Firefly® Light

9. Trade-offs

	TR1	TR2	TR3	TR4	TR5	TR6	TR7	TR8	TR9	TR10	TR11	TR12	TR13	TR14	TR15	TR16	TR17	TR18
TR1	TR1																	
TR2	1	TR2																
TR3	0	-1	TR3															
TR4	-1	-2	2	TR4														
TR5	1	0	-1	-1	TR5													
TR6	-1	-1	-2	-2	-1	TR6												
TR7	2	2	0	-1	1	-2	TR7											
TR8	-1	1	0	0	0	-2	0	TR8										
TR9	0	-2	2	-2	-1	2	-2	-2	TR9									
TR10	0	0	-1	0	0	-2	0	0	-1	TR10								
TR11	0	-2	0	0	0	2	-1	1	-1	1	TR11							
TR12	-1	1	0	0	0	0	1	-2	-1	0	2	TR12						
TR13	-1	0	-1	-1	0	0	0	0	-1	0	2	0	TR13					
TR14	0	2	-1	-1	0	0	0	2	-2	0	0	2	0	TR14				
TR15	2	0	-1	-1	0	-1	0	0	-1	0	0	0	0	0	TR15			
TR16	0	-2	0	0	1	1	-1	-1	-1	2	-1	-1	-1	-1	-1	TR16		
TR17																	TR17	
TR18																		TR18

Key

2	Strong Positive Impact Left to Bottom
1	Moderate Positive Impact Left to Bottom
0	No Impact
-1	Moderate Negative Impact Bottom to Left
-2	Strong Negative Impact Bottom to Left

1. Who				6. How																4. Now									
Consumer	Manufacturer	Marketing/Sales		Range of light, 10 ft	Solar cell, 2V	Weight, 3 lbs	Size, .5 ft^3	Carrying feature	Number of parts, 15 parts	Can be used individually and collectively	Light duration, 7 hrs	Product cost, 30 US $	Tools for assembly included	Product warranty, 3 yrs	Battery life, 3 yrs	Container tensile strength, 5000 psi	Rechargeable battery, V	Angle of light, reflector,30 and 360 degrees	Materials easy to obtain, 50 miles			Solar Tukis	Crackled Globe Light	Exponent® Flashlight & Collapsible Lantern	Sun Jar	Goals	Lighting Bug	Double Reflection	Light Reject	Light-O-Lantern
3. Who vs.			2. What	7. What vs.How																	5. Now vs. What								
9	3	9	Illumination	9	9			3		9	9	3		9	9		9	9				3	3	5	2	5	4	5	4	5
3	3	9	Easy to carry	1		9	9	9	1	1		3	1				3					2	5	5	4	5	4	5	3	3
1	9	1	Easy to manufacture	1	3	3	3	1	9	3	1	3	9	1	3	3		3				1	4	2	5	5	5	3	5	3
9	3	9	Low cost	3	9	3	9	1	9	3	3	9	1	9	3	3	3	3	3			3	5	1	5	5	5	3	4	3
3	1	3	Easy to repair		9		3		9	1		3	9	9	1		3	3	9			2	2	1	3	3	4	3	4	3
9	3	3	Dependable	1	3	3	1		9		3	9	3	9	3	9	3		3			5	3	5	3	5	4	4	4	4
3	3	1	Easy to use	1		3	3	9	1	3	9	3	3				1	3				3	5	4	5	5	5	5	5	5
9	3	3	Sturdy/Durable		9	3	1	1	9	1		9	1	9	1	9			9			5	2	5	2	5	5	4	4	4
9	1	9	Versatile	3	3			3		9	3	9	9		3		9	9				3	1	5	1	5	4	5	4	5
Ranking:				5%	9%	4%	5%	5%	8%	7%	5%	10%	6%	9%	5%	5%	7%	6%	4%			1596	1647	1861	1637		2277	2091	2104	2017
				8. How Much (Measures)																		4. Now								
				5	3		0.01	N		N	10	50	N	5	2		Y	360	95			Solar Tukis								
				5	2	2	0.3	Y	6	N	7	21	N	2	1.5	3916	Y, 1.5	360	95			Crackled Globe Light								
					N/A	0.3		Y		N	6	70	N			19000	N	30;360	95			Exponent® Flashlight & Collapsible Lantern								
				2	2		0.01	N	5	N	5	20	Y	N/A		3916	Y, 1.5	360	95			Sun Jar								
				10		3	0.5	Y	15	Y	5	30	Y	3	3	5000	Y	30;360	50			Goals - Engineering Specifications								
				10	5	0.75	0.3	Y	13	Y	5.9	15.5	Y	3	1.5	11500	Y	30;360	95			Lightning Bug								
				10	5	1.25	0.5	Y	15	N	5.9	19.5	Y	3	1.5	11500	Y	30;360	95			Double Reflection								
				10	5	1	0.4	Y	14	N	5.9	16.5	Y	3	1.5	11500	Y	30;360	95			Light Reject								
				10	5	1.25	0.4	Y	17	N	5.9	20	Y	3	1.5	11500	Y	30;360	95			Light-O-Lantern								
			Units:	ft	V	lbs	ft^3	Y/N	Parts	Y/N	hrs	US $	Y/N	yrs	yrs	psi	Y/N, V	degrees	miles											

Note! Prioritization calculations done by weighting each cell in a block 6 row by the average of the customer importance in in each row of block 3. When inserting rows or columns to the QFD it is best to do so in the middle of the matrix. Then formulas in the blank cells can be added by simply using the "copy drag and drop" feature of Excel.

9	Strong relationship
3	Moderate relationship
1	Little to no relationship