOTIFICATION

PCN No: 1010 Issue Date: 9/1/2015

Specific changes to LED assembly part numbers:

Bivar P/N	Emitted Color	Forward Voltage (V)						Intensity (mcd)				Wavelength (nm)				Rev.	
		Old			New			Old		New		Old		New		Old	New
		Min	Typ	Max	Min	Typ	Max	Min	Typ	Min	Typ	Min	Max	Min	Max		
R2LC-1.4-RED	Red	2.0	2.4	2.8	1.8	2.4	2.6	5000	6000	12000	18000	—	—	—	—	B	C
R2LC-1.5-RED	Red	2.0	2.4	2.8	1.8	2.4	2.6	5000	6000	12000	18000	—	—	—	—		
R2LC-1.4-GRN	Green	3.0	3.4	3.8	2.7	3.2	3.6	6000	8000	15000	25000	516	526	517	527		
R2LC-1.5-GRN	Green	3.0	3.4	3.8	2.7	3.2	3.6	6000	8000	15000	25000	516	526	517	527		
R2LC-1.4-BLU	Blue	3.0	3.4	3.8	2.7	3.2	3.6	1000	1500	5000	8000	—	—	—	—		
R2LC-1.5-BLU	Blue	3.0	3.4	3.8	2.7	3.2	3.6	1000	1500	5000	8000	—	—	—	—		
R2LC-1.4-YLW	Yellow	2.0	2.4	2.8	1.8	2.4	2.6	5000	6000	12000	18000	588	594	588	596		
R2LC-1.5-WHT	White	3.0	3.4	3.8	2.7	3.2	3.6	6000	8000	10000	16000	—	—	—	—		
R2LC-4.0-WHT	White	3.0	3.4	3.8	2.7	3.2	3.6	6000	8000	10000	16000	—	—	—	—		
R2LC-8.0-WHT	White	3.0	3.4	3.8	2.7	3.2	3.6	6000	8000	10000	16000	—	—	—	—		
R2LC-1.5-RG	Red	2.2	2.6	3.0	1.8	2.4	2.6	3000	4000	3000	4000	620	635	617	630		
	Green	3.4	3.8	4.4	3.0	3.4	3.8	4000	5000	6000	10000	—	—	—	—		
R2LC-9.9-RG	Red	2.2	2.6	3.0	1.8	2.4	2.6	3000	4000	3000	4000	620	635	617	630		
	Green	3.4	3.8	4.4	3.0	3.4	3.8	4000	5000	6000	10000	—	—	—	—		
R2LC-12.0-RG	Red	2.2	2.6	3.0	1.8	2.4	2.6	3000	4000	3000	4000	620	635	617	630		
	Green	3.4	3.8	4.4	3.0	3.4	3.8	4000	5000	6000	10000	—	—	—	—		
R2LC-1.4-RGB	Red	2.2	2.6	3.0	1.8	2.4	2.6	3000	4000	3000	4000	620	635	617	630		
	Green	3.4	3.8	4.4	3.0	3.4	3.8	4000	5000	6000	10000	—	—	—	—		
	Blue	3.4	3.8	4.4	3.0	3.4	3.8	200	400	1000	3000	—	—	—	—		
R2LC-4.0-RGB	Red	2.2	2.6	3.0	1.8	2.4	2.6	3000	4000	3000	4000	620	635	617	630		
	Green	3.4	3.8	4.4	3.0	3.4	3.8	4000	5000	6000	10000	—	—	—	—		
	Blue	3.4	3.8	4.4	3.0	3.4	3.8	200	400	1000	3000	—	—	—	—		
R2LC-7.5-RGB	Red	2.2	2.6	3.0	1.8	2.4	2.6	3000	4000	3000	4000	620	635	617	630		
	Green	3.4	3.8	4.4	3.0	3.4	3.8	4000	5000	6000	10000	—	—	—	—		
	Blue	3.4	3.8	4.4	3.0	3.4	3.8	200	400	1000	3000	—	—	—	—		
R2LC-12.0-RGB	Red	2.2	2.6	3.0	1.8	2.4	2.6	3000	4000	3000	4000	620	635	617	630		
	Green	3.4	3.8	4.4	3.0	3.4	3.8	4000	5000	6000	10000	—	—	—	—		
	Blue	3.4	3.8	4.4	3.0	3.4	3.8	200	400	1000	3000	—	—	—	—		
R2LC-14.5-RGB	Red	2.2	2.6	3.0	1.8	2.4	2.6	3000	4000	3000	4000	620	635	617	630		
	Green	3.4	3.8	4.4	3.0	3.4	3.8	4000	5000	6000	10000	—	—	—	—		
	Blue	3.4	3.8	4.4	3.0	3.4	3.8	200	400	1000	3000	—	—	—	—		
BFL-1068	Red	2.2	2.6	3.0	1.8	2.4	2.6	3000	4000	3000	4000	620	635	617	630	A	B
	Green	3.4	3.8	4.4	3.0	3.4	3.8	4000	5000	6000	10000	—	—	—	—		

These changes have been reviewed and approved by Bivar management per Bivar Procedure: Engineering Change Order and Part Change Notification, SOP-040, SOP-ENG-045

Please contact Bivar Inc. at [www.bivar.com/contact](http://www.bivar.com/contact) or speak to a Bivar representative for any questions or support requirements within 30 days of issue date.